APPENDIX D

Stage 1 Archaeological Assessment Report

DUFFERIN COUNTY

STAGE 1 ARCHAEOLOGICAL ASSESSMENT

DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

OCTOBER 27, 2023

ORIGINAL REPORT

PIF P1006-0081-2022

ALEXANDRA MULLAN– P1006

STAGE 1 ARCHAEOLOGICAL ASSESSMENT

DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

DUFFERIN COUNTY

PARTS OF LOTS 5 & 6, CONCESSION A, LOTS 5 & 6, CONCESSION B AND LOTS 5 & 6, CONCESSION C, GEOGRAPHIC TOWNSHIP OF EAST GARAFRAXA; LOT 1, CONCESSIONS 1 & 2, GEOGRAPHIC TOWNSHIP OF AMARANTH, HISTORIC WELLINGTON COUNTY, NOW DUFFERIN COUNTY, ONTARIO

ORIGINAL REPORT

PROJECT NO.: 221-08590-00
DATE: OCTOBER 27, 2023

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October 27, 2023

Original Report

Stage 1 Archaeological Assessment
Dufferin County Road 109 / 2nd Line Realignment Environmental Assessment

Parts of Lots 5 & 6, Concession A, Lots 5 &6, Concession B, and Lots 5 & 6, Concession C Geographic Township of East Garafraxa; Lot 1, Concessions 1 & 2, Geographic Township of Amaranth, now Township of Amaranth, historic Wellington County, now Dufferin County, Ontario

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This limitations statement is considered an integral part of this report.

EXECUTIVE SUMMARY

WSP Canada Inc. (WSP) was retained by Dufferin County (the Client) to conduct a Stage 1 archaeological assessment for the Dufferin County Road 109 / 2nd Line Realignment Schedule C Municipal Class Environmental Assessment (EA) in the Townships of East Garafraxa and Amaranth, and the Town of Orangeville, Ontario (Figure 1 and Figure 2). As a result of a proposed development located near County Road 109, 2nd Line is proposed to be realigned as the fourth leg of the County Road 109 and County Road 3 intersection. The realignment is intended to replace the existing staggered intersection between 2nd Line and County Road 3 along County Road 109 and is proposed to include a new signalized intersection. This project looks to better understand the broader traffic impacts of the realignment and to confirm the best solution(s) for the study area.

This report addresses two study areas for the County Road 109 / 2nd Line Realignment project. The first is located at the intersections of County Roads 109, County Road 3, County Road 23, and 2nd Line (Area 1) and the second is located around the intersection of County Road 3 and County Road 11 (Area 2). These study areas fall on multiple lots and concessions across two Geographic Townships and three municipal boundaries in present-day Dufferin County.

This archaeological assessment was triggered by the Schedule C Class EA process under *the Environmental Assessment Act (1990)* and is required to ensure that the Client is compliant with the *Ontario Heritage Act, 1990*. The archaeological assessments were carried out in accordance with the Ministry of Citizenship and Multiculturalism's (MCM) 2011 *Standards and Guidelines for Consultant Archaeologists*.

The Stage 1 archaeological assessment includes a review of previous archaeological research, historic maps, land registry documents, and local histories. A property inspection of the study areas was conducted on September 30th, 2022 from public lands to better understand current conditions. The boundaries of the assessment correspond to limits provided by the Client at the outset of the assessment.

The resultant archaeological recommendations have been made based on the results of background historic research, an understanding of the geography and natural environment of the study area, and a detailed property inspection. Given the results of the Stage 1 archaeological assessment, it was determined that the majority of the land outside of the roadways and associated right-of-way retain archaeological potential. **A Stage 2 archaeological assessment is recommended for all land determined to retain archaeological potential** (Figure 5).

The Stage 2 Archaeological assessment must follow Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011). The Stage 2 recommendations are as follows:

- Recently ploughed agricultural fields must be subject to pedestrian survey at 5 m intervals as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). Prior to pedestrian survey, the field must be ploughed and weathered to allow for ideal conditions for the identification of archaeological resources. After ploughing, soil visibility must be at least 80% in order for pedestrian survey to proceed; and,

- Where ploughing is not possible, the property must be subject to test pit survey at 5 m intervals as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This recommendation includes areas of scrub overgrowth, woodlot, and manicured lawn. Test pit survey can be increased to 10 m intervals in areas of confirmed disturbance based on professional judgement.

It should be noted that the findings of this report are not considered final until the recommendations stated herein have been accepted by the MCM and the report has been entered into the Ontario Public Register of Archaeological Reports.

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TABLE OF CONTENTS

1 PROJECT CONTEXT 8

1.1 Objectives 8

1.2 Development Context 8

1.3 Historical Context 9

1.3.1 Pre-Contact Period 9

1.3.2 Post-Contact Period 13

1.3.3 Study Area Specific History 15

1.4 Archaeological Context 16

1.4.1 Current Conditions 16

1.4.2 Physiography and Ecology 16

1.4.3 Previous Archaeological Assessments 17

1.4.4 Registered Archaeological Sites 18

1.4.5 Listed and Designated Heritage Properties 18

2 FIELD METHODS 19

2.1 Property Inspection 19

2.2 Inventory of Documentary Records 19

3 ANALYSIS AND CONCLUSIONS 20

3.1 Analysis of Archaeological Potential 20

3.2 Conclusion 20

4 RECOMMENDATIONS 21

5 ADVICE ON COMPLIANCE WITH LEGISLATION 22

6 REFERENCES 23

7 IMAGES 26

8 FIGURES 30

TABLES

TABLE 1: STUDY AREA LEGAL DESCRIPTIONS 8
TABLE 2: PREVIOUS ARCHAEOLOGICAL ASSESSMENTS ON OR WITHIN 50 M OF THE STUDY AREA 17

FIGURES

FIGURE 1: PROJECT LOCATION 31
FIGURE 2: STUDY AREA IN DETAIL 32
FIGURE 3: HISTORICAL MAPPING (1861 AND 1877) 33
FIGURE 4: AERIAL IMAGERY (1954 AND 2017) 34
FIGURE 5: RESULTS OF THE STAGE 1 ARCHAEOLOGICAL ASSESSMENT 35

APPENDICES

A FEATURES OF ARCHAEOLOGICAL POTENTIAL

1 PROJECT CONTEXT

1.1 OBJECTIVES

The objectives of a Stage 1 archaeological assessment are as follows:

- To provide information regarding the property's geography, history, previous archaeological fieldwork, and current land condition;
- To provide a detailed evaluation of the property's archaeological potential; and,
- To recommend appropriate strategies for Stage 2 survey when required.

A property inspection provides first-hand knowledge of the geography, topography, and current conditions of the study area, which allows for a more accurate determination of archaeological potential.

1.2 DEVELOPMENT CONTEXT

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Table 1: Study area legal descriptions

Area	Lot	Concession	Geographic Township	Current
1	5, 6	A	Garafraxa	Township of East Garafraxa
	5, 6	B	Garafraxa	Township of East Garafraxa
2	1	1, 2	Amaranth	Township of Amaranth
	5, 6	B	Garafraxa	Township of East Garafraxa
	5,6	C	Garafraxa	Town of Orangeville

This archaeological assessment was triggered by the Schedule C Class EA process under *the Environmental Assessment Act (1990)* and is required to ensure that the Client is compliant with the *Ontario Heritage Act, 1990*. The archaeological assessments were carried out in accordance with the Ministry of Citizenship and Multiculturalism's (MCM) 2011 *Standards and Guidelines for Consultant Archaeologists*.

The Stage 1 archaeological assessment includes a review of previous archaeological research, historic maps, land registry documents, and local histories. A property inspection of the study areas was conducted on September 30th, 2022 from public lands to better understand current conditions. The boundaries of the assessment correspond to limits provided by the Client at the outset of the assessment.

1.3 HISTORICAL CONTEXT

The following sections provide a general review of the pre-contact and post-contact periods of southern Ontario as well as the history of the project areas to provide a generalized historical framework for the archaeological assessment.

1.3.1 PRE-CONTACT PERIOD

The pre-contact period in Ontario has been reconstructed, primarily, from the archaeological record and interpretations made by archaeologists through an examination of material culture and site settlement patterns. Technological and temporal divisions of the pre-contact period have been defined by archaeologists based on changes to natural, cultural, and political environments that are observable in the archaeological record. It is pertinent to state that although these divisions provide a generalized framework for understanding the broader events of the pre-contact period, they are not an accurate reflection of the fluidity and intricacies of cultural practices that spanned thousands of years. The following presents a sequence of Indigenous land-use from the earliest human occupation following deglaciation to the more recent past based on the following periods as defined by archaeologists:

- The Paleo Period
- The Archaic Period
- The Woodland Period
- The Post-Contact Period

PALEO PERIOD

Paleo period populations were the first to occupy what is now southern Ontario, moving into the region following the retreat of the Laurentide Ice Sheet approximately 11,000 years before present (BP). The first Paleo period populations to occupy southern Ontario are referred to by archaeologists as Early Paleo (Ellis & Deller, 1990).

Early Paleo period groups are identified by their distinctive projectile point morphological types, exhibiting long grooves, or ‘flutes’, that likely functioned as a hafting mechanism (method of attaching the point to a wooden shaft). These Early Paleo group projectile point types include Gainey (ca. 10,900 BP), Barnes (ca. 10,700), and Crowfield (ca. 10,500) (Ellis & Deller, 1990). By approximately 10,400 BP, Paleo projectile points transitioned to various unfluted varieties, such as Holcombe (ca. 10,300 BP), Hi Lo (ca. 10,100 BP), and Unstemmed and Stemmed Lanceolate (ca. 10,400 to 9,500 BP). These tool types were used by Late Paleo period groups (Ellis & Deller, 1990). Both Early and Late Paleo period populations were highly mobile, participating in the hunting of large game animals. Paleo period sites often functioned as small campsites where stone tool production and maintenance occurred (Ellis & Deller, 1990).

ARCHAIC PERIOD

By approximately 8,000 BP, climatic warming supported the growth of deciduous forests in southern Ontario. These forests introduced new flora and faunal resources, which resulted in subsistence shifts and a number of cultural adaptations. This change is reflected in the archaeological record by new tool-kits that are reflective of a shift in subsistence strategies and has been categorized as the Archaic period.

The Archaic period in southern Ontario is sub-divided into the Early Archaic (ca. 10,000 to 8,000 BP), Middle Archaic (ca. 8,000 to 4,500 BP), and the Late Archaic (ca. 4,500 to 2,800 BP) periods. Generally, in North America, the Archaic period represents a transition from big game hunting to broader, more generalized subsistence strategies based on local resource availability. This period is characterized by the following traits:

- An increase in stone tool variation and reliance on local stone sources,
- The emergence of notched and stemmed projectile point types,
- A reduction in extensively flaked tools,
- The use of native copper,
- The use of bone tools for hooks, gorges, and harpoons,
- An increase in extensive trade networks, and
- The production of ground stone tools and an increase in larger, less portable tools

The Archaic period is also marked by population growth with archaeological evidence suggesting that, by the end of the Middle Archaic period (ca. 4,500 BP), populations had steadily increased in size (Ellis, et al., 1990).

Over the course of the Archaic period, populations began to rely on more localized hunting and gathering territories and were shifting to more seasonal encampments. From the spring into the fall, settlements were focused in lakeshore/riverine locations where a variety of different resources could be exploited. Settlement in the late fall and winter months moved to interior sites where the focus shifted to deer hunting and the foraging of wild plants (Ellis et al., 1990, p. 114). The steady increase in population size and the adoption of a more localized seasonal subsistence strategy led to the transition into the Woodland period.

EARLY AND MIDDLE WOODLAND PERIODS

The beginning of the Woodland period is defined by the emergence of ceramic technology. Similar to the Archaic period, the Woodland period is separated into three timeframes: the Early Woodland (ca. 2,800 to 2,000 BP), the Middle Woodland (ca. 2,000 to 1,200 BP), and the Late Woodland (ca. 1,200 to 350 BP) (Spence et al., 1990; Fox, 1990).

The Early Woodland period is represented in southern Ontario by two cultural complexes: the Meadowood Complex (ca. 2,900 to 2,500 BP), and the Middlesex Complex (ca. 2,500 to 2,000 BP). During this period, the life ways of Early Woodland populations differed little from that of the Late Archaic with hunting and gathering representing the primary subsistence strategies. The pottery of this period is characterized by its relatively crude construction and lack of decoration. These early ceramics exhibit cord impressions, which are likely the result of the techniques used during manufacture rather than decoration (Spence et al., 1990).

The Middle Woodland period has been differentiated from the Early Woodland period by changes in lithic tool forms (e.g. projectile points, expedient tools), and the increased decorative elaboration of ceramic vessels (Spence et al., 1990). Additionally, archaeological evidence suggests the rudimentary use of maize (corn) horticulture by the end of the Middle Woodland Period (Warrick, 2000).

In southern Ontario, the Middle Woodland has been divided into three different complexes based on regional cultural traditions: the Point Peninsula Complex, the Couture Complex, and the Saugeen Complex. These groups are differentiated by sets of characteristics that are unique to regions within the province, specifically regarding ceramic decorations.

The Point Peninsula Complex extends from south-central and eastern Ontario into southern Quebec. The northernmost borders of the complex can be found along the Mattawa and French Rivers. Ceramics are coil constructed with conical bases, outflaring rims, and flat, rounded, or pointed lips. The interior surfaces of vessels are often channelled with a comb-like implement, creating horizontal striations throughout. The exterior is smoothed, or brushed, and decoration generally includes pseudo-scallop stamps or dentate impressions. Occasionally, ceramics will have been treated with a red ochre wash (Spence et al, 1990).

The Saugeen Complex is found generally in south-central Ontario and along the eastern shores of Lake Huron. The Saugeen Complex ceramics are similar in style to Point Peninsula Complex; however, the vessels tended to be cruder than their Point Peninsula counterparts. They were characterized by coil construction with thick walls, wide necks, and poorly defined shoulders. Usually, the majority of the vessel was decorated with pseudo-scallop stamps or dentate impressions, with the latter occurring more frequently at later dates (Spence et al., 1990).

LATE WOODLAND PERIOD

There is debate as to whether a transitional phase between the Middle and Late Woodland periods is present in southern Ontario, but it is generally agreed that the Late Woodland period begins around 1,100 BP. The Late Woodland period in southern Ontario can be divided into three cultural sub-phases: The early, middle, and late Late Woodland periods. The early Late Woodland is characterized by the Glen Meyer and Pickering cultures and the middle Late Woodland is characterized by the Uren and Middleport cultures. These groups are ancestral to the Iroquoian-speaking Neutral-Erie (Neutral), the Huron-Wendat (Huron), and Petun Nations that inhabited southern Ontario during the late Late Woodland period (Smith, 1990, p. 285).

The Pickering and Glen Meyer cultures co-existed within southern Ontario during the early Late Woodland period (ca. 1250-700 BP). Pickering territory is understood to encompass the area north of Lake Ontario to Georgian Bay and Lake Nipissing (Williamson, 1990). Glen Meyer is centred around Oxford and Norfolk counties, but also includes the southeastern Huron basin and the western extent is demarcated by the Ekfrid Clay Plain southwest of London, Ontario (Noble, 1975). Villages of either tradition were generally smaller in size (~1 ha) and composed of smaller oval structures, which were later replaced by larger structures later in the Late Woodland period. Archaeological evidence suggested a mixed economy where hunting and gathering played an important role, but small-scale horticulture was present, indicating a gradual shift from hunting-gathering to a horticultural economy (Williamson, 1990).

The first half of the middle Late Woodland period is represented by the Uren culture (700-650 BP) and the second half by the Middleport (650-600 BP). Uren and Middleport sites of the middle Late Woodland share a similar distribution pattern across much of southwestern and south-central Ontario. (Dodd et al., 1990). Significant changes in material culture and settlement-subsistence patterns are noted during this short time. Iroquois Linear, Ontario Horizontal, and Ontario Oblique pottery types are the most well-represented ceramic assemblages of the middle Late Woodland period (Dodd et al., 1990). At Middleport sites, material culture changes included an increase in the manufacture and use of clay pipes as well as bone tools and adornments (Dodd et al., 1990; Ferris & Spence, 1995).

During this period, evidence in the archaeological record of small year-round villages, secondary ossuary burials, and what are thought to be semi-subterranean sweat lodges suggest a marked increase in sedentism in southern Ontario during the Uren and Middleport cultures (Ferris & Spence, 1995). The increasing permanency of settlements

was a result of the development of small-scale cultivation and a subsequent increased reliance on staple crops such as maize, beans, and squash (Dodd et al., 1990; Warrick, 2000; Ferris & Spence, 1995).

Archaeological evidence from the middle Late Woodland sites also documents increases in population size, community organization and village fissioning, and the expansion of trade networks. The development of trade networks with northern Algonquian peoples has also been inferred from findings at Middleport sites along the northern parts of southwestern and south-central Ontario. These changes resulted in the more organized and complex social structures observed in the late Late Woodland period.

During the late Late Woodland period, village size significantly increased as did the complexity of community and political systems. The settlement patterns of the period can be categorized into three types: large village sites, smaller hamlets or cabin sites, and special resource extraction sites. The larger villages and smaller hamlets are typically on small creeks with sandy soils suitable for agriculture. Both larger village and small hamlet sites were both typically surrounded by palisades and activities were focused on subsistence (Lennox & Fitzgerald, 1990, p. 441). Larger longhouses oriented differently than others in the village have been associated with primary familial groups, while longhouses that were located outside of palisade walls may have been for visiting groups for the purposes of trade or social gatherings (Ramsden, 1990). The cabin sites were occupied on a more seasonal basis and typically only had one or two longhouses. By this time, large-scale agriculture had taken hold, making year-round villages even more practical with the improved ability to store large crop yields over winter.

These villages in southern Ontario were occupied by the ancestors of the historic seventeenth century peoples that Champlain called the Neutral in 1615 as they did not participate in the conflict between the Huron and the Haudenosaunee (Lennox & Fitzgerald, 1990, p. 405). They were known as the “Attawandaron” by the Huron-Wendat, their neighbours to the north, “the people of a slightly different language.” Distribution of ancestral Neutral sites reached from just past the Niagara River in the east to the Detroit River in the west, Lake Erie in the south, while London and Milton represent the northern boundary. Despite the wide distribution, Neutral concentrations were primarily centered on three riverine/lacustrine areas in the fifteenth century: the Niagara Peninsula; the Grand River and the rivers to the northeast (Spencer, Bronte and Sixteen Mile Creeks); and the Thames River and the shoreline of Lake Erie (Lennox & Fitzgerald, 1990, p. 405). By the late sixteenth and early seventeenth century, the settlement patterns of the Neutral had retracted to the eastern areas with concentrations largely centered on the Niagara Peninsula. Their eastern limit was the Buffalo River while their western limit was the Grand River. Populations also continued in the area of the Spencer, Bronte and Sixteen Mile Creeks in what is now the Milton and Oakville area (Lennox & Fitzgerald, 1990, p. 411).

In terms of material culture, projectile point types of the Neutral are typically long, narrow isosceles triangles with side notching, though there is generally great variation and not all are side notched. Forms included Middleport Triangular, Middleport Notched, Nanticoke Triangular and Nanticoke Notched in the fifteenth and sixteenth centuries with Daniels Triangular, and Hamilton Serrated in the seventeenth (Lennox & Fitzgerald, 1990, p. 419-421). Ceramics evolved from the slightly elongated globular form of the Middleport sub phase to a more globular to squat-globular form frequently with castellations in the fifteenth century. Common decorations during this time included Ontario Horizonal and Pound Necked incised, stamped or trailed motifs which became simpler over time.

Early contact with European settlers at the end of the Late Woodland period resulted in extensive changes to the traditional lifestyles of most populations inhabiting Ontario including settlement size, population distribution, and material culture. The introduction of European-borne diseases significantly increased mortality rates, resulting in a drastic drop in population size and the northward retreat of the Michi Saagig to the north shores of Lake Huron (Warrick, 2000).

1.3.2 POST-CONTACT PERIOD

European presence in southern Ontario began as early as 1615 with French explorer Etienne Brulé, who travelled with the Huron along the major portage route known as the Toronto Carrying Place Trail. This route connected Lake Ontario with Lake Simcoe to the north by way of the Humber River and the Holland Marsh. In September of 1615, Brulé camped on the shores of Humber Bay with the Huron (Mika & Mika, 1977, p. 694; Steckley, 1987; Ramsden, 1990). In 1615-1616, Samuel de Champlain also travelled with the Huron northward to Georgian Bay.

Neutral Territory was situated between the Huron-Wendat territory to the north, and the Haudenosaunee to the south. Their placement between these two conflicting groups resulted in their dispersal as a distinct nation. This disbandment was largely a product of intensification of the fur trade, resource scarcity, and European rivalries that translated to their trade partners (Lennox & Fitzgerald, 1990). The large-scale population dispersals gave way for the Haudenosaunee to occupy the territory along the north shore of Lake Ontario where they settled along inland-running trade routes.

Due to increased military pressure from the French and the return of Anishinaabeg Nations (Mississauga, Ojibwa, Odawa, and Potawatomi), the Haudenosaunee later abandoned their villages along Lake Ontario. By the 1680s, the Anishinaabeg had returned and re-occupied the land along Lake Ontario, as well as northward beyond the Haliburton Highlands. The Anishnabeg later participated in a significant number of treaty agreements with the British Crown establishing the foundation of Euro-Canadian settlement in southern Ontario (Schmalz,1991; Ferris & Spence, 1995).

The land on which the study area falls is located falls within the boundaries of the Ajetance Purchase (Treaty No. 19) and the Nottawasaga Purchase (Treaty No. 19). The Ajetance Purchase was signed by the Crown and the Mississauga of the Credit First Nation in October 1818 and included 648,000 acres that extended from the southern end of the recently signed Lake Simcoe-Nottawasaga Purchase of 1818 and the purchase line of the Head of the Lake Purchase of 1806 (Surtees, 1994; Ministry of Indigenous Affairs, 2020). Present day cities included in the Ajetance Purchase include Brampton and part of the town of Orangeville. The Nottawasaga Purchase was signed by the Crown and the Anishinaabe peoples in October 1818 and was the first of three treaties to be signed between October and November 1818. The Nottawasaga Purchase included 1,592,000 acres of land that extended from the northern end of the later Ajetance Purchase of 1818 and the western edge of the lake Simcoe Purchase of 1815 (Treaty No. 16) (Ministry of Indigenous Affairs, 2020). Present-day cities included in the Nottawasaga Purchase include Alliston, Collingwood, parts of Barrie, and parts of the Town of Orangeville.

WELLINGTON COUNTY

The study area for this project is located within present-day Dufferin County, which was once Wellington County, named after the First Duke of Wellington, Arthur Wellesley. The District of Wellington was set apart as a separate District and contained the counties of Wellington, Waterloo, Grey, and parts of Dufferin County in 1838 before the United Counties of Waterloo, Wellington, and Grey were formed in 1849 (Wellington County, 2020). In 1854, Wellington separated from Waterloo and became an individual entity consisting of the Townships of Amaranth, Arthur, Eramosa, Erin, Garafraxa, Guelph, Maryborough, Nichol, Peel, Pilkington, and Puslinch. The following municipalities joined the County soon after: Arthur (1857), Luther (1857), Minto (1857), Elora (1858), Fergus (1858), Orangeville (1858), Mount Forest (1866), Garafraxa separated into East and West (1869), Arthur Village (1872), Harriston (1873), Clifford Village (1874), Drayton (1875), Palmerston (1875), and Erin Village (1881) (Wellington County, 2020).

Colonial settlement in Wellington County went from east to west and generally coincided with the completion of surveys and subsequent allocation of land by the crown. Among the earliest communities was the Pierpoint

Settlement, a community of black loyalists who had received land grants from the Crown for their service in the American Revolution (Ontario Genealogical Society, 2020). In Erin, Eramosa, and Garafraxa the population was mainly loyalists moving from the Halton and Oakville regions (Wellington County, 2020). The southwest areas were populated by immigrants arriving directly from England and Wales, whereas towns such as Guelph and Fergus were largely populated by Scottish immigrants (Ontario Genealogical Society, 2020). Other early settlements included La Guayrans, the Paisley Block, Salem, Bon Accord, and the Queen's Bush (Ontario Genealogical Society, 2020). Many of the initial settlers eventually relocated to other parts of Ontario.

Living conditions rapidly improved as natural resources were abundant and resulted in settlers quickly establishing homes and farms. Growth was further boosted by the Wellington, Grey, and Bruce Railway in 1870 and the establishment of important centers of education such as the Ontario Agricultural College in 1874 (Mika & Mika, 1983). By the early 1900s, there were five schools associated with the college (Walker & Miles, 1877).

DUFFERIN COUNTY

The County of Dufferin is located on the highest plateau of land in the province of Ontario and forms the watershed for much of lands of southwestern Ontario including four lakes (Huron, Erie, Ontario, and Simcoe) as it contained the headwaters for the Saugeen, Grand, Credit, and Nottawasaga Rivers. Dufferin County has been labelled the "Roof of Ontario" because of its altitude (Mika & Mika, 1977).

In 1819, Michael McLaughlin was the first settler to arrive after following the Humber River to a site just north of Mono Mills. McLaughlin was an Irish carpenter, who built a grist mill, a flour mill, a carding mill, and a sawmill with the help of his two brothers in an area called Market Hill in Mono Mills (Mika & Mika, 1977). A decade after Mono Mills was surveyed and laid out, the town of Orangeville was founded. Orangeville was named after Orange Lawrence and was situated adjacent to a swift running steam that flowed into the nearby Credit River (Mika & Mika, 1977). Between 1845-1848, surveying parties cleared land and constructed two leading roads that passed through Dufferin County, Huron-Ontario Street (present-day Centre Road) that connected Port Credit to Collingwood, and the Toronto and Sydenham Road between Toronto and Owen Sound (Sawden, 1952, p. 7).

Prior to the founding of Dufferin County, Melancthon Township and the village of Shelburne were located in Grey County; Mono and Mulmur Townships were located in Simcoe County; and the village of Orangeville and Townships of Amaranth, and parts of Garafraxa and Luther were under the jurisdiction of Wellington County (Mika & Mika, 1977, p. 583). By 1879, Dufferin County was founded and comprised of the townships of Amaranth, East Garafraxa, East Luther, Melancthon, Mono, and Mulmur. Prior to this reorganization, major grievances were voiced from leading citizens concerning how far communities were located from their county seats, which made for inefficient local government (Mika & Mika, 1977). The County was named after Lord Dufferin, the current Governor-General of Canada (Mika & Mika, 1977).

TOWNSHIP OF GARAFRAXA

Garafraxa Township was originally surveyed by Samuel Ryckman in 1821 and the first Euro-Canadian settlers in this area began to arrive in 1826. Consisting mostly of Irish and Scottish families, they likely came by way of the Grand River and its tributaries. The Township was said to be named after the Sassafras tree, which was once locally abundant (Mika & Mika, 1981).

The main impetus for settlement in the area came with the construction of the Garafraxa Colonization Road in the late 1830s. Surveyed by Charles Rankin in 1837, it was constructed from the present-day town of Fergus to the mouth of the Sydenham River in Owen Sound along the boundaries of Garafraxa Township and the Geographic Townships of Peel and Nichol to the west. By 1850, Garafraxa Township was largely settled with early communities including Marsville and Reading (Mika & Mika, 1981).

When the Township was originally established, it was part of Waterloo County and was under the combined jurisdiction with the townships of Amaranth and Melancthon. It became part of Wellington County in 1840 and in 1869, it was split into West and East Garafraxa. The final amalgamation came in 1879, when East Garafraxa became part of Dufferin County (Mika & Mika, 1981).

TOWNSHIP OF AMARANTH

Amaranth Township was first surveyed in 1822-23 and named after the flower, found locally in abundance. It was characterized by flat, arable land well-watered by the Grand River watershed. The first recorded Euro-Canadian settler was Abraham Hugheson, who arrived around 1832. He was followed by several families establishing households in the township in 1840. By 1861, the Township of Amaranth had reached a population of 1,200.

Amaranth Township remained largely comprised of small farms until the arrival of the Toronto, Grey, and Bruce Railway in 1871, which opened the area up to the lumber industry. Once lands were cleared, they were used to pasture livestock (Sawden, 1952, p. 32). Amaranth was first part of the Simcoe District before it was transferred to Wellington County in 1841 and then amalgamated into the newly established Dufferin County in 1879. By 1975, it had a population of 2,204 and remained a primarily agricultural township (Mika & Mika, 1977)

TOWN OF ORANGEVILLE

The first recorded land grants within the present-day town of Orangeville were to the land surveyor Ezekiel Benson in 1820. Settlement continued and the area was initially known as “The Mills”, given the establishment of a sawmill and a flour mill built by James Greggs in 1832. By 1844, Orange Lawrence purchased property in the area before building a sawmill and a tavern. Throughout the 1840s, a small village developed around Orange Lawrence’s land, populated by immigrants from the British Isles fleeing economic strife. These homesteads soon included a blacksmith shop and a shoemaker. A post office was established in 1847 and was named Orangeville, reflecting the importance of its postmaster (Mika & Mika, 1983).

Growth of the community was spurred by the construction of the Toronto and Sydenham Road between 1848 and 1850, which connected Toronto to Owen Sound and included Orangeville as a major stop. A tannery was built in 1852 and a flour mill in 1858. By the 1860s, Orangeville included four hotels, woollen factories, mills, several stores, a few mechanic’s shops, a Baptist church, a grammar school, and the Orangeville Common School. With a population of 1,200 in 1863, it was incorporated as a village (Mika & Mika, 1983).

The arrival of the Toronto, Grey, and Bruce Railway and the Credit Valley Railway in the 1870s led to another period of sustained economic growth which included the incorporation of Orangeville as a town in 1874. When Dufferin County was formed in 1879, Orangeville became the County Town. The local St Andrew’s Presbyterian Church was built the same year, followed by a high school in 1884, a Salvation Army mission in 1885, and a public library in 1907. Throughout the twentieth century, Orangeville remained a regionally prosperous town with its economy centered on agricultural products. It became a regional center for the processing of agricultural products, lumber, automotive parts, and textiles (Mika & Mika, 1983).

1.3.3 STUDY AREA SPECIFIC HISTORY

To better understand the historic land use of the study areas, the 1861 Leslie & Wheelock’s *Map of the County of Wellington, Canada West* and the 1877 Walker & Miles *Illustrated Historical Atlas of the Counties of Waterloo and Wellington, Ontario* were reviewed. This analysis contributes to the determination of archaeological potential. In 1861, the lands within both study areas had been granted and present-day Dufferin County Roads 3, 11, 23, and 109, as well as 2nd Line had been constructed. No homesteads are illustrated on the map, however, an Inn is illustrated

within the study area of Area 2 on the eastern half of Lot 5, Concession A owned by Thomas Black at the intersection of County Road 11 and County Road 3 (Figure 3). Although no other structures are illustrated within the study areas, depicting all structures on the historical atlas maps would have been beyond the intended scope of the atlas at the time of its production and, often, structures were only illustrated for those landowners who purchased an atlas subscription.

By the time the 1877 atlas was published, the Toronto, Grey, & Bruce Railway has been built to the north of County Road 109, including the Orangeville Railway junction. A number of homesteads are fronted along County Roads 2, 11, and 23. One homestead falls within the study area for Area 2 on the western half of Lot 5, Concession B, owned by John Hunter in 1877, while two other homesteads on the eastern halves of Lots 5 and 6, Concession A, owned by Thomas Black and J.T. Walker, respectively, are located in proximity to the Area 2 study area. Only one homestead is illustrated in proximity to the study area of Area 1 and is fronted on County Road 23 on the eastern half of Lot 5, Concession A that was listed to Mrs. Hunter in 1877 (Figure 3).

AERIAL IMAGERY

To better understand the more recent land use of the study area, aerial imagery from 1954 and 2017 was reviewed (University of Toronto Libraries, n.d.; Google Earth, n.d.). By 1954, the landscape had remained predominantly agricultural with the homesteads illustrated on the 1877 map still appearing to be present. There is no evidence of the Inn illustrated on the 1861 map at County Road 2 and County Road 11. The homestead within the study area of Area 1 along County Road 23 may be the homestead illustrated on the 1877 map as the locations of structures on historical mapping are not exact (Figure 4). By 2017, it appears that several historical homesteads are no longer standing, but their locations are still visible on the landscape. A significant amount of commercial, industrial, and residential construction related to the growth of the Town of Orangeville is evident, particularly along County Road 23 and County Road 109 (Figure 4).

1.4 ARCHAEOLOGICAL CONTEXT

1.4.1 CURRENT CONDITIONS

The study areas are located primarily to the west of the present-day Town of Orangeville. The first study area (Area 1) is generally centered at the intersection of several County Roads (County Roads 3, 23, and 109) and 2nd Line, and the second (Area 2) at the intersection of County Road 3 and County Road 11. Area 1 includes a mix of agricultural fields, manicured lawn, residential areas, and commercial and industrial complexes. Area 2 remains primarily under agricultural use.

1.4.2 PHYSIOGRAPHY AND ECOLOGY

The study areas fall within the Dundalk Till Plain physiographic region of southern Ontario (Chapman & Putnam, 1984). This high tableland contains the headwaters of the Saugeen, Maitland, Nottawasaga, and Grand Rivers. This region is characterized by a network of small flat-floored valleys over the plain, which are frequently swampy containing underfit streams or no streams at all. The terrain is described as gently undulating till plain with imperfect and slow drainage despite the high elevation. Surface soils in the Dundalk Till Plain are generally loams or silt loams, which creates a water-soaked layer that dries slowly in early spring, preventing early cultivation (Chapman & Putnam, 1984). Soil types within the study areas include Caledon sandy loam, Guelph loam, and Hillsburgh sandy loam, all of which have good drainage ideal for successful agriculture (Hoffman, Matthews, & Wicklund, 1964)

This area is with the Mixedwood Plains Ecozone, within the Lake Simcoe-Rideau Ecoregion (Ecoregion 6E) (Crins et al., 2009). The climate of the Lake Simcoe-Rideau Ecoregion is mild and moist, with a mean annual temperature range of 4.9 to 7.8 degrees Celsius (Crins et al., 2009). Typical mammals in the area include the white-tailed deer, the northern raccoon, the striped skunk, and the woodchuck. Wetland habitats are used by many species of water birds and shorebirds, including wood duck, great blue heron, and Wilson's snipe. Birds common in open uplands include the field sparrow, grasshopper sparrow, and the eastern meadowlark while forests often contain species such as hairy woodpeckers, wood thrush, scarlet tanager, and the rose-breasted grosbeak. Typical reptiles present include the bullfrog, northern leopard frog, spring peeper, red-spotted newt, snapping turtle, eastern garter snake and the common water snake. Fish species in the area include the white sucker, smallmouth bass, walleye, northern pike, yellow perch, rainbow darter emerald shiner and pearl dace (Crins et al., 2009).

The Lake Simcoe-Rideau Ecoregion falls within the Great Lakes-St. Lawrence Forest Region. The vegetation of this forest region is relatively diverse. Hardwood forests are dominated by Sugar Maple, American Beech, White Ash, and Eastern Hemlock. Numerous other species are found where substrates are well developed on upland sites. Lowlands, including rich floodplain forests, contain Green Ash, Silver Maple, Red Maple, Eastern White Cedar, Yellow Birch, Balsam Fir, and Black Ash. Peatlands occur along the northern edge and in the eastern portion of the ecoregion, and these contain fens, and rarely bogs, with Black Spruce and Tamarack. Some of the best examples of North American alvar vegetation are located in this ecoregion (Rowe, 1972). The climate along with the diverse flora and fauna of Ecoregion 6E would have provided abundant natural resources for Indigenous and early Euro-Canadian populations.

Proximity to natural sources of water is an important indicator of archaeological potential. The closest water sources include Mud Lake and Island Lake, located approximately 3 km to the west of County Road 11 and 5 km east of 2nd Line. Mud Creek, flowing from Mud Lake, is a tributary of the Grand River, and Island Lake flows into tributaries of the Credit River, both of which were key transportation routes and resource bases for Indigenous and Euro-Canadian populations. A portion of Mill Creek is located approximately 1 km east of Area 2; however, this part of the creek has been artificially channelized and does not reflect the natural or historical location of the creek.

1.4.3 PREVIOUS ARCHAEOLOGICAL ASSESSMENTS

A search of the MCM's *Ontario Public Register of Archaeological Reports* indicates that two archaeological assessments have been conducted within approximately 50 m of the study area. Further details on the previously archaeological work are provided in Table 3. Neither of these previous assessments have occurred within the limits of the current study area.

Table 2: Previous archaeological assessments on or within 50 m of the study area

Year	PIF	Title	Researcher
2009	P049-358-2008, P049-259-2008	*Stage 1 and 2 Archaeological Assessment of 30 County Road 23 Part of Lot 5, Concession C, Geographic Township of East Garafraxa, Dufferin County, Now the Town of Orangeville, Dufferin County, Ontario*	Archaeological Services Inc. (ASI)
2010	P017-160-2009	*Archaeological Assessment (Stage 3) AlHa-33 (Ingerham) 30 County Road # 23, Part of Lot 5, Concession C, Geographic Township of East Garafraxa, Dufferin County, Now the Town of Orangeville*	Detritus Consulting Ltd (Detritus)

In 2008, ASI was retained to conduct a Stage 1-2 archaeological assessment for the property at 30 Dufferin County Road 23. During the Stage 2 field survey, the Ingerham (AlHa-33) archaeological site was identified and determined

to require Stage 3 site specific excavation. The site consisted of scatter of 80 Euro-Canadian artifacts across an area measuring 56 m north-south by 42 m east-west (ASI, 2008).

The Stage 3 site specific excavation of the Ingerham Site (AlHa-33) was conducted by Detritus in 2009. Eleven test units were excavated across the site area resulting in the recovery of only 50 additional artifacts. The site was determined to be a small, short-term mid-19th century midden deposit. The Ingerham Site (AlHa-33) was determined to be sufficiently documented and no further work was recommended (Detritus, 2010).

1.4.4 REGISTERED ARCHAEOLOGICAL SITES

A search of the *Ontario Archaeological Sites Database* indicates that the only registered archaeological site within 1 kilometre (km) of the study area is the mid-nineteenth century Euro-Canadian Ingerham Site (AlHa-33) previously identified by ASI in 2008 and further mitigated by Detritus in 2009 (ASI, 2008; Detritus, 2010). It should be noted that the paucity of registered sites near the study areas is more likely the result of a lack of archaeological assessments being completed in the area rather than an absence of archaeological sites.

1.4.5 LISTED AND DESIGNATED HERITAGE PROPERTIES

A search of the *Town of Orangeville Heritage Register* (Town of Orangeville, n.d.) indicates that there are no listed or designated heritage properties within 300 m of the study area. The Townships of Amaranth and East Garafraxa were contacted to obtain information from their municipal heritage registers; however, a response was not received prior to the completion of this report.

2 FIELD METHODS

2.1 PROPERTY INSPECTION

A property inspection was completed on September 30th, 2022, to gain first-hand knowledge of the geography, topography, and current conditions of the study area as well as to better evaluate and map areas of archaeological potential. The weather conditions during the time of the property inspection were sunny and clear with an average temperature of 16 °Celsius. Lighting and ground conditions were adequate for the documentation of features of archaeological potential. The entirety of the study area and its periphery were subject to inspection from public lands.

The property inspection determined that approximately 66% of the land with the study areas was comprised of recently ploughed and cultivated agricultural fields, 20% consisted of areas of previous disturbance, 13% is comprised of scrub overgrowth that could not be confirmed to have been previously disturbed through visible inspection, and the remaining 1% was an area of steep slope (>20˚). The areas of visually confirmed previous disturbance include roadways and associated right-of-way disturbance, footprints for commercial, industrial, and residential buildings, and subsurface utilities.

Images illustrating typical conditions within the study area are provided in Section 7 of this report and the results of the Stage 1 property inspection and the location and direction of all images are provided on Figure 5.

2.2 INVENTORY OF DOCUMENTARY RECORDS

The following represents all the documentation taken in the field relating to the project and are being retained by WSP:

- 1 page of field notes
- 137 digital photographs in JPG format

3 ANALYSIS AND CONCLUSIONS

3.1 ANALYSIS OF ARCHAEOLOGICAL POTENTIAL

The criteria for determining the level of archaeological potential are primarily focused on physiographic variables that include distance and nature of the nearest source/body of water, distinguishing features in the landscape (e.g. ridges, knolls, eskers, wetlands), the agricultural viability of soils, resource availability, and other features which would have made the area more suitable for settlement and occupation. A more comprehensive list of features indicative of archaeological potential, as outlined in the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011), can be found in Appendix A.

Based on the results of the background study and property inspection, the majority of the study area retains potential for the presence of archaeological resources. The potential for the presence of pre-contact Indigenous archaeological potential within the study areas is moderate given the location of Mud and Island Lake, Mud and Mill Creeks, and associated wetlands, which would have served as an important source of food resources and transportation routes.

The potential for the presence of Euro-Canadian archaeological resources is high given the early pioneer settlement of the area, the presence of an Inn and several homesteads within and surrounding the study areas, and the presence f early historical transportation routes, including present-day Dufferin County Roads 3, 11, 23, and 109 and 2nd Line. Euro-Canadian land-use of the area is evident by the previous identification of the Ingerham site (AlHa-33) within 1 km.

3.2 CONCLUSION

This Stage 1 archaeological assessment determined that the majority of both study areas retains archaeological potential and requires Stage 2 archaeological assessment to determine the presence/absence of archaeological resources. Areas visually confirmed to have been previously disturbed where archaeological integrity has been compromised include roadways and their associated right-of way disturbance (i.e. grading, berms, ditching), building footprints, and areas with subsurface utilities. Areas of steep slope greater than 20° are considered to have low archaeological potential. Areas with no or low archaeological potential do not require further archaeological assessment.

4 RECOMMENDATIONS

The Stage 1 archaeological assessment was carried out in accordance with the MCM's 2011 *Standards and Guidelines for Consultant Archaeologists*. The resultant archaeological recommendations have been made based on the results of background historic research, an understanding of the geography and natural environment of the study area, and a detailed property inspection. Given the results of the Stage 1 archaeological assessment, it was determined that the majority of the land outside of the roadways and associated right-of-way retain archaeological potential. **A Stage 2 archaeological assessment is recommended for all land determined to retain archaeological potential** (Figure 5).

The Stage 2 Archaeological assessment must follow Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011). The Stage 2 recommendations are as follows:

- Recently ploughed agricultural fields must be subject to pedestrian survey at 5 m intervals as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). Prior to pedestrian survey, the field must be ploughed and weathered to allow for ideal conditions for the identification of archaeological resources. After ploughing, soil visibility must be at least 80% in order for pedestrian survey to proceed; and,

- Where ploughing is not possible, the property must be subject to test pit survey at 5 m intervals as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This recommendation includes areas of scrub overgrowth, woodlot, and manicured lawn. Test pit survey can be increased to 10 m intervals in areas of confirmed disturbance based on professional judgement.

It should be noted that the findings of this report are not considered final until the recommendations stated herein have been accepted by the MCM and the report has been entered into the Ontario Public Register of Archaeological Reports.

5 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the Standards and Guidelines for Consultant Archaeologists (2011a) 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 Ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

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

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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

6 REFERENCES

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7 IMAGES

Image 1: Typical agricultural field, photo facing northwest.

Image 2: Typical cultivated agricultural field, photo facing southwest.

Image 3: Typical cultivated agricultural field, photo facing west.

Image 4: Typical cultivated agricultural field, photo facing northeast.

Image 5: Area of visually confirmed disturbance, photo facing west.

Image 6: Area of visually confirmed disturbance, photo facing northwest.

Image 7: Area of visually confirmed disturbance, photo facing north.

Image 8: Area of visually confirmed roadway disturbance, photo facing northeast.

Image 9: Area of visually confirmed roadway disturbance, photo facing northeast.

Image 10: Area of visually confirmed roadway ditching disturbance, photo facing southeast.

Image 11: Area of visually confirmed roadway berm disturbance, photo facing southwest.

Image 12: Area of visually confirmed roadway berm disturbance, photo facing northeast.

Image 13: Area of visually confirmed roadway ditching disturbance, photo facing northwest.

Image 14: Area of visually confirmed roadway ditching disturbance, photo facing southwest.

Image 15: Area of visually confirmed roadway ditching disturbance, photo facing northwest.

Image 16: Area of visually confirmed roadway drainage disturbance, photo facing northeast.

Image 17: Area of visually confirmed roadway ditching disturbance, photo facing southwest.

Image 18: Indicator of subsurface utility disturbance, photo facing northwest.

Image 19: Indicator of subsurface utility disturbance, photo facing east.

Image 20: Indicator of subsurface utility disturbance, photo facing southeast.

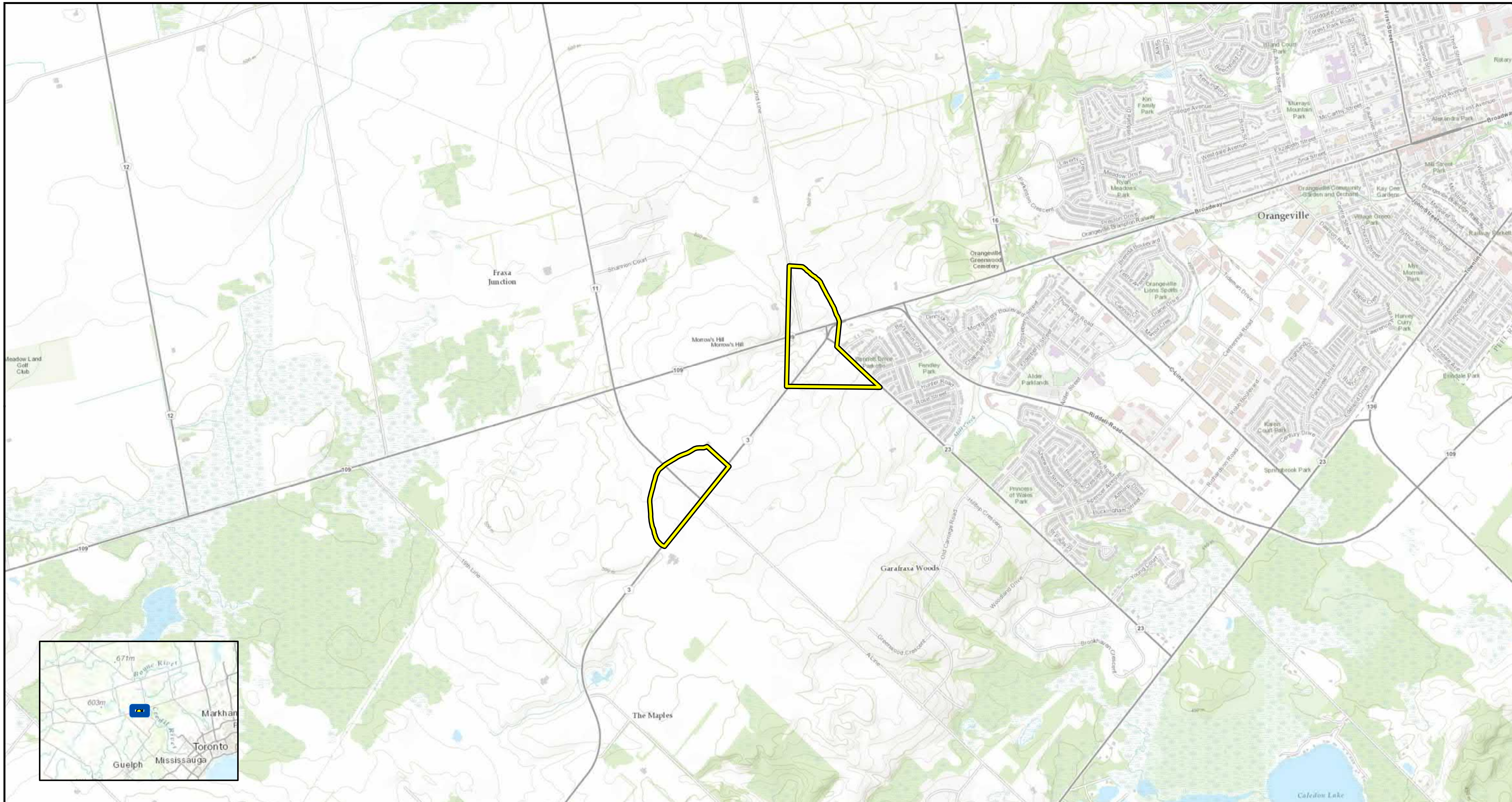
Image 21: Typical overgrown house lot scrubland, photo facing southwest.

Image 22: Typical scrubland, photo facing northeast.

Image 23: Typical scrubland, photo facing west.

Image 24: Area of steep slope (>20°), photo facing northeast.

8 FIGURES



LEGEND

Study Area

TITLE:

FIGURE 1: PROJECT LOCATION

SCALE:	PROJECT NO:	DATE:
1:25,000	221-08590-00	NOV 2022
DRAWN BY: BR	CLIENT: DUFFERIN COUNTY	

PROJECT:

STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT
ENVIRONMENTAL ASSESSMENT

0 450 900 m

N

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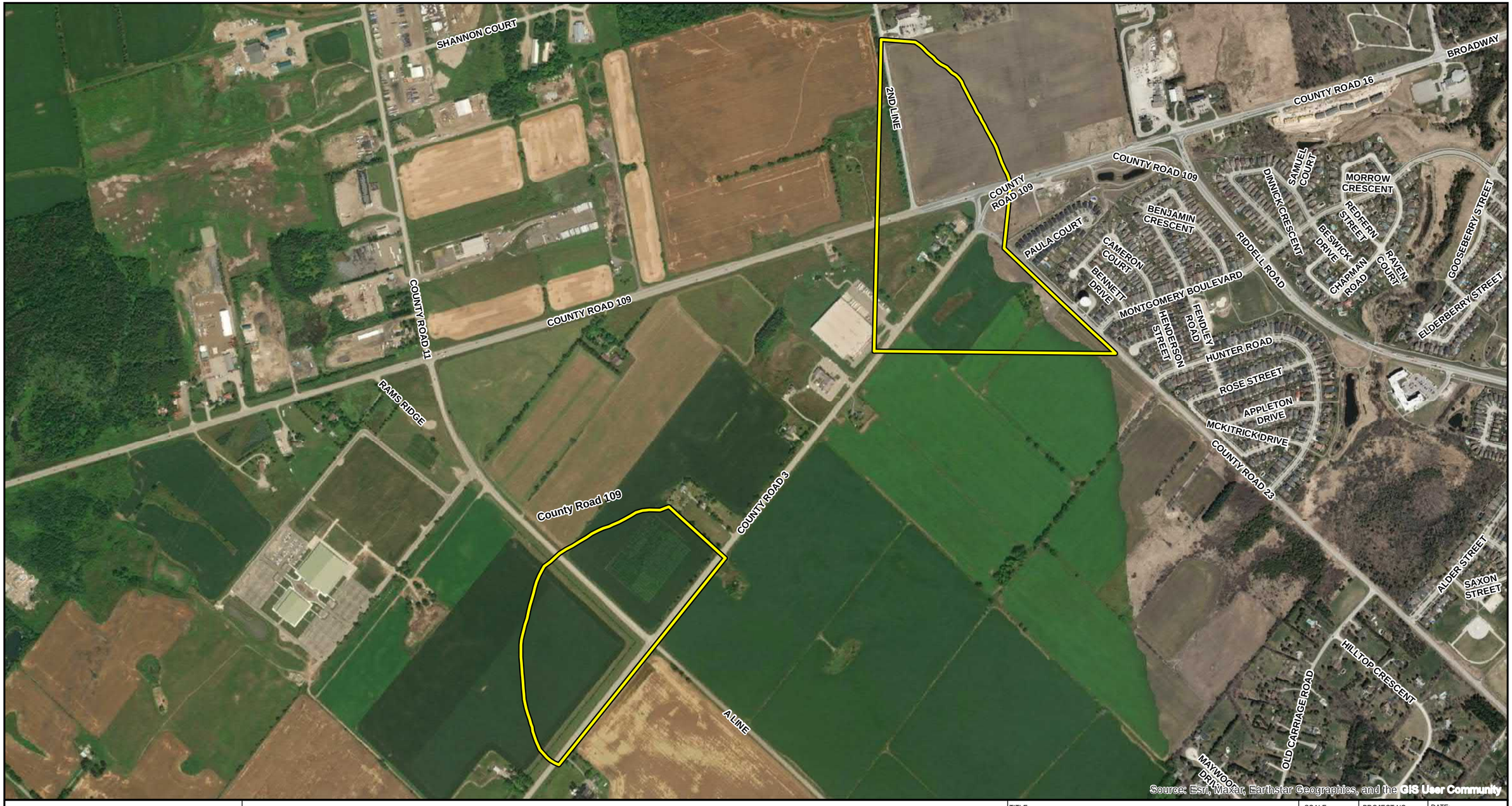

wsp

LEGEND

Study Area

TITLE: FIGURE 2: STUDY AREA IN DETAIL

SCALE:	PROJECT NO:	DATE:
1:9,562	221-08590-00	NOV 2022

DRAWN BY: BR

CLIENT: DUFFERIN COUNTY

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

0 170 340 m

N

CREDITS: LAND INFORMATION ONTARIO

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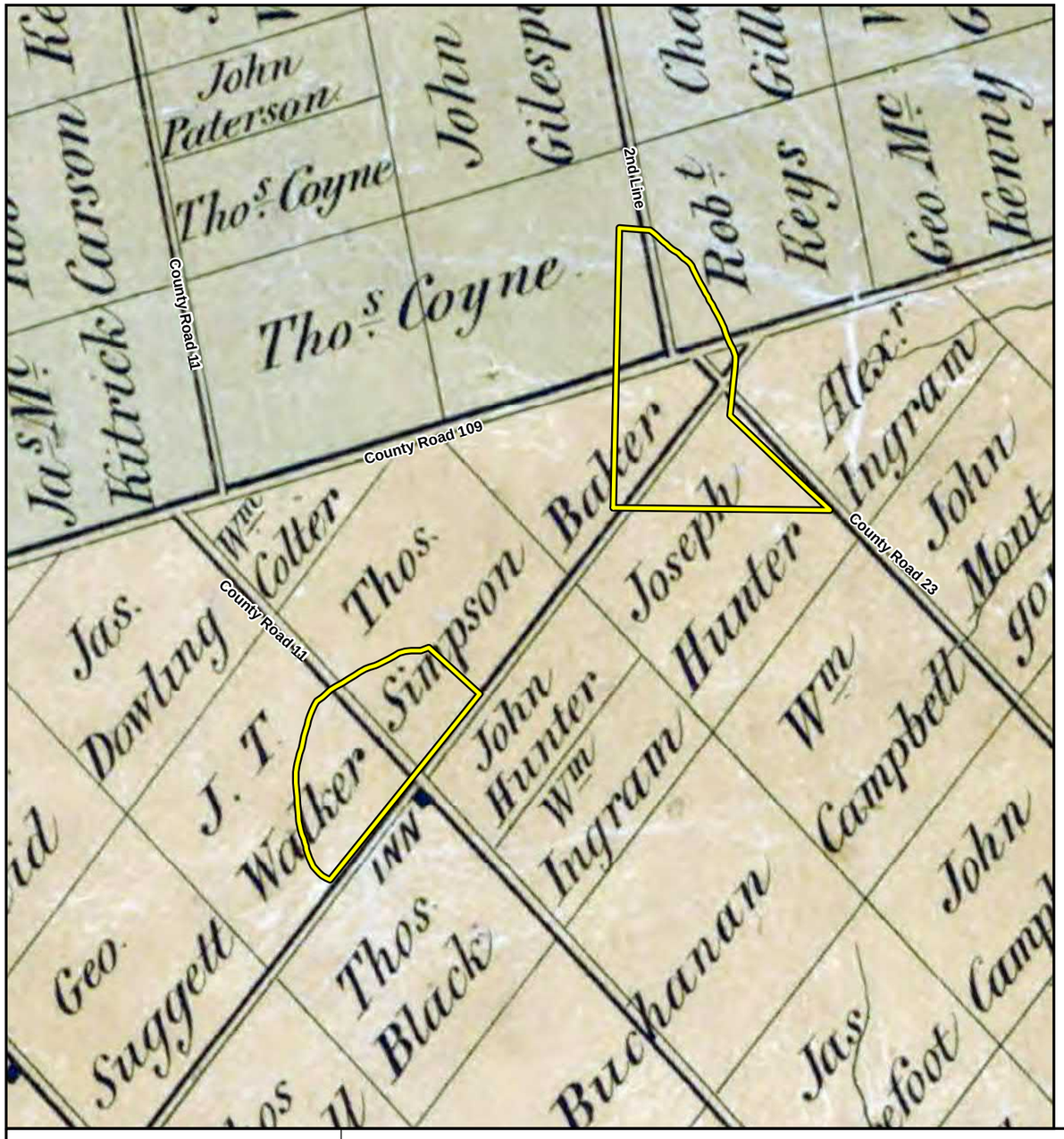
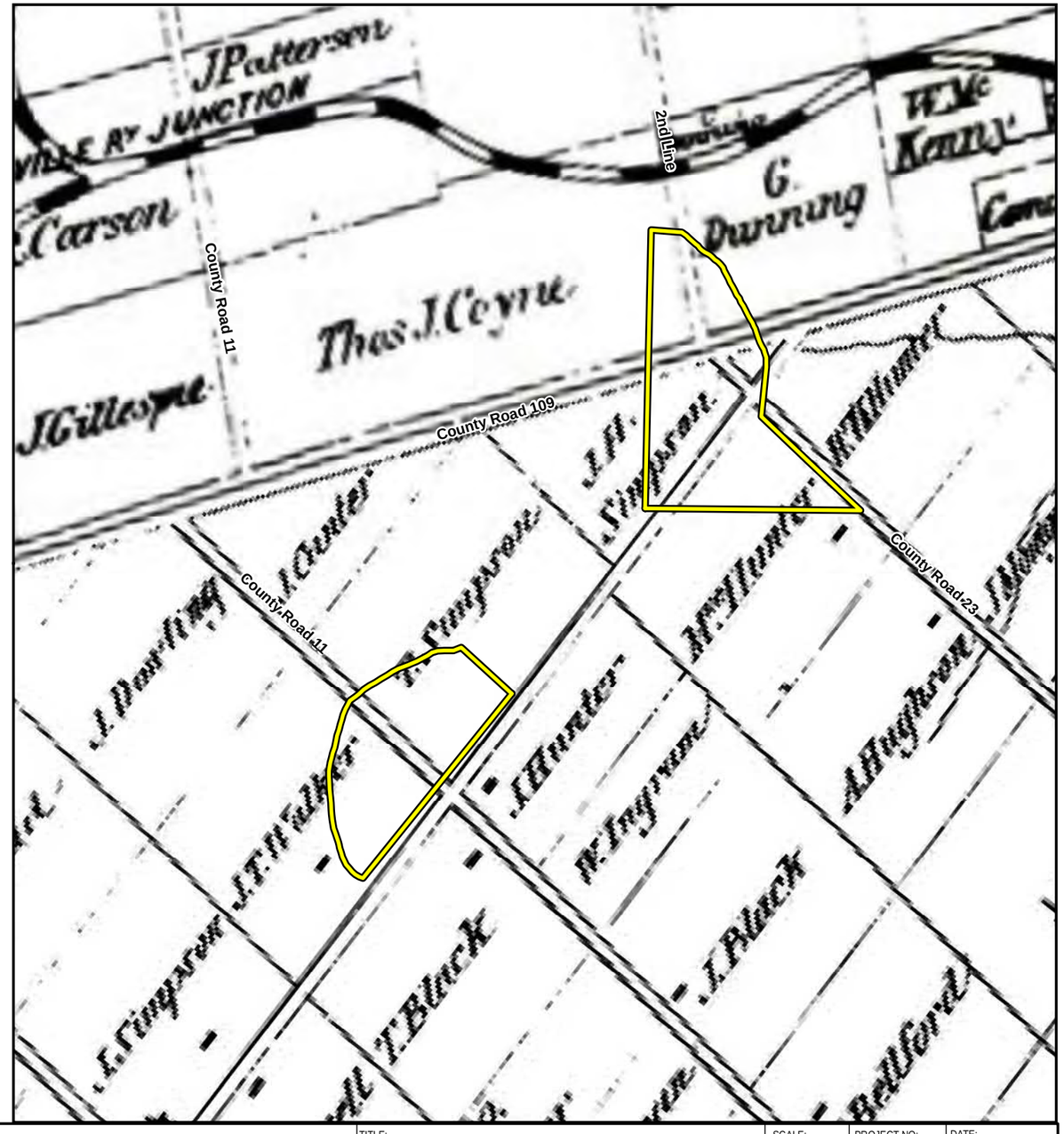




LEGEND

Study Area

TITLE: FIGURE 3: HISTORICAL MAPPING (1861 AND 1877)

SCALE: 1:15,000

PROJECT NO: 221-08590-00

DATE: NOV 2022

DRAWN BY: BR

CLIENT: DUFFERIN COUNTY

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

0 270 540 m

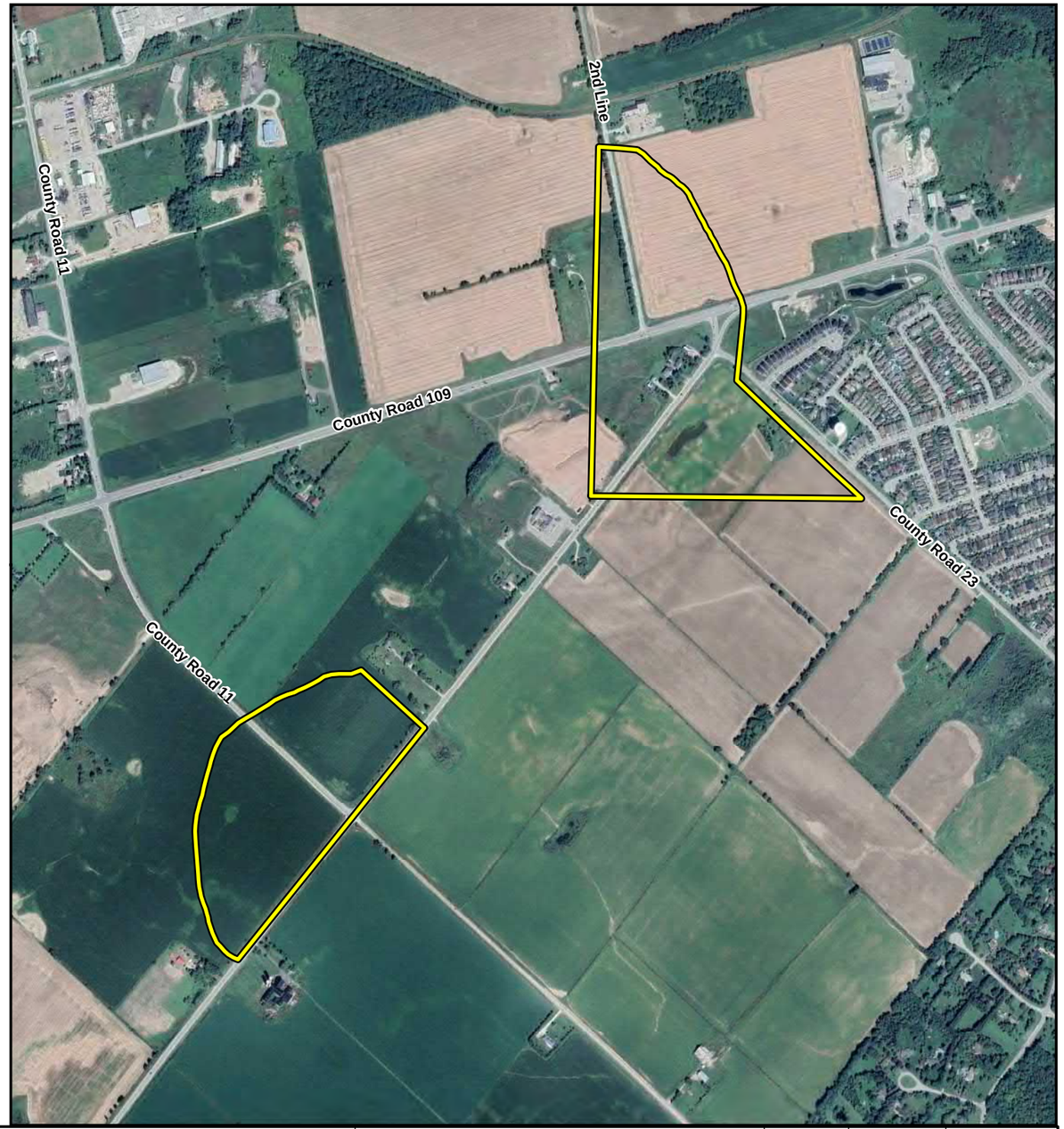
N

CREDITS:

Historical County Map of Wellington County. Leslie, G and Wheelock, CJ. 1861

Map of the COunty of Wellington, Canada West. Leslie & Wheelock. 1877

Document Path: \\corp.pbwan.net\ca\CATHU100\CATDB1DAT01\PRO\Archaeology and Heritage\1) ARCHAEOLOGY\1) Projects\2022-Stage 1 Dufferin County Road 109 221-08590-00\14.0 Tech & Prof Services\14.02 Archaeology\400-GIS Data\Map 3 Historical Mapping.mxd



wsp

LEGEND

Study Area

TITLE: FIGURE 4: AERIAL IMAGERY (1954 AND 2017)

SCALE: 1:12,000 | PROJECT NO: 221-08590-00 | DATE: NOV 2022

DRAWN BY: BR | CLIENT: DUFFERIN COUNTY

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

CREDITS: TORONTO MAP AND DATA LIBRARY

0 215 430 m

N

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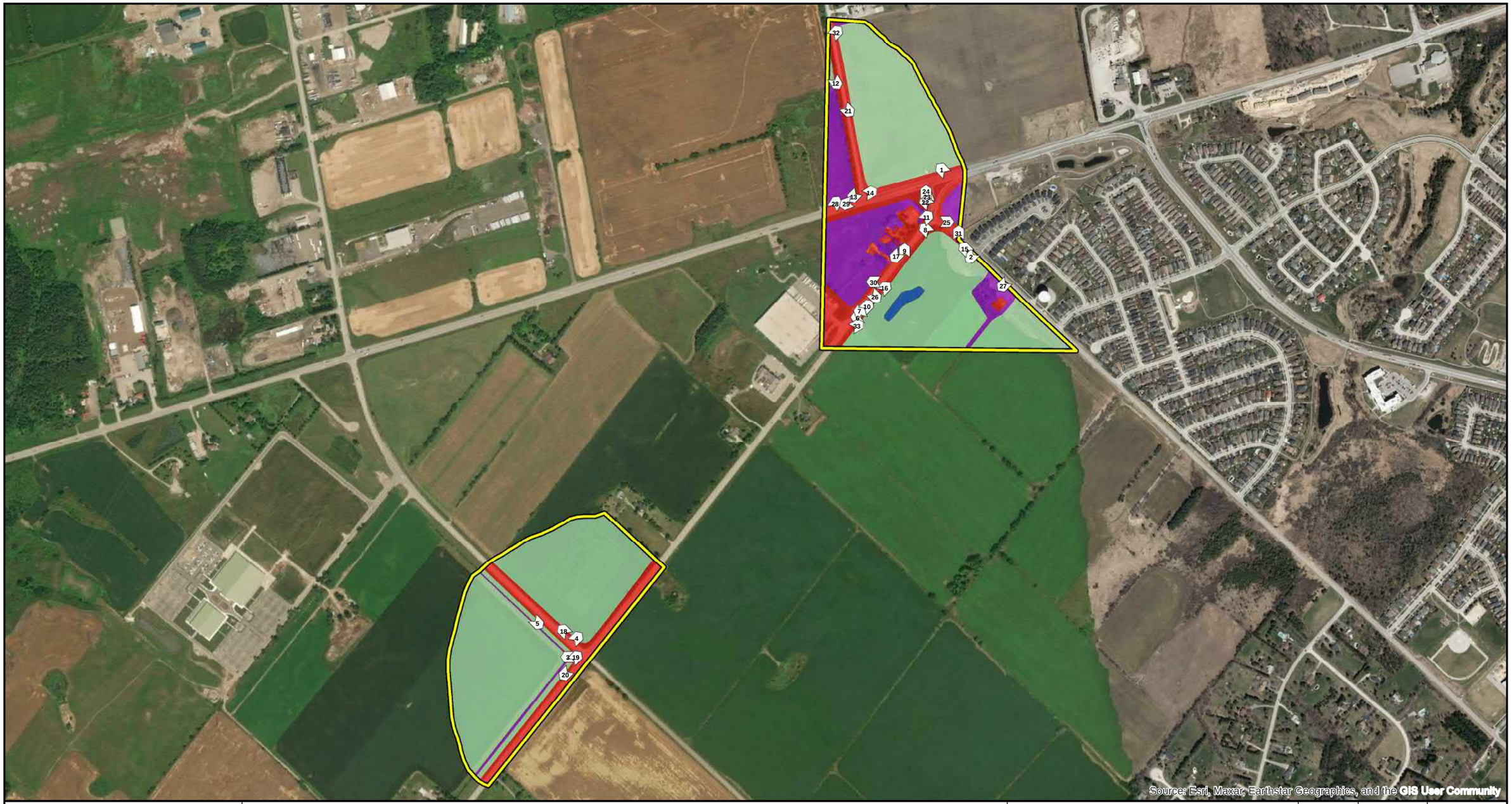

LEGEND

- Study Area
- Photo Locations
- Pedestrian Survey at 5 m
- Previously Disturbed - No further work required
- Slope Greater than 20° - No further work required
- Test Pit Survey at 5 m

TITLE: FIGURE 5: RESULTS OF THE STAGE 1 ARCHAEOLOGICAL ASSESSMENT

SCALE:	PROJECT NO:	DATE:
1:9,052	221-08590-00	NOV 2022
DRAWN BY: BR	CLIENT: DUFFERIN COUNTY	

PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT: DUFFERIN COUNTY ROAD 109 / 2ND LINE REALIGNMENT ENVIRONMENTAL ASSESSMENT

0 162.5 325 m

N

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APPENDIX

A

FEATURES OF ARCHAEOLOGICAL POTENTIAL

APPENDIX

FEATURES INDICATING ARCHAEOLOGICAL POTENTIAL

The following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites.
- Water sources:
- Primary water sources (lakes, rivers, streams, creeks).
- Secondary water sources (intermittent streams and creeks, springs, marshes, swamps).
- Features indicating past water sources (e.g. glacial lake shorelines, relic river or stream channels, shorelines of drained lakes or marshes, cobble beaches).
- Accessible or inaccessible shoreline (e.g. high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh).
- Elevated topography (e.g. eskers, drumlins, large knolls, plateaux).
- Pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground.
- Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases.
- Resource areas, including:
  - Food or medicinal plants (e.g. migratory routes, spawning areas, prairie).
  - Scarce raw materials (e.g. quartz, copper, ochre, or outcrops of chert).
  - Early Euro-Canadian industry (e.g. fur trade, logging, prospecting, mining).
- Areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g. pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries.
- Early historical transportation routes (e.g. trails, passes, roads, railways, portage routes).
- Property listed on a municipal register or designated under the Ontario Heritage Act or that is federal, provincial or municipal historic landmark or site.
- Property that local histories or informants have identified with possible archaeological sites, historic events, activities, or occupations

SOURCE

Section 1.3. Ministry of Citizenship and Multiculturalism. (2011). *Standards and Guidelines for Consultant Archaeologists.* Toronto, Ontario: Queen's Printer for Ontario.