

Stage 1 Archaeological Assessment of Strada Aggregates Existing Melancthon Pit, Part of the West Half of Lot 11 and the West Halves of Lots 12, 13 and 14, Concession 3 Old Survey, Melancthon Township, Dufferin County

Revised Report

Prepared for:

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Archaeological Licence: P361 (Brown)

Project Information Form: P361-0121-2022

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Executive Summary

Archaeological Services Inc. was contracted by Strada Aggregates to undertake a Stage 1 Archaeological Assessment of the Strada Aggregates Existing Melancthon Pit, Part of the West Half of Lot 11 and the West Halves of Lots 12, 13 and 14, Concession 3 Old Survey, Township of Melancthon, Dufferin County. The subject property is approximately 148.7 hectares. The existing pit is proposed to be deepened to operate the site as a pit and quarry.

The assessment entailed consideration of the proximity of previously registered archaeological sites and the original environmental setting of the property, along with nineteenth- and twentieth-century settlement trends. This research indicated there would typically be potential for both Indigenous and Euro-Canadian historical archaeological resources on the subject property, depending on the degree of subsequent soil alteration.

The extent and results of previous archaeological assessments carried out in the vicinity of the subject property were also reviewed. During these assessments, five archaeological sites were documented within the subject property limits, and one requires a further Stage 4 Archaeological Assessment.

The Stage 1 Archaeological Assessment has resulted in the determination that approximately 93% of the subject property has been previously assessed via a series of earlier Stage 1 and Stage 2 Archaeological Assessments. The remaining 7%, consisting of woodlot areas in the northeast and eastern parts of the subject property, has not been assessed and retains archaeological potential.

Given the findings of the Stage 1 Archaeological Assessment research, the following recommendations are made:

1. The Euro-Canadian Theodore Lusty Homestead (BaHb-1) site has been documented within the subject property by Leslie Currie and Associates in 2003. In 2004, the site was subjected to Stage 3 excavations and a complete Stage 4 recording and excavation. The site is considered to have been

completely excavated and does not represent any further archaeological concern.

2. The Euro-Canadian BaHb-14 site has been documented within the subject property by Archaeological Services Inc. in 2009. The site was found not to meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
3. The Euro-Canadian Stone (BaHb-15) site has been documented within the subject property by Archaeological Services Inc. in 2009. The 2010 Stage 3 excavations at the site indicated that it does not meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
4. The Euro-Canadian James Hamilton (BaHb-18) site has been documented within the subject property by Archaeological Services Inc. in 2016. The site was found not to meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
5. The Euro-Canadian Madill (BaHb-17) site has been documented within the subject property by Archaeological Services Inc. in 2016. The 2017 Stage 3 excavations at the site indicated that it meets the provincial criteria for cultural heritage value or interest and that any potential impacts to the site area or its buffer must be mitigated through its complete Stage 4 recording and excavation, in accordance with *Standards*.
 - a. As outlined in the recommendations provided in the report on the Stage 3 Archaeological Assessment of the Madill site (BaHb-17) (Archaeological Services Inc. 2018b), the Stage 4 mitigation of impacts to the site should commence with the hand-excavation of additional one-metre square units around high-yielding deposits, initially placed around Stage 3 units 490N-200E, 495N-200E, 500N-

200E, 500N-205E and 505N-200E. These excavations should continue until yields drop to 150 artifacts per square (see Supplementary Documentation Figure 2).

- b. Following the block excavation, mitigation should continue with the mechanical removal of the plough zone via Gradall or backhoe equipped with a smooth bucket across the site area as defined by the Stage 3 assessment (see Supplementary Documentation Figure 2). This stripped area must include a buffer of at least 10 metres of subsoil free of subsurface features. The exposed subsoil must then be cleaned by shovel or trowel and the surface examined for cultural features. Any cultural features must then be fully hand excavated and documented.
6. A review of past archaeological work undertaken within the subject property determined that approximately 93% has been previously assessed via Stage 1 and Stage 2 Archaeological Assessment (Figure 8; Supplementary Documentation Figure 1). The remaining 7%, consisting of woodlot areas in the northeast and southeast, lies outside the current and proposed limits of extraction. Any proposed land alteration of these unassessed areas must be preceded by a Stage 2 Archaeological Assessment. Such assessment(s) must be conducted in accordance with the *Standards*, in order to identify any archaeological resources that may be present. Woodlots must be assessed by means of test pit survey. Areas deemed during the Stage 2 assessment process to be disturbed or of no potential due to factors of slope or drainage must be appropriately documented.
7. It is recommended that the balance of the subject property (representing approximately 92%) situated beyond the area of the Madill site (BaHb-17) and its protective 10-metre buffer zone (approximately 1% of the subject property), and excluding the unassessed woodlot areas in the northeast and southeast (representing 7%, as discussed above, see Figure 8; Supplementary Documentation Figure 1) be cleared for development. A map of the property with the detailed location of the site and its 10-metre

buffer zone can be seen in supplementary documentation submitted alongside this report (Supplementary Documentation Figure 3). It is requested that the Ministry of Citizenship and Multiculturalism provide a letter confirming that there are no further concerns with regard to alterations for the balance of the property, following Sections 7.8.5 and 7.9.5 of the *Standards*. Until the acceptance of this report and the completion of all required Stage 4 mitigation work, the following avoidance measures should be completed:

- a. A temporary barrier (e.g. snow fence) should be erected with a minimum 10 metre protective buffer around the Madill site (BaHb-17) limits (as determined by the Stage 3 investigations) and its installation verified by a licensed archaeologist.
 - b. Avoidance instructions and mapping illustrating the “no-go” areas around the site should be issued to all personnel during construction.
 - c. The “no-go” area should be explicitly drawn and labelled with relevant avoidance instructions on all development plans.
 - d. The proponent will issue written confirmation regarding their commitment to implementing the strategy and confirmation that ground alterations (e.g., servicing, landscaping) will avoid the archaeological site in question and its protective buffer area.
8. It has been noted that should the proposed Pit and Quarry operation be approved, the height of the existing berm which partly overlays the Madill site (BaHb-17) 10-metre protective buffer will (see Supplementary Documentation Figure 4) need to be increased by one metre. To achieve this, some disturbance of the berm itself may be necessary in order to place fill atop it. The following procedure should be followed:
- a. Any potential earthworks associated with this berm taking place within the Madill site (BaHb-17) 10-metre protective buffer must be

monitored by a licensed archaeologist, in order to ensure that there are no impacts to the site area.

Project Personnel

- **Senior Project Manager:** Jennifer Ley, Honours Bachelor of Arts (R376), Lead Archaeologist, Assistant Manager, Planning Assessment Division
- **Project Manager:** Christopher Brown, Master of Arts (P361), Associate Archaeologist, Project Manager, Planning Assessment Division
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1.0 Project Context

Archaeological Services Inc. was contracted by Strada Aggregates to undertake a Stage 1 Archaeological Assessment of the Strada Aggregates Existing Melancthon Pit, Part of the West Half of Lot 11 and the West Halves of Lots 12, 13 and 14, Concession 3 Old Survey, Township of Melancthon, Dufferin County (Figure 1). The subject property is approximately 148.7 hectares. The existing pit is proposed to be deepened to operate the site as a pit and quarry.

1.1 Development Context

This assessment was conducted under the senior project management of Jennifer Ley (R376), and the project management and project direction of Christopher Brown (P361) under Ministry of Citizenship and Multiculturalism (hereafter referred to as the Ministry) Project Information Form P361-0121-2022. All activities carried out during this assessment were completed as part of a pit/quarry license application for Strada Aggregates Inc., as required by the *Aggregate Resources Act* (Ministry of Natural Resources, 1990) and the *Ontario Planning Act* (Ministry of Municipal Affairs and Housing, 1990). The application being completed by the proponent is to allow for deeper extraction within new, smaller pit extraction limits, as well as for the use of the existing pit location in the southern portion of the property for processing and mitigation. Pit expansion is not to occur.

All work for this Stage 1 Archaeological Assessment was completed in accordance with the *Ontario Heritage Act, R.S.O. 1990, c. O.18* (Ministry of Culture [now the Ministry], 1990) and the *Standards and Guidelines for Consultant Archaeologists* (hereafter the Standards) (Ministry of Tourism and Culture [now the Ministry], 2011).

Permission to access the subject property and to carry out all activities necessary for the completion of the assessment was granted by the proponent on October 31, 2022.



1.2 Historical Context

The purpose of this section is to describe the past and present land use and settlement history, and any other relevant historical information gathered through the Stage 1 background research. First, a summary is presented of the current understanding of the Indigenous land use of the subject property. This is followed by a review of historical Euro-Canadian settlement trends.

1.2.1 Pre-Contact Settlement

Southern Ontario has a cultural history that began approximately 13,000 years ago and continues to the present. Table 1 provides a general summary of the pre-contact Indigenous settlement of the subject property and surrounding area.

Table 1: Pre-contact Indigenous Temporal Culture Periods in Southern Ontario

Period	Description
Paleo 13,000 Before Present (B.P.) - 9,000 B.P.	<ul style="list-style-type: none">• First human occupation of Ontario• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers• Language Unknown• Small occupations• Non-stratified populations
Archaic 9,000 B.P. – 3,000 B.P.	<ul style="list-style-type: none">• Astronomers/ Artists/ Hunters/ Gatherers/ Foragers• Small occupations• Non-stratified populations• Mortuary ceremonialism• Extensive trade networks for raw materials and finished objects



Period	Description
Early Woodland 3,000 B.P. – 2,400 B.P.	<ul style="list-style-type: none"> • Astronomers/ Artists/ Hunters/ Gatherers/ Foragers • General trend in spring/summer congregation and fall/winter dispersal • Small and large occupations • First evidence of community identity • Mortuary ceremonialism • Extensive trade networks for raw materials and finished objects
Middle Woodland 2,400 B.P. – 1,300 B.P. Transitional Woodland 1,300 B.P. – 1,000 B.P.	<ul style="list-style-type: none"> • Astronomers/ Artists/ Hunters/ Gatherers/ Foragers • A general trend in spring/summer congregation and fall/winter dispersal into large and small settlements • Kin-based political system • Increasingly elaborate mortuary ceremonialism • Incipient agriculture in some regions • Longer term settlement occupation and reuse
Late Woodland (Early) <i>Anno Domini</i> (A.D.) 900 – A.D. 1300	<ul style="list-style-type: none"> • Foraging with locally defined dependence on agriculture • Villages, specific and special purpose sites • Socio-political system strongly kinship based
Late Woodland (Middle) A.D. 1300 – A.D. 1400	<ul style="list-style-type: none"> • Major shift to agricultural dependency • Villages, specific and special purpose sites • Development of socio-political complexity
Late Woodland (Late) A.D. 1400 – A.D. 1650	<ul style="list-style-type: none"> • Complex agricultural society • Villages, specific and special purpose sites • Politically allied regional populations



1.2.2 Post-Contact Settlement

Historically, the subject property is located on Parts of Lots 11, 12, 13 and 14, Concession 3 Old Survey, in the Township of Melancthon, Dufferin County.

The Nottawasaga Purchase (Treaty 18)

The subject property is within the Nottawasaga Purchase (Treaty 18), a provisional agreement sometimes called the Lake Simcoe-Nottawasaga Treaty, signed on October 17, 1818, by representatives of the Government of Upper Canada and the Anishinaabe (Ministry of Indigenous Affairs, 2020; Williams Treaties First Nations, 2021). Treaty 18 encompassed 1,592,000 acres of land between the District of London in the west, Lake Huron in the north, the west limit of the Lake Simcoe Purchase (Treaty 16, 1815) in the northeast, and the west shore of Lake Simcoe, Cook's Bay, and the Holland River in the east. In exchange for the land, the Crown agreed to pay an annual sum of £1200 in goods at the "Montreal price" (Crown-Indigenous Relations and Northern Affairs, 2016; Ministry of Indigenous Affairs, 2020). The Nottawasaga Purchase territory includes, for example, the present-day communities of Wasaga, Bradford, and Collingwood.

The Haldimand Tract (Treaty 4)

The subject property is also within part of the Haldimand Tract (Treaty 4). Following the American Revolutionary War, the British Crown needed to find lands on which to settle United Empire Loyalists, including approximately 2,000 members of the Six Nations confederacy who had fought alongside British troops. Due to their service to the Crown during this war and the dispossession of Indigenous lands in New York State by American forces, the English Colonial government offered to protect Six Nations peoples and give them land within the boundaries of English territory in Upper Canada. On August 8, 1783, Lord North instructed the Governor of Quebec, Sir Frederick Haldimand, to set apart land for the Six Nations people and ensure that they carried on their hunting and fur trading with the British. The Crown initially planned to provide lands for Loyalist settlers in Quebec and southeastern Ontario, including providing land in the Bay of Quinte region for Six Nations peoples. This was not suitable for many of the members of Six Nations and a contingent of approximately 1,800 community members, led by Chief Joseph Brant, requested land north of Lake



Erie along the Grand River. Brant felt that the location in the Bay of Quinte was too isolated and that his followers could be better served by being closer to the Six Nations communities that chose to remain in the United States in western New York (Surtees, 1984).

Recognizing that under the terms of the Royal Proclamation the land needed to be purchased prior to settlement, Colonel John Butler was sent to negotiate with the Mississaugas of the Credit for lands west of Lake Ontario and north of Lake Erie. On May 22, 1784, the Mississaugas of the Credit agreed to cede approximately 3,000,000 acres of land containing all or part of what are now Brant, Elgin, Middlesex, Oxford, and Wellington Counties as well as the Regions of Haldimand-Norfolk, Halton, Hamilton-Wentworth, Niagara, and Waterloo. In exchange for these lands, the Mississaugas received £1180.74 worth of trade goods (Government of Canada, 2016; Surtees, 1984). Of the 3,000,000 acres, approximately 650,000 acres were set aside for the settlement of Six Nations people.

On October 25, 1784, Haldimand signed a proclamation that allotted land six miles (10 kilometres) on either side of the Grand River from its mouth at Lake Erie to its headwaters near Dundalk, Ontario. This land was to be used solely by the people of Six Nations, who were also granted the right to sell or lease the land within this territory providing the Crown was first offered to purchase the land (Filice, 2018; Surtees, 1984). Under the terms of the Haldimand Proclamation, Six Nations people were authorized to “Settle upon the Banks of the River” and were allotted “for that Purpose six miles [10 kilometres] deep from each Side of [its] beginning at Lake Erie, & extending in the Proportion to [its] Head” (Filice, 2016; Johnston, 1964).

Due to uncertainties with the description of the lands in the original surrender, Treaty 3 was renegotiated on December 7, 1792, to clarify what was ceded. This largely revolved around the northern boundary of the Treaty area and in particular the area set aside for Six Nations settlement along the Haldimand Tract. The signees of the treaty on the side of the British included Lieutenant Governor John Graves Simcoe, John Butler, Robert Kerr, Peter Russell, John McGill, and Davie William Smith. The signees of the Treaty on the side of the



Mississauga included Chiefs Wabakyne, Wabanip, Kautabus, Wabaniship, and Mottotow (Government of Canada, 2016; Surtees, 1984).

As part of the 1792 renegotiation of Treaty 3, the Crown also redefined the boundaries of the Haldimand Tract. Upon review of the Haldimand Proclamation, politician and Indian Department official Sir John Johnson noted an error involving the location of the northern boundary of the tract. Haldimand had mistakenly assumed in 1784 that the headwaters of the Grand River resided within the area negotiated under Treaty 3. However, the northern reach of the Haldimand Tract was within lands that were not negotiated until 1818 under Treaties 18 and 19 (Filice, 2016; Government of Canada, 2016; Surtees, 1984). In order to clarify the boundaries of the tract, the Crown appointed surveyor Augustus Jones to complete a survey of the Haldimand Tract in 1791. In so doing, Jones redefined the borders of the Six Nations' land parcel. This included defining the northern limit of the Haldimand Tract as Jones Baseline near the Town of Fergus in the Township of Centre Wellington. In addition, Jones established straight-lined boundaries, rather than sinuous boundaries following every curve in the river, which can still be seen in today's municipal boundaries. Six Nations and Joseph Brant were not in agreement with this new definition and petitioned the government for control over the tract. This eventually led to the 1793 Simcoe Patent which defined the rules of land ownership and leasing within the revised 30,000 acres of land provided to Six Nations. This 1793 patent did not address those lands northeast of the Jones Baseline and continues to be a source of dispute between Six Nations and the Crown.

The difference between the original land grant of the Haldimand Proclamation and the Simcoe Patent was significant. Not only did the new territory remove the upper 275,000 acres of the tract north of Jones Baseline, Jones' redefinition of the boundaries along the portions of the Haldimand Tract within the Treaty 3 lands did not consistently provide six miles on either side of the Grand River. Six Nations of the Grand River contend that they were not involved in the renegotiation of this land and therefore the redefined territory is not consistent with the terms of the original land grant. In particular, it is the view of Six Nations of the Grand River that it was the responsibility of the Crown to provide



the land that was agreed to in the Haldimand Proclamation (Six Nations of the Grand River, 2019).

Following the establishment of the Haldimand Tract, Six Nations of the Grand River began to negotiate leases within the Haldimand Tract as a means of generating income for the community. These transactions were made under the understanding that this would provide a continuous revenue stream for the Confederacy and that these represented long term leases rather than formal land sales (Six Nations of the Grand River, 2019). The Crown was responsible for administering these funds which Six Nations of the Grand River argue they never received. Many of the leases were confirmed by the Crown in 1834-5, although unauthorized sales and squatting by settlers remained a significant issue (Johnston, 1964; Lytwyn, 2005). In 1841, the Superintendent of Indian Affairs, Samuel P. Jarvis, informed the Six Nations of the Grand River that the only way to keep white intruders off their land would be for the Crown to manage these lands on behalf of the Nation, to be administered for their sole benefit. Under this plan, the Six Nations of the Grand River would retain lands that they actually occupied and a reserve of approximately 20,000 acres near the present-day city of Brantford. This transfer of land to the Crown was made by the Six Nations in January 1841 (Johnston, 1964; Lytwyn, 2005).

This history and those surrenders are still contested by the Confederacy and there are numerous specific land claims that have been filed by the Six Nations of the Grand River with the federal government in regard to lands within the Haldimand Tract.

Township of Melancthon

Melancthon was incorporated as an independent township in 1853, and the earliest extant minutes for the township meetings are dated to 1860. The residents of Melancthon voted in favour of annexation from Grey County in order to become part of Dufferin County in 1880 (Anonymous, 1891; Belden, 1880; Gardiner, 1899; Dean, 1952; Armstrong, 1985; Jonasson, 2006).

Instructions were issued by the Surveyor General's Department for the first township survey in February 1820. In 1852, Andrew Russell prepared a plan



showing some of the “New Survey” landowners, but no names or structural footprints were within the “Old Survey” plan (Winearls, 1991; Russell, 1852).

The surveyor (Charles Rankin, or his assistant) who was assigned to survey the township “first ran lines around these townships [Luther and Melancthon] and filled in the interior with the legend ‘All Swamp.’ The plans were sent back and he was ordered to survey the townships into farm lots. Having done so, he said that as it was the meanest tract of land he had ever surveyed, and he would name the country after the meanest men he had ever heard of, so, being a Roman Catholic, he called the one township Luther and the other Melancthon Township” (Belden, 1880; Gardiner, 1899; Rayburn, 1997:217). The township was described as containing a “rolling” topography, with clay loam of an excellent quality, although there were “considerable swamp areas.” Some of these swampy lands were drained during the nineteenth century and were thereby capable of being brought under cultivation. The township was known for substantial tracts of swamp land containing cedar and tamarack.

The “first” permanent settler in the township was Lewis (Louis) Horning, who arrived *circa* 1830. He was a merchant-miller, who established the village of Horning’s Mills (Belden, 1880a). In 1841, the combined population of Amaranth and Melancthon Townships amounted to just 105 inhabitants. Records indicate that there were no public (common) schools in Melancthon Township in 1847, but seven public schools and one Separate School had been established by 1865 (Munro, 1910; Smith, 1851). It was noted in 1851 that:

Melancthon is but newly settled and contains only two hundred inhabitants and three hundred and nineteen acres are under cultivation. A new road, which has been laid out by the government from the Hurontario Street, to connect with the Owen’s Sound Road, crosses this township; and a grist and saw mill have been erected. The adjoining township of Proton is yet unsettled, or if any persons have already taken up land there, no return has yet been made from them. We have no account of the nature and quality of the land in these two townships and were unable to devote sufficient time to enable us to explore them (Smith, 1851:110-111).



After initial settlement, the population of Melancthon Township increased slowly from 2,043 (1871), to 3,099 (1881), and to 3,831 (1901) (Smith, 1851). In 2011, Melancthon Township had a population numbering approximately 2,839. It has remained a rural, agricultural community, noted for its production of potatoes, as well as dairy, cattle, sheep and horse farming.

Town of Shelburne

The subject property is situated approximately 5.7 kilometres to the north of the modern Town of Shelburne. Like many settlements in Ontario, industry and the railroad were the driving force behind the town's origin. The town was founded by William Jelly, who built several log cabins in the area and erected an inn in 1864-65 at the intersection of modern-day Highways 10 and 89 and was originally called “Jelly’s Corners.” A post office was established at the inn shortly after with Jelly serving as the first postmaster. In 1865, the town’s name was officially changed to Shelburne in honour of the Earl of Shelburne who was instrumental in bringing an end to hostilities in the War of 1812. By the 1880’s, Shelburne’s population was approximately 1,000. Industries included a grist mill, two sawmills, a foundry, a brick yard and a tannery. There were eight general stores, two drug stores, and two local newspapers. The first train, the Toronto, Grey, Bruce Railway, arrived in June 1883 (Mika and Mika, 1977:384-385; Rayburn, 1997:315-316).

1.2.3 Review of Nineteenth and Mid-Twentieth-Century Map Sources

A review of nineteenth- and early twentieth-century mapping was completed to determine if these sources depict any nineteenth-century Euro-Canadian settlement features that may represent potential historical archaeological sites within or adjacent to the subject property. Historic map sources are used to reconstruct/predict the location of former features within the modern landscape by cross-referencing points between the various sources and then georeferencing them in order to provide the most accurate determination of the location of any property from historic mapping sources. The results can be imprecise (or even contradictory) because sources of error, such as the vagaries of map production, differences in scale or resolution, and distortions caused by



the reproduction of the sources, introduce error into the process. The impacts of this error are dependent on the size of the feature in question, the constancy of reference points on mapping, the distances between them, and the consistency with which both are depicted on historic mapping.

In addition, not all settlement features were depicted systematically in the compilation of these historical map sources, given that they were financed by subscription, and subscribers were given preference with regards to the level of detail provided. Thus, not every feature of interest from the perspective of archaeological resource management would have been within the scope of these sources.

The earliest maps of the area are the “patent plans” that showed the township fabric laid out as lots and concessions. The patent plans showed the names of the owners (or lessees) of the land and some of the topography, but structural footprints were seldom shown.

The first detailed map for this township, which showed some structures as well as a few of the owners, was published in the *Illustrated Historical Atlas of the Counties of Grey and Bruce* (Belden, 1880). The 1880 mapping (Figure 2) indicates that the central portion of the subject property, corresponding with the western half of Lot 13, Concession 3 in the Old Survey, was owned by D. Hodgson. No structures are illustrated in that 50-acre parcel, however very few are indicated on the map as a whole. It provides no information on the property owner or structures of the remainder of the subject property, but does indicate an Orange Hall to have been located in the east half of Lot 14, Concession 4, immediately to the northwest. The Loyal Orange or Orange Order institution was established in Northern Ireland in 1796 and by the early nineteenth century had lodges in Canada. The Protestant-only organization supports the British Crown and provides mutual aid amongst members (Wilcox, 2016). Present-day Fourth Line borders the eastern boundary of the property. To the south, the property is bound by the course of present-day County Road 17. A schoolhouse is illustrated on the opposite side of this early settlement road, on lands occupied by John Mills. The nearest water source is illustrated as a tributary of



the Boyne River, located approximately 275 metres to the south of the subject property.

Early topographic mapping was also reviewed for the presence of potential historical features. Land features, such as waterways, wetlands, woodlots, and elevation, are clearly illustrated on this series of mapping, along with roads and structure locations. Figure 3 illustrates the subject property on the 1941 Dundalk topographic map (Department of National Defence, 1941). In 1941, the subject property is shown to feature varying terrain, with elevations ranging from just below 1625 feet (495.3 metres) to over 1675 feet (510.5 metres) above sea level, rising in a general southeast to northwest direction. It is bounded to the west by the course of Fourth Line, to the south by County Road 17 and consists mainly of cleared agricultural lands. Four farm complexes are illustrated fronting onto Fourth Line, located along the western property limits. Each complex consists of a residence and barn, with the southernmost complex featuring an additional outbuilding. In the northeast corner and along the eastern limits of the subject property are illustrated areas of deciduous woodlot. No water sources are indicated in the vicinity of the subject property, with the nearest being wetland areas located approximately 500 metres to the south.

1.2.4 Review of Mid-Twentieth Century Aerial Imagery

In order to further understand the previous land use on the subject property, twentieth-century aerial imagery was reviewed. In 1954 (Hunting Survey Corporation Limited, 1954) (Figure 4), the subject property is situated within a rural landscape, immediately adjacent to the course of modern-day Fourth Line to the west and County Road 17 to the south. The property is composed mainly of smaller agricultural fields, with wooded lands situated in the northeast corner and along the eastern limits, corresponding with those areas illustrated in the earlier 1941 topographic mapping (Figure 3). Similarly, four farm complexes fronting onto Fourth Line are visible in the same locations as those illustrated in the earlier mapping, with each consisting of what appears to be a residence and outbuildings. The two northern farms feature an access laneway extending eastward, into the centre areas of the property. Small areas of previously undocumented wetland can be seen in the southeast of the property, as well as



in adjacent lands, situated approximately 150 metres to the northwest and 100 metres to the west.

1.2.5 Review of Late-Twentieth Century Map Sources

In order to further understand the previous land use on the subject property, late-twentieth century topographic mapping was reviewed. In 1999 (Natural Resources Canada, 1999), the subject property appears much as it did in 1941, being composed of cleared agricultural lands (Figure 5). The northeast and eastern woodlots remain, as do the farm complexes along the western property limits. An additional residence is illustrated centrally along the western property edge, also fronting onto Fourth Line. The small wetland areas visible in the 1954 aerial imagery are not shown.

1.2.6 Review of Twenty-First Century Satellite Imagery

In addition to twentieth century aerial imagery, satellite imagery of the subject property from the twenty-first century was also reviewed. Imagery from 2009 and 2014 can be found on Figure 6 (Google Earth Pro, 2022). By 2009, much of the central portion of the subject property (the west half of Lot 13) is in use as an active pit. The northern and southernmost sections of the property continue to be agricultural lands and feature the farm complexes and residence present in the late-twentieth century topographic mapping. The central farm complex has been demolished in advance of the opening of the pit. The northeast and eastern woodlots continue to be visible and reflect their earlier dimensions. Additional wooded lands are visible along the northern part of the eastern property limits, not shown in earlier twentieth century mapping or imagery. Adjacent pit activities can be seen to the west and northeast of the subject property. By 2014, the central pit has expanded, and is shown to extend further to the northeast, beyond the property limits. New pit activities are visible in the southern portion of the property. The remainder of the subject property appears much as it did in the 2009 imagery.



1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the subject property, its environmental characteristics (including drainage, soils, surficial geology, topography, etc.), and current land use and field conditions.

1.3.1 Registered Archaeological Sites

In order that an inventory of archaeological resources could be compiled for the subject property, three sources of information were consulted: the site record forms for registered sites housed at the Ministry, published and unpublished documentary sources, and the files of Archaeological Services Inc.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database, which is maintained by the Ministry. This database contains archaeological sites registered within the Borden system. The Borden system was first proposed by Doctor Charles E. Borden and is based on a block of latitude and longitude. Each Borden block measures approximately 13 kilometres east-west by 18.5 kilometres north-south and is referenced by a four-letter designator. Sites within a block are numbered sequentially as they are found. The subject property is located in the northern section of the BaHb Borden block.

According to the Archaeological Sites Database, eight archaeological sites have been registered within a one-kilometre radius of the subject property (the Ministry, 2023; accessed from PastPortal on August 31, 2023). Further research identified one additional archaeological site within the subject property itself (BaHb-1). A summary of nearby sites is available in Table 2 below. Of the nine registered sites, five have been registered within the limits of the current subject property, and include Theodore Lusty Homestead (BaHb-1), (BaHb-14), Stone (BaHb-15), Madill (BaHb-17) and James Hamilton (BaHb-18). These sites are discussed in more detail in Section 1.3.2 below.



Table 2: Registered Archaeological Sites within a One-Kilometre Radius

Borden Number	Site Name	Temporal/ Cultural Affiliation	Site Type	Researcher
BaHb-1	Theodore Lusty Homestead	Euro-Canadian, Mid-Late 19 th Century	Homestead	Leslie Currie and Associates, 2001; 2003; 2004
BaHb-9		Indigenous, Euro-Canadian	House, findspot	Golder Associates Ltd., 2008
BaHb-12		Euro-Canadian, Late 19 th Century	House	Golder Associates Ltd., 2008
BaHb-13		Euro-Canadian	House	Golder Associates Ltd., 2008
BaHb-14	BaHb-14 – H1	Euro-Canadian, Late 19 th Century- Early 20 th Century	Refuse	Archaeological Services Inc., 2011
BaHb-15	Stone	Euro-Canadian, Mid-Late 19 th Century	Dump	Archaeological Services Inc., 2011a; 2011b
BaHb-17	Madill	Euro-Canadian, Mid-19 th Century	Farmstead	Archaeological Services Inc., 2017a; 2018a
BaHb-18	James Hamilton	Euro-Canadian, Late 19 th Century- Early 20 th Century	Farmstead	Archaeological Services Inc., 2017b



Borden Number	Site Name	Temporal/ Cultural Affiliation	Site Type	Researcher
BaHb-19	James Taggert	Euro-Canadian/ Irish, Mid-19 th Century	Farmstead	Archaeological Services Inc., 2018b; 2022

1.3.2 Previous Assessments

The background research has determined that eight archaeological assessments have been conducted both within and immediately adjacent to (within 50 metres) the subject property. These assessments have been discussed in order of date completed and those conducted within the subject property are illustrated on Figure 8 and Supplementary Documentation Figure 1.

Assessments within the Subject Property

In 2001, Leslie Currie and Associates completed a Stage 1¹ Archaeological Assessment of Part of Lots 13 and 14, West Half, Concession 3 Old Survey (Leslie Currie and Associates, 2001; Contract Information Form 2001-073-009), as part of a pit license application. The approximate 39.66-hectare (98-acre)² property was composed of the western halves of Lots 13 and 14, Concession 3 Old Survey, comprising the northern half of the present subject property. The background research and a ‘windshield assessment’ review of the property found that it contained very high potential for the presence of Indigenous archaeological materials, and high potential for historical Euro-Canadian archaeological materials. A Stage 2 Archaeological Assessment of the entire property was recommended prior to any pit activities.

¹ Although titled as a Stage 1 and 2 Archaeological Assessment, this report was limited to Stage 1 only.

² The area of this assessment is, in fact, more accurately 80 hectares (200 acres), as reflected in project mapping and the project description as covering the western halves of Lots 13 and 14.



In 2003, Leslie Currie and Associates completed a Stage 2 Archaeological Assessment of Lot 13, West Half, Concession 3 Old Survey (Leslie Currie and Associates, 2003; Contract Information Form 2002-0403-002). The 40-hectare property was composed of the western half of Lot 13, situated within the central portion of the current subject property and composed of the southern half of the previous Stage 1 assessment. It was assessed by means of a combination of test pit survey and pedestrian survey across the entire property. The Stage 2 survey resulted in the discovery of one historical Euro-Canadian site, BaHb-1. The site was found to represent a mid-to-late nineteenth century domestic occupation of the property and was recommended for further Stage 3 Archaeological Assessment.

In 2004, Leslie Currie and Associates completed the Stage 3 and 4 excavations of the Theodore Lusty Homestead (BaHb-1) site (Leslie Currie and Associates, 2004; Contract Information Forms P032-012 and P032-016). The Stage 3 excavations took place in April 2004, where following a controlled surface pickup of surface artifacts, a series of 13 one-metre test units were excavated across the site area. A total of 1,035 historic Euro-Canadian artifacts and three Indigenous lithic artifacts were recovered as a result of the Stage 3 excavations. Given that the artifacts recovered and the associated archival research suggested an occupation from the 1850s to the 1870s, the site was determined to represent cultural heritage value or interest and it was recommended that it be subject to a Stage 4 excavation. In May 2004, Stage 4 excavations took place, consisting of the mechanical removal of topsoil from the site area and the recording and excavation of exposed cultural features. Stage 4 excavations resulted in the identification of seven subsurface cultural features and the recovery of 5,601 additional artifacts. Archival research and artifact and settlement pattern analysis indicated that the site represented a log cabin which had been occupied by Theodore Lusty and his family from roughly 1851 until 1887. Following these Stage 4 excavations, it was determined that the site had been completely excavated and documented and it was recommended that it be cleared of any further archaeological concerns.

From 2007 to 2009, Archaeological Services Inc. completed the Stage 1 and 2 Archaeological Assessment of The Strada Pit Expansion, Part of Lots 11 and 12



(West Half), Concession 3 Old Survey (Contract Information Forms P049-222-2007, P049-299-2008, P049-347-2008 and P049-399-2009). The 47.5-hectare property was located on the east side of Fourth Line, north of County Road 17. It is situated in the southern portion of the present subject property. The study area was assessed by means of a combination of test pit survey and pedestrian survey and resulted in the identification of two historical archaeological sites, registered as BaHb-14 and BaHb-15, and one historical findspot. Both the BaHb-14 site and the historical findspot were deemed insufficient to represent any further archaeological concern and no further archaeological assessment was recommended. The Stone site (BaHb-15), however, was determined to represent a mid-to-late nineteenth century historical deposit and was determined to require a Stage 3 Archaeological Assessment (Archaeological Services Inc., 2011a). A Stage 3 Archaeological Assessment of the Stone Site (Archaeological Services Inc., 2011b) was completed by Archaeological Services Inc. in August 2010 (Contract Information Form P315-030-2010), and resulted in the recommendation that no further work be required for the site.

In 2016, Archaeological Services Inc. completed a Stage 1 and 2 Archaeological Assessment of the Garner/Bonnefield Property, 437101 Fourth Line, Part of Lot 12, Concession 3 Old Survey (Project Information Form P449-0008-2016). The 20-hectare property is situated in the central portion of the present subject property. It was assessed by means of a combination of test pit survey and pedestrian survey across 80% of the property. A large woodlot, comprising the remaining 20% of the property and situated in its eastern end, was located outside the proposed limits of extraction and was not assessed as part of this study. The Stage 2 survey resulted in the discovery of one historical Euro-Canadian site, the Madill (BaHb-17) site. The Madill site was found to represent a mid-nineteenth century occupation of the property and was recommended for further Stage 3 Archaeological Assessment. Additionally, the assessment recommended that if the limits of future extraction were altered to extend into the unassessed eastern woodlot, those areas (representing about 20% of the property) must be assessed via a Stage 2 Archaeological Assessment prior to any land-disturbing activities (Archaeological Services Inc., 2017a).



In 2016, Archaeological Services Inc. completed a Stage 1 and 2 Archaeological Assessment of the Prince Property, 437213 Fourth Line, Part of Lot 14, Concession 3 Old Survey (Project Information Form P046-0261-2016). The 40-hectare property is situated in the northern portion of the present subject property. This property consisted of the northern half of the lands covered by the 2001 Stage 1 assessment by Leslie Currie and Associates. It was assessed by means of a combination of test pit survey and pedestrian survey across 85% of the property. A large woodlot, comprising the remaining 15% of the property and situated in its northeastern corner, was located outside the proposed limits of extraction and was not assessed as part of this study. The Stage 2 survey resulted in the discovery of one historical Euro-Canadian site, the James Hamilton (BaHb-18) site. The James Hamilton site was found to represent an occupation beginning after 1870 and extending into the twentieth century, with some of its cultural deposits having been removed by prior grading activities. The site did not meet the criteria for cultural heritage value or interest, and no further work was recommended. The assessment also recommended that if the limits of future extraction were altered to extend into the unassessed northeastern woodlot, those areas (representing about 15% of the property) must be assessed via a Stage 2 Archaeological Assessment prior to any land-disturbing activities (Archaeological Services Inc., 2017b).

Stage 3 excavations were conducted at the Madill (BaHb-17) site in 2017 (Archaeological Services Inc., 2018b; Project Information File P125-0240-2017). These Stage 3 excavations took place in May 2017, where following a controlled surface pickup of surface artifacts, a series of 35 one metre test units were excavated across the site area. A total of 2,767 historic Euro-Canadian artifacts and two Indigenous lithic artifacts were recovered as a result of the Stage 3 excavations. Given its occupation from 1830 to 1870, the site was determined to represent cultural heritage value or interest and it was recommended that impacts to the site must be mitigated through its complete Stage 4 recording and excavation. The Stage 3 assessment also reiterated the earlier recommendation that if the limits of future extraction were altered to extend into the unassessed eastern woodlot, those areas must be assessed via a Stage 2 Archaeological Assessment prior to any land-disturbing activities. It was also



recommended that the balance of the property (with the exception of the Madill site area and a 10-metre buffer) be cleared of archaeological concern.

Assessments adjacent to the Subject Property

In 2018, Archaeological Services Inc. completed a Stage 1 and 2 Archaeological Assessment of the Melancthon Pit Expansion, Part of the East Half of Lot 13 and the East Half of Lot 14, Concession 4 Old Survey (Archaeological Services Inc., 2018, Project Information Form P449-0195-2018). The 46-hectare subject property was located adjacent to the western limits of the current subject property, on the west side of Fourth Line. The subject property was assessed by a combination of pedestrian survey and test pit survey and resulted in the identification of one mid-nineteenth century Euro-Canadian historic site, registered as James Taggart (BaHb-19). The James Taggart site (BaHb-19) is located approximately 60 metres to the west of the current subject property. A Stage 3 Archaeological Assessment of the James Taggart site (BaHb-19) was completed by Archaeological Services Inc. in the summer of 2021 (Archaeological Services Inc., 2022, Project Information Form P125-0313-2021) and resulted in the recommendation that Stage 4 mitigation of impacts be required for the site.

1.3.3 Physiography

The subject property is situated within the Dundalk Till Plain physiographic region of southern Ontario (Chapman and Putnam, 1984:130-133). The Dundalk Till Plain comprises approximately 2,400 square km of gently undulating land at high elevation in the counties of Dufferin, Grey, and Wellington. Most of the plain features more or less deep deposits of windblown, silty material overlying glacial till which is much less permeable than the silt overburden. As a result, springtime drainage is slowed dramatically and the region is characterized by swamps and poorly drained depressions (Chapman and Putnam, 1984:130). The plain is drained by the headwaters of several major river systems, including the Saugeen, Maitland, Grand, and Nottawasaga, many of which flow within the region in spillway channels formed by glacial meltwaters. The subject property is situated within a smaller physiographic landform area characterized by kame moraines, approximately 3.5 kilometres west of the Niagara Escarpment



(Ontario Geological Survey, 2007). Soil deposits within the subject property consist of ice-contact stratified deposits, consisting of sand and gravel, minor silt, and clay and till (Ontario Geological Survey, 2018).

The subject property straddles the division between the Boyne River and Pine River watersheds, both of which are subwatersheds of the larger Nottawasaga River watershed (Ministry of Natural Resources and Forestry, 2020).

The Boyne River drains an area of approximately 24,000 hectares, with headlands located in wetland areas northwest of Shelburne (Nottawasaga Valley Conservation Authority, 2013a; Ontario Ministry of Natural Resources and Forestry, 2022). It flows in a general easterly direction, through a rolling, mainly agricultural landscape, crossing the Niagara Escarpment, towards the main channel of the Nottawasaga River at Nicolston.

Pine River, situated to the north of the Boyne, drains an area of approximately 35,000 hectares, with headlands located in wetland areas to the southwest of Reddickville (Nottawasaga Valley Conservation Authority, 2013b; Ontario Ministry of Natural Resources and Forestry, 2022). It too flows in a general easterly direction, through a rolling, mainly agricultural landscape, running through a steep, forested area of the Niagara Escarpment, towards the main channel of the Nottawasaga River upstream of County Road 90, near Angus.

1.3.4 Existing Conditions

The subject property is approximately 148.7 hectares and is located within a rural setting in the Township of Melancthon, immediately to the east of Fourth Line and to the north of County Road 17 (Figure 7). It currently features an active pit, located within the central and southern portions of the property, accessible from Fourth Line via two paved driveways. An earthen berm runs along the western property limits adjacent to the active pit lands. The northern portion of the property consists of agricultural lands and the site of a former farm complex in its western section. Woodlot areas are situated in the northeast and eastern portions. The subject property is bounded by adjacent agricultural lands to the north, by the course of Fourth Line to the west, by County Road 17



to the south and by a combination of agricultural/wooded and pit lands to the east.

1.3.5 Review of Indigenous Archaeological Potential

The Standards, Section 1.3.1 stipulates that lands within 300 metres of primary water sources (lakes, rivers, streams and creeks), secondary water sources (intermittent streams and creeks, springs, marshes and swamps), as well as ancient water sources (such as glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; cobble beaches) have potential for archaeological resources. Geographic characteristics also indicate archaeological potential and include distinct topographic features and soils.

Potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in south central Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modelling of site location.

Geographic characteristics, such as distinct topographic features and soils, also indicate archaeological potential. These characteristics include elevated topography (eskers, drumlins, large knolls, plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, and distinctive land formations that might have been special or spiritual places for Indigenous populations, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use by Indigenous peoples, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including food or medicinal plants (migratory routes, spawning areas, prairie), and scarce raw materials (quartz, copper, ochre, or outcrops of chert) are also considered characteristics that indicate Indigenous archaeological potential.



Areas of wetland or marsh are visible on mid-twentieth century aerial imagery in the southeast of the property, as well as in adjacent lands, situated approximately 150 metres to the northwest and 100 metres to the west (Figure 4). As such, there is potential for the presence of Indigenous archaeological resources, depending on the degree of subsequent soil alteration.

1.3.6 Review of Historical Archaeological Potential

The Standards, Section 1.3.1 stipulates those areas of early Euro-Canadian settlement, including places of early military pioneer settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches, and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historical landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth-century farmsteads (that is, those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to water model, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 metres of an early historical transportation route are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The subject property is located within 50 metres of two historical settlement roads (Fourth Line and County Road 17) and an Orange Hall and schoolhouse illustrated on nineteenth-century mapping (Figure 2). Additionally, the subject



property itself contains five registered historical sites (BaHb-1, BaHb-14, BaHb-15, BaHb-17 and BaHb-18) and is located within 150 metres of one additional registered historical site (BaHb-19). As such, there is potential for the presence of Euro-Canadian historical archaeological resources within the subject property depending on the degree of subsequent soil alteration.

2.0 Field Methods

The optional field review was not required as part of this assessment, as per the Standards, Section 1.2. In order to provide images to support the analysis, conclusions and recommendations of this report, current orthographic imagery and images available through Google Earth Street View were reviewed (Images 1-7). These images from April and October 2021 and September 2011 are presented in Section 7.0 of this report. Photo locations and assessment conclusions have been compiled on project mapping (Figure 8).

2.1 Findings

The subject property comprises an active pit complex, situated in its central and southern portions. This pit complex is bounded on its western edge by an earthen berm, running along the course of Fourth Line (Images 1-3; Figure 8). It is accessible from Fourth Line via two paved access driveways, which run past administration buildings (Image 4). The northern portion of the property is composed mainly of agricultural lands (Images 5-6), and the location of a former farm complex (now demolished) along its western limits (Image 7). Both the agricultural lands and former farm complex in the north and the active pit area in the centre and south of the subject property (consisting of approximately 93% of the property area) were found to have been previously assessed by Stage 1 and Stage 2 Archaeological Assessments (Figure 8).

The remaining 7% of the subject property, however, consists of woodlot areas in the northeast corner and along the eastern limits not subject to previous Stage 2 assessment. These areas are considered to have archaeological potential and will require a Stage 2 Archaeological Assessment prior to any proposed impacts (Figure 8).



3.0 Analysis and Conclusions

Archaeological Services Inc. was contracted by Strada Aggregates to undertake a Stage 1 Archaeological Assessment of the Strada Aggregates Melancthon Existing Pit, Part of the West Half of Lot 12 and the West Halves of Lots 13 and 14, Concession 3 Old Survey, Township of Melancthon, Dufferin County. The subject property is approximately 148.7 hectares. The existing pit is proposed to be deepened to operate the site as a pit and quarry.

The Stage 1 background research entailed consideration of the proximity of previously registered archaeological sites and the original environmental setting of the property, along with nineteenth- and twentieth-century settlement trends. The extent and results of previous archaeological assessments carried out in the vicinity of the subject property were also reviewed. During these assessments, five archaeological sites were documented within the subject property limits, and one requires a further Stage 4 Archaeological Assessment (Supplementary Documentation Figure 1).

This research indicated there would typically be potential for both Indigenous and Euro-Canadian historical archaeological resources on the subject property, depending on the degree of subsequent soil alteration.

The Stage 1 Archaeological Assessment has resulted in the determination that approximately 93% of the subject property has been previously assessed via Stage 1 and Stage 2 Archaeological Assessment (Figure 8; Supplementary Documentation Figure 1). The remaining 7%, consisting of woodlot areas in the northeast and southeast parts of the subject property, has not been assessed and retains archaeological potential.

Furthermore, the background research has determined that five archaeological sites have been registered within the subject property. Following a series of previous investigations, four of these sites have been determined to not represent any further archaeological concern. However, one site, Madill (BaHb-17), has been found to meet the provincial criteria for cultural heritage value or interest following its Stage 3 excavation, and has been recommended for Stage 4 mitigation.



4.0 Recommendations

In light of these results, the following recommendations are made:

9. The Euro-Canadian Theodore Lusty Homestead (BaHb-1) site has been documented within the subject property by Leslie Currie and Associates in 2003. In 2004, the site was subjected to Stage 3 excavations and a complete Stage 4 recording and excavation. The site is considered to have been completely excavated and does not represent any further archaeological concern.
10. The Euro-Canadian BaHb-14 site has been documented within the subject property by Archaeological Services Inc. in 2009. The site was found not to meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
11. The Euro-Canadian Stone (BaHb-15) site has been documented within the subject property by Archaeological Services Inc. in 2009. The 2010 Stage 3 excavations at the site indicated that it does not meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
12. The Euro-Canadian James Hamilton (BaHb-18) site has been documented within the subject property by Archaeological Services Inc. in 2016. The site was found not to meet the provincial criteria for cultural heritage value or interest and no further work was recommended. The site does not represent any further archaeological concern.
13. The Euro-Canadian Madill (BaHb-17) site has been documented within the subject property by Archaeological Services Inc. in 2016. The 2017 Stage 3 excavations at the site indicated that it meets the provincial criteria for cultural heritage value or interest and that any potential impacts to the



site area or its buffer must be mitigated through its complete Stage 4 recording and excavation, in accordance with *Standards*.

- c. As outlined in the recommendations provided in the report on the Stage 3 Archaeological Assessment of the Madill site (BaHb-17) (Archaeological Services Inc. 2018b), the Stage 4 mitigation of impacts to the site should commence with the hand-excavation of additional one-metre square units around high-yielding deposits, initially placed around Stage 3 units 490N-200E, 495N-200E, 500N-200E, 500N-205E and 505N-200E. These excavations should continue until yields drop to 150 artifacts per square (see Supplementary Documentation Figure 2).
 - d. Following the block excavation, mitigation should continue with the mechanical removal of the plough zone via Gradall or backhoe equipped with a smooth bucket across the site area as defined by the Stage 3 assessment (see Supplementary Documentation Figure 2). This stripped area must include a buffer of at least 10 metres of subsoil free of subsurface features. The exposed subsoil must then be cleaned by shovel or trowel and the surface examined for cultural features. Any cultural features must then be fully hand excavated and documented.
- 14.A review of past archaeological work undertaken within the subject property determined that approximately 93% has been previously assessed via Stage 1 and Stage 2 Archaeological Assessment (Figure 8; Supplementary Documentation Figure 1). The remaining 7%, consisting of woodlot areas in the northeast and southeast, lies outside the current and proposed limits of extraction. Any proposed land alteration of these unassessed areas must be preceded by a Stage 2 Archaeological Assessment. Such assessment(s) must be conducted in accordance with the *Standards*, in order to identify any archaeological resources that may be present. Woodlots must be assessed by means of test pit survey. Areas deemed during the Stage 2 assessment process to be disturbed or of no



potential due to factors of slope or drainage must be appropriately documented.

15. It is recommended that the balance of the subject property (representing approximately 92%) situated beyond the area of the Madill site (BaHb-17) and its protective 10-metre buffer zone (approximately 1% of the subject property), and excluding the unassessed woodlot areas in the northeast and southeast (representing 7%, as discussed above, see Figure 8; Supplementary Documentation Figure 1) be cleared for development. A map of the property with the detailed location of the site and its 10-metre buffer zone can be seen in supplementary documentation submitted alongside this report (Supplementary Documentation Figure 3). It is requested that the Ministry of Citizenship and Multiculturalism provide a letter confirming that there are no further concerns with regard to alterations for the balance of the property, following Sections 7.8.5 and 7.9.5 of the *Standards*. Until the acceptance of this report and the completion of all required Stage 4 mitigation work, the following avoidance measures should be completed:

- e. A temporary barrier (e.g. snow fence) should be erected with a minimum 10 metre protective buffer around the Madill site (BaHb-17) limits (as determined by the Stage 3 investigations) and its installation verified by a licensed archaeologist.
- f. Avoidance instructions and mapping illustrating the “no-go” areas around the site should be issued to all personnel during construction.
- g. The “no-go” area should be explicitly drawn and labelled with relevant avoidance instructions on all development plans.
- h. The proponent will issue written confirmation regarding their commitment to implementing the strategy and confirmation that ground alterations (e.g., servicing, landscaping) will avoid the archaeological site in question and its protective buffer area.



16. It has been noted that should the proposed Pit and Quarry operation be approved, the height of the existing berm which partly overlays the Madill site (BaHb-17) 10-metre protective buffer will (see Supplementary Documentation Figure 4) need to be increased by one metre. To achieve this, some disturbance of the berm itself may be necessary in order to place fill atop it. The following procedure should be followed:

- b. Any potential earthworks associated with this berm taking place within the Madill site (BaHb-17) 10-metre protective buffer must be monitored by a licensed archaeologist, in order to ensure that there are no impacts to the site area.

NOTWITHSTANDING the results and recommendations presented in this study, Archaeological Services Inc. notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Archaeological Program Unit of the Ministry of Citizenship and Multiculturalism must be immediately notified.

The above recommendations are subject to Ministry approval, and it is an offence to alter any archaeological site without Ministry of Citizenship and Multiculturalism concurrence. No grading or other activities that may result in the destruction or disturbance of any archaeological sites are permitted until notice of Ministry of Citizenship and Multiculturalism approval has been received.

The documentation and materials related to this project will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to His Majesty the King in right of Ontario, or other public institution, can be made to the satisfaction of the project owner(s), the Ontario Ministry of Citizenship and Multiculturalism, and any other legitimate interest groups.



5.0 Advice on Compliance with Legislation

Archaeological Services Inc. advises compliance with the following 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*, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation, and protection 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 regards 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 field work 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*.
- 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 or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the



Registrar, Funeral, Burial, Ministry of Public and Business Services Delivery is also immediately notified.

- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.

6.0 Bibliography and Sources

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7.0 Images



Image 1: Former access laneway and earthen berm along Fourth Line, in the west of the subject property.



Image 2: Earthen berm along Fourth Line, in the southwest of the subject property.



Image 3: Earthen berm along Fourth Line, in the west of the subject property.



Image 4: Paved pit access and administration building along Fourth Line, in the west of the subject property.



Image 5: Agricultural lands in the northwest of the subject property.



Image 6: Agricultural lands in the northwest of the subject property. Northeast woodlot area visible in the background.

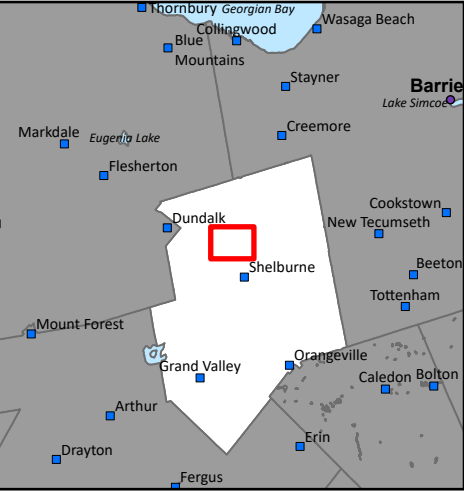
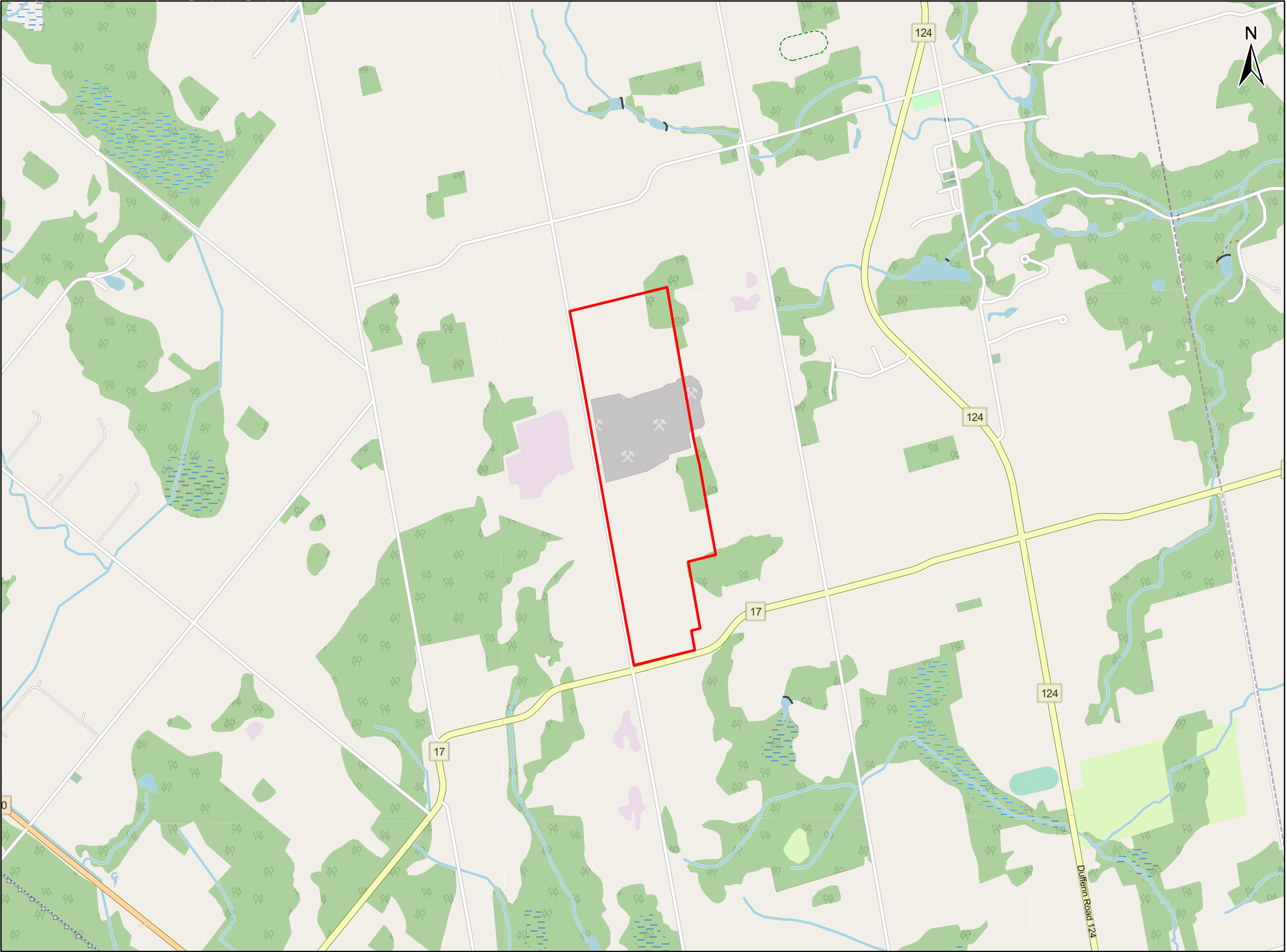


Image 7: Gravel access laneway to treed, former farm complex in the northwest of the subject property.

8.0 Maps

See following pages for detailed assessment mapping and figures





 SUBJECT PROPERTY

Sources: Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

Projection: NAD 1983
UTM Zone 17N
Scale: 1:25,000



ASI Project No: 22PL-367
Date: 8/29/2023 10:09 AM

Drawn By: pbikoulis
File: 22PL367_Fig1



Figure 1: Location of the Subject Property

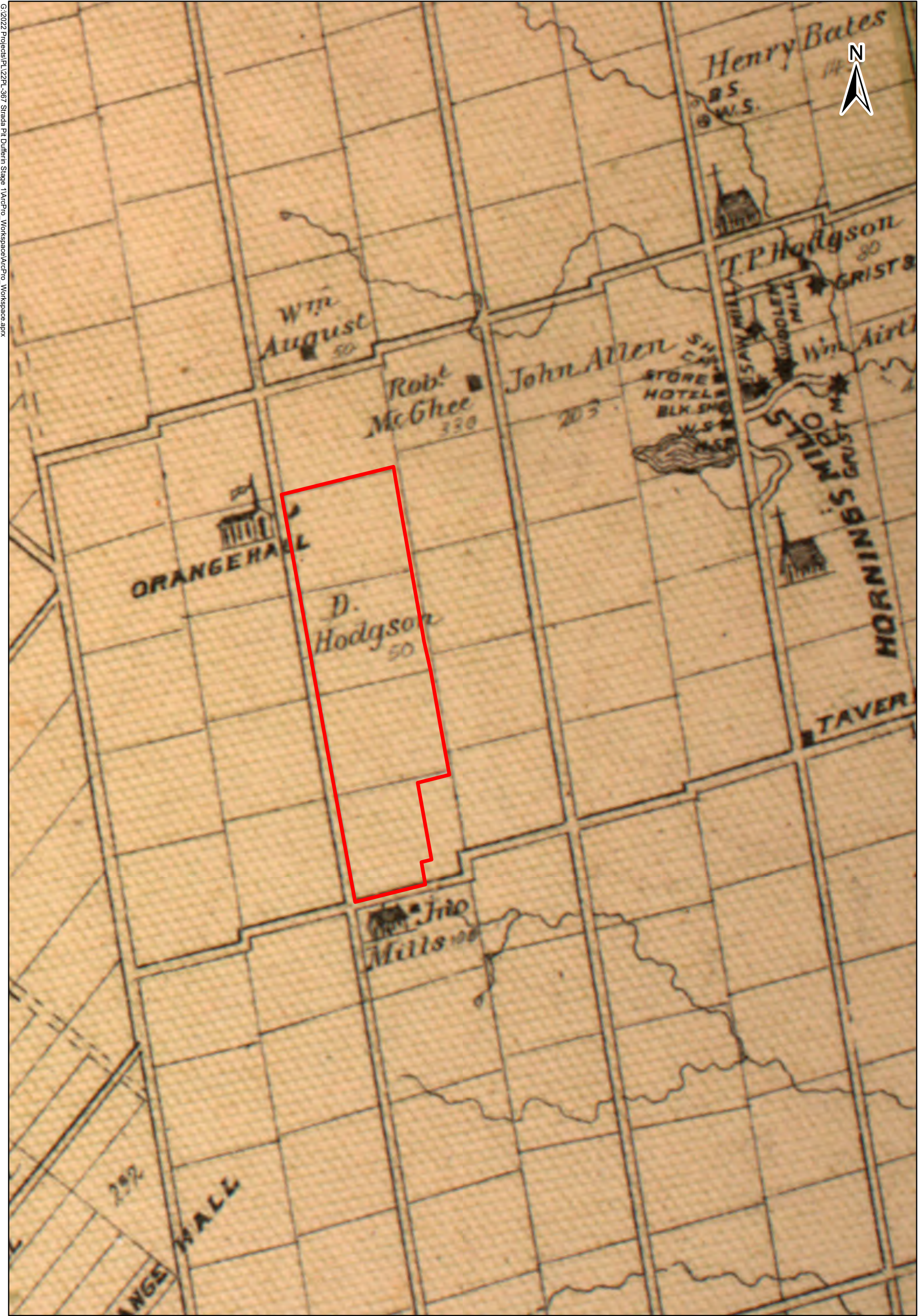


Figure 2: Subject Property Located on the 1880 Illustrated Historical Atlas of Grey and Bruce Counties

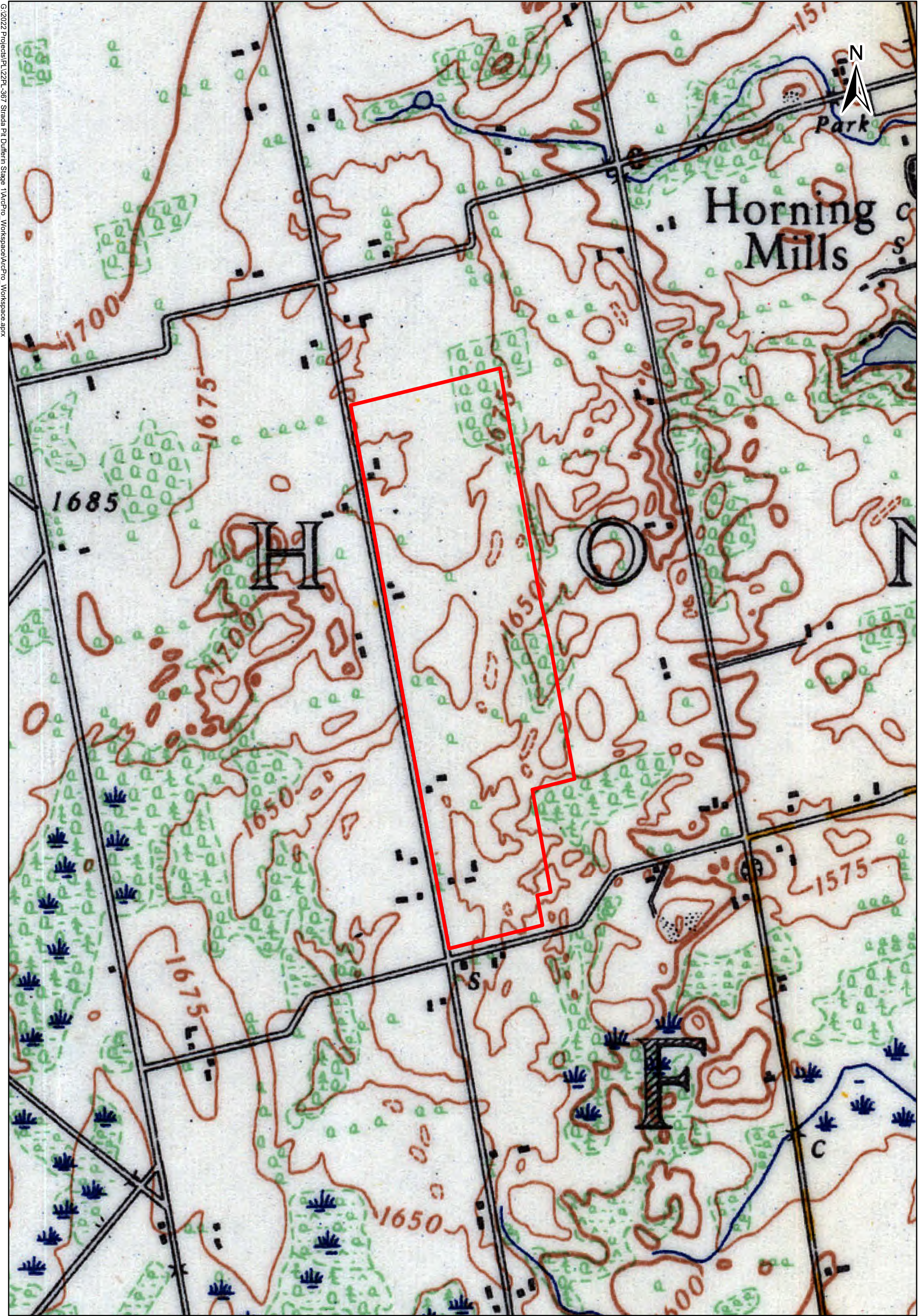


Figure 3: Subject Property Located on the 1941 Dundalk Topographic Map



Figure 4: Subject Property Located on the 1954 Air Photo of Southern Ontario

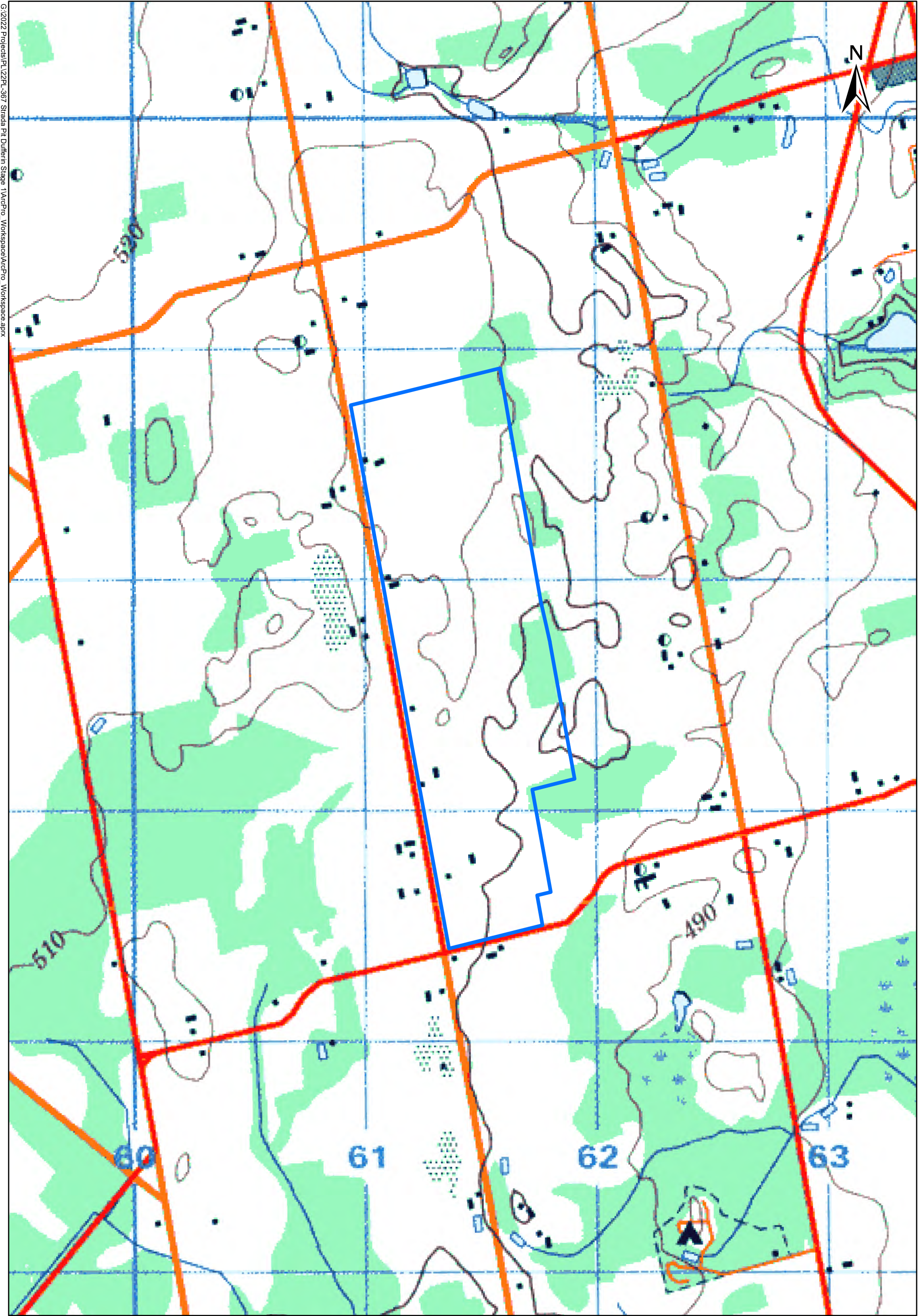
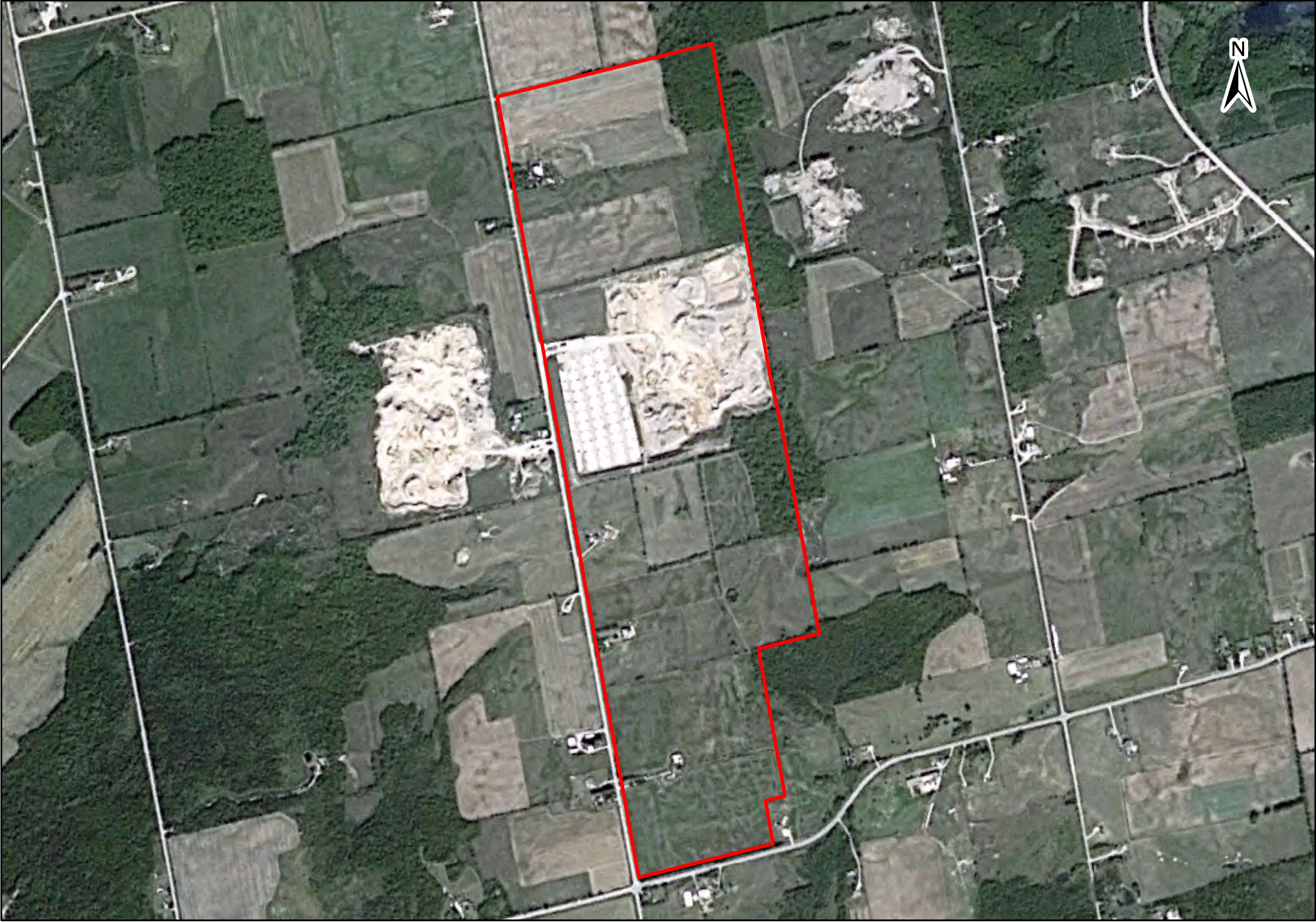


Figure 5: Subject Property Located on the 1999 Dundalk Topographic Map



2009



2014

	 SUBJECT PROPERTY	Sources: Google Earth	 0 650 Metres	
		Projection: NAD 1983 UTM Zone 17N Scale: 1:15,106 Page Size: 11 x 17	ASI PROJECT NO.: 22PL-367 DATE: 8/30/2023	DRAWN BY: A.C. FILE: ArcPro_Workspace

Figure 6: Subject Property Located on 2009 and 2014 Satellite Imagery



	<div><div><div></div></div><div>SUBJECT PROPERTY</div></div>	<div>Source: Google Earth, 2021</div> <div>Projection: NAD 1983 UTM Zone 17N</div> <div>Scale: 1:7,000</div> <div>Page Size: 11 x 17</div>	<div><div><div>0</div><div></div><div>250</div></div><div>Metres</div></div> <div><div>ASI PROJECT NO.: 22PL-367</div><div>DATE: 8/29/2023</div></div> <div><div>DRAWN BY: A.C./ C.N.</div><div>FILE: 22PL367_Fig7</div></div>
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Figure 7: Existing Conditions of the Subject Property

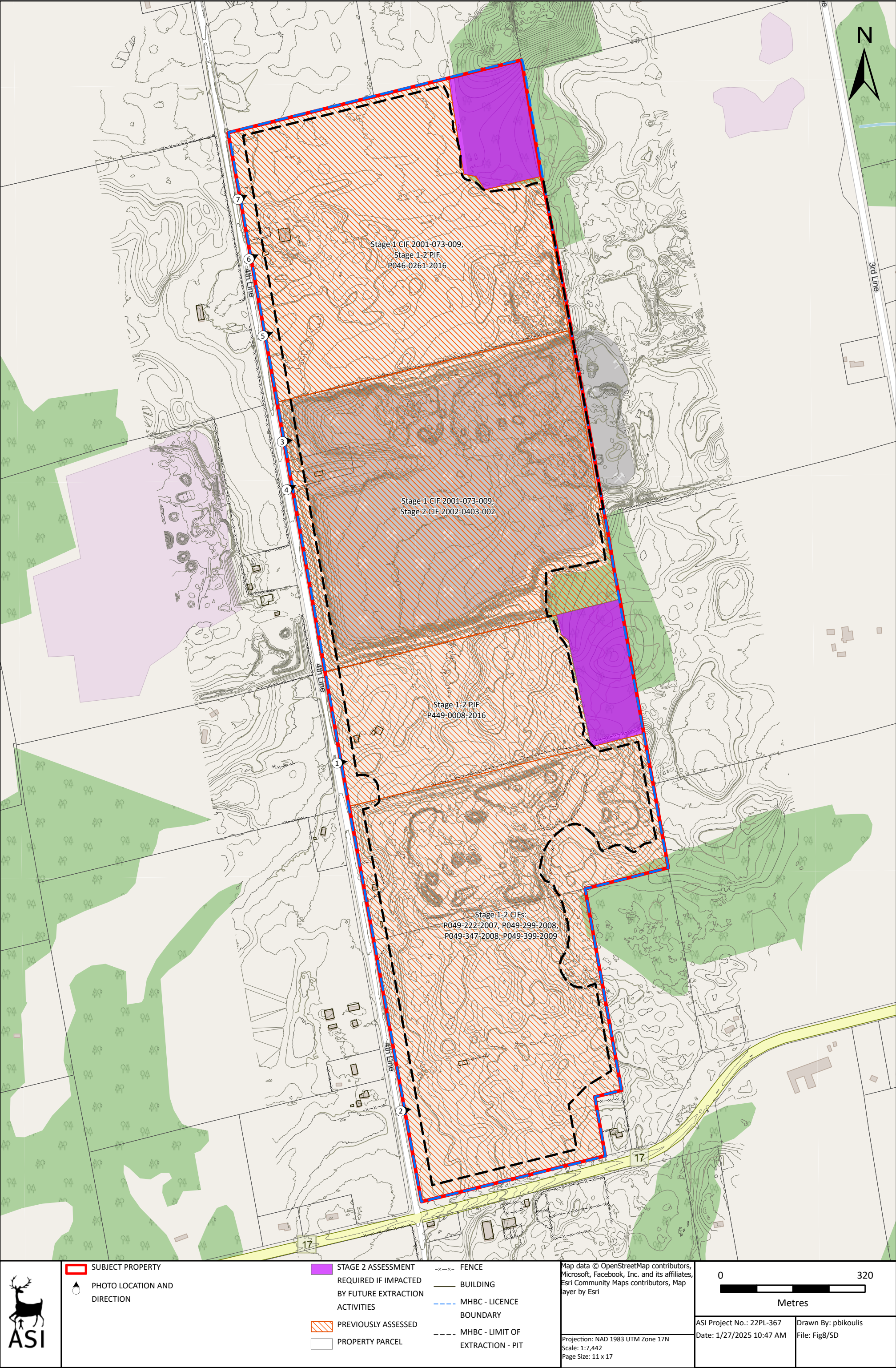


Figure 8: Stage 1 Archaeological Assessment Results