

Appendix E Archaeological Assessment





December 22, 2016

STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT

Part of Lots 12 and 13, Concession 8, Township of Adjala-Tosorontio, Simcoe County Ontario

Submitted to:

Jean Louis Gaudet, exp Services Inc.
1595 Clark Boulevard
Brampton, ON L6T 4V1
Canada

ORIGINAL REPORT

Licensee: Dr. Carla Parslow Ph.D., Golder Associates

Licensee Number: P243

PIF: P243-0343-2016

Report Number: 1657699-1000-R01

Distribution:

1 Digital Copy - exp Services Inc.
1 Digital Copy- MTCS
1 Hard Copy - Golder Associates Ltd.





Executive Summary

A Stage 1 and 2 archaeological assessment was conducted by Golder Associates Ltd. (Golder) on behalf of exp Services Inc. (the Prime Consultant), for Tribute Communities (the Proponent) in advance of proposed infrastructure to support a waste water treatment plant (WWTP) on part of Lots 12 and 13, Concession 8, Geographic Township of Adjala-Tosorontio, Simcoe County, Ontario (Map 1). The Project runs approximately 1.8 kilometres in length and spans the width of approximately 20 metres along the unopened Concession Road 8. This assessment is being undertaken in advance of submission of application for development approvals under the Ontario *Planning Act*.

The objective of the Stage 1 assessment was to compile all available information about the known and potential archaeological resources within the Project Area and to provide direction for the protection, management and/or recovery of these resources, consistent with Ministry of Tourism, Culture and Sport (MTCS) guidelines (MTCS 2011). The Stage 1 background study found potential to exist within the Project Area for the recovery of pre- and post-contact Indigenous and most notably, historical Euro-Canadian archaeological resources.

Stage 2 archaeological assessment was recommended for portions of the Project not found to be previously disturbed. The Stage 2 assessment consisted of a test pit survey at an interval of five metres, as per Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

No artifacts were recovered and no features were uncovered during the Stage 2 test pit survey.

The Project Area was sufficiently assessed and no items of cultural heritage value or interest were recovered; no further archaeological assessment of the Project Area is required. This conclusion is consistent with the cultural heritage value or interest evaluation criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

It is recommended that the Project Area be considered free from further archaeological concern. No further archaeological assessment is necessary.

The MTCS is asked to review the results and recommendations presented herein, to accept this report into the Ontario Public Register of Archaeological Reports and to inform the proponent that the provincial concerns for archaeological resources for this Project Area have been met.



Project Personnel

Project Director Hugh Daechsel, M.A. (P051), Principal, Senior Archaeologist

Project Manager Carla Parslow, Ph.D. (P243), Associate, Senior Archaeologist

Licensed Archaeologist/Supervisor Carla Parslow, Ph.D. (P243)

Archaeological Field Staff Jamie Lemon, M.A. (P1054)

Report Production Carla Parslow, Ph.D. (P243)

Technical Review Jamie Lemon, M.A. (P1054)

Acknowledgments

Proponent Tom Scanlan, Tribute Communities

Simcoe County Jim Moss, Public Works Superintendent

Prime Consultant Arun Jain, Project Manager and Jean-Louis Gaudet, Project Coordinator, exp Services Inc.



Table of Contents

1.0 PROJECT CONTEXT	5
1.1 Development Context	5
1.1.1 Stage 1 Archaeological Assessment Objectives	5
1.1.2 Stage 2 Archaeological Assessment Objectives	5
1.2 Historical Context.....	6
1.2.1 Pre-contact Aboriginal Archaeological Resources	6
1.2.2 Post-Contact or Historic Aboriginal Documentation	7
1.2.3 Historic Euro-Canadian Documentation	7
1.3 Archaeological Context	8
1.3.1 The Natural Environment	8
1.3.2 Land Use and Current Conditions.....	9
1.3.3 Registered Archaeological Sites and Previous Archaeological Assessments.....	9
2.0 FIELD METHODOLOGY	11
2.1 Stage 1 Property and Stage 2 Property Survey	11
2.2 Stage 2 Property Survey.....	11
3.0 RECORD OF FINDS.....	12
4.0 ANALYSIS AND CONCLUSIONS.....	13
4.1 Determination of Archaeological Potential	13
4.1.1 Potential for Pre- and Post-contact Aboriginal Archaeological Sites	14
4.1.2 Potential for Historic Euro-Canadian Archaeological Sites.....	14
4.2 Archaeological Integrity	14
4.3 Stage 1 Background Assessment Conclusions	15
4.4 Stage 2 Property Survey Conclusions	15
5.0 RECOMMENDATIONS.....	16
6.0 ADVICE ON COMPLIANCE WITH LEGISLATION.....	17
7.0 BIBLIOGRAPHY AND SOURCES	18
8.0 IMAGES.....	20
9.0 MAPS.....	27



STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA- TOSORONTIO, SIMCOE COUNTY ONTARIO

10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT32

TABLES

Table 1: Cultural Chronology of South-central Ontario.....6
Table 2: Sites Recorded in MTCS Database within 1km of Project Area9
Table 3: Inventory of Stage 1 and 2 Documentary Record.....12

IMAGES

Photo 1: Facing west-southwest on Keenansville Road, asphalt roadway steeply sloping.21
Photo 2: Facing north, on Keenansville Road, steeply cut ditching with utilities, no potential.....21
Photo 3: Facing north, on Keenansville Road, steeply cut ditching with utilities, no potential.....22
Photo 4: Facing west, on Keenansville Road, steeply cut ditching with utilities, no potential.22
Photo 5: Facing east-northeast, on Keenansville Road, steeply cut ditching with utilities, no potential.23
Photo 6: Facing west-southwest, on Keenansville Road, steeply cut ditching with utilities, no potential.23
*Photo 7: Facing south, at unopened Concession 8 Road entrance and Keenansville Road intersection. Entrance
disturbed with utilities, no potential.....24*
*Photo 8: Facing north on unopened Concession 8 Road. Steep ditching and wetlands, low potential, test pit at 10
metre intervals.....24*
Photo 9: Facing north-northwest, test pit survey at five metre intervals.....25
Photo 10: Facing south, screening soils from test pit survey.....25
Photo 11: Facing down but looking north, typical test pit, disturbed context.....26
Photo 12: Facing south, southern part of Concession Road 8, graded and graveled, no potential.26

MAPS

Map 1: Project Area29
Map 2: Aerial Image of Project Area30
Map 3: Project Location in 1881.....31
Map 4: Stage 1 and 2 Assessment Results.....32



1.0 PROJECT CONTEXT

1.1 Development Context

A Stage 1 and 2 archaeological assessment was conducted by Golder Associates Ltd. (Golder) on behalf of exp Services Inc. (the Prime Consultant), for Tribute Communities (the Proponent) in advance of proposed infrastructure to support a waste water treatment plant (WWTP) on part of Lots 12 and 13, Concession 8, Geographic Township of Adjala-Tosorontio, Simcoe County, Ontario (Map 1). The Project Area runs approximately 1.9 kilometres in length and spans the width of approximately 20 metres along the unopened Concession Road 8. This assessment is being undertaken in advance of submission of application for development approvals under the Ontario *Planning Act*. No detailed design of the infrastructure is available at this time.

1.1.1 Stage 1 Archaeological Assessment Objectives

The objectives of the Stage 1 Archaeological Overview/Background Study were to compile all available information about the known and potential cultural heritage resources within the Project Area and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the objectives of the Stage 1 Archaeological Overview/Background Study were as follows:

- To provide information about the Project Area's geography, history, previous archaeological fieldwork and current land conditions;
- To evaluate in detail the Project Area's archaeological potential to support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives Golder archaeologists employed the following research strategies:

- A review of relevant archaeological, historic and environmental literature pertaining to the Project Area;
- An examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the Project Area;
- A review of the land use history, including pertinent historic maps; and
- A property inspection.

In addition to the consultation of records kept by the MTCS, the Background Study was conducted online and in Golder's corporate library.

1.1.2 Stage 2 Archaeological Assessment Objectives

The objectives of the Stage 2 Property Assessment were to provide an overview of archaeological resources within the Project Area and to determine whether any of the resources might be artifacts and/or archaeological sites with cultural heritage value or interest. In compliance with the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the Stage 2 property assessment:



STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-TOSORONTIO, SIMCOE COUNTY ONTARIO

- Documents the presence or absence archaeological resources with cultural heritage value or interest in the Project Area;
- Determines whether the Project Area requires further Archaeological Assessment; and/or
- Recommends no further Archaeological Assessment in the Project Area.

To meet these objectives Golder archaeologists conducted:

- Test pit survey at five metre intervals within the Project Area, as per Section 2.1.2 of the MTCS' *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), as well as test pitting to within one metre of existing built structures as per Section 2.1.2, Standard 4 of the MTCS' *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

Permission to enter the property was given by Mr. Jean-Louis Gaudet, exp Services Inc., on November 28, 2016. The Archaeological Assessments were conducted under Project Information Form (PIF) P243-0343-2016 issued to Carla Parslow of Golder.

1.2 Historical Context

1.2.1 Pre-contact Indigenous Archaeological Resources

Table 1 provides a general outline of the culture history of southern Ontario (based on Ellis and Ferris 1990). Previous archaeological assessments and research surveys have demonstrated that Simcoe County, specifically what later became the Township of Adjala-Tosorontio, was utilized by pre-contact Indigenous peoples.

Table 1: Cultural Chronology of South-central Ontario

Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9000 - 8400 BC	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 – 8000 BC	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 BC	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 BC	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 BC	increasing site size
	Broadpoints	1800 - 1500 BC	large chipped lithic tools
	Small Points	1500 – 1100 BC	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 BC	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 BC	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 BC - AD 500	increased sedentism
	Princess Point	AD 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	AD 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	AD 1300 - 1400	long longhouses (100m +)



STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA- TOSORONTIO, SIMCOE COUNTY ONTARIO

Period	Characteristics	Time Period	Comments
	Late Ontario Iroquoian	AD 1400 - 1650	tribal warfare and displacement
Historic Indigenous	Various Algonkian Groups	AD 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	AD 1796 - present	European settlement

1.2.2 Post-Contact or Historic Indigenous Documentation

The post-contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and beginning of the 18th century (Schmalz 1991).

Following the introduction of European's to North America, the nature of First Nations settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in First Nations life ways, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris 2009:114). As a result, First Nation peoples of southern Ontario have left behind archaeologically significant resources throughout Southern Ontario which show continuity with past peoples, even if this connection has not been recorded in historical Euro-Canadian documentation.

The Project Area is situated within the Geographic Township of Adjala-Tosorontio, Simcoe County, Ontario. The area first enters the Euro-Canadian historic record as part of Treaty Number 18; Treaty Number 18 is recorded as having been made between the Crown and the Chippewas on October 17, 1818. Morris (1943) describes Treaty number 18 the following way:

Treaty No. 18 ... was a provisional agreement made the 17th day of October, 1818 between the Honourable William Claus on behalf of His Majesty the King and the Principal Men of the Chippewa Nation of Indians, inhabiting the northern parts of the unpurchased lands, within the Home District, on consideration of a yearly payment of twelve hundred pounds by His Majesty to the Chippewa Indians, the said tract being described as follows: Bounded by the District of London on the west, by Lake Huron on the north, by the Penetanguishene purchase (made in 1815) on the east; by the south shore of Kempenfeldt Bay; the western shore of Lake Simcoe and Cooks Bay and the Holland River to the north west angle of the Township of King.

Morris 1943: 23-24

1.2.3 Historic Euro-Canadian Documentation

European settlement of Simcoe County and, in turn, Adjala-Tosorontio Township began as soon as the treaty between the Crown and the First Nations was completed. Almost immediately after the signing of Treaty Number 18, Simcoe County began to be subdivided into townships (Hunter 1909:39). However, the division of the county into townships was not the first Euro-Canadian work to be conducted in the area, for it was seven years earlier, in 1811, that Samuel Wilmot received instructions to begin the survey of a road between Kempenfelt Bay and



STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA- TOSORONTIO, SIMCOE COUNTY ONTARIO

Penetanguishene (Ibid:39). The survey of Adjala-Tosorontio Township is reported to have begun in 1819 and conducted by Gabriel Lount, and then resumed in 1832 by his son George Lount, assisted by Gabriel's other son Samuel Lount (Ibid:39-42). Each lot in Adjala-Tosorontio Township was measured to encompass 200 acres. Many of the initial early settlers to the region were Irish in origin.

It is reported that as early as the year 1828, some settlers had begun to take up lots in the good lands just north of Bailey's Creek. Among these were the families of Connors, Kelly and Keenan. It was from the last family that the village of Keenansville had its name. Robert Keenan was the District Councillor from 1846 through to 1849 and the Reeve of Adjala in 1857 through to the late 1860s (Hunter 1909). The 1881 illustrated atlas (Map 3) shows that the village remained active throughout the later part of the 19th century and that a wollen mill was also functioning in the village, illustrating that the village served as a centre of commerce, to an extent.

Thomas Hollend and his son Felix also settled near Keenansville on Lot 12, Concession 7), in approximately 1828 (Hunter 1909). It is reported that James Campbell settled on Lot 13, Concession 7. The 1881 illustrated historical atlas (Belden 1881) shows the establishment of the village of Keenansville in the western portion of the Project Area. No residence or structures are shown along Concession Road 8 in the later part of the 19th century.

The Project location in the mid to late 19th century is characterized as an agricultural and land use was primarily for farming. In the 21st century, this characterization still holds true (Map 2).

1.3 Archaeological Context

1.3.1 The Natural Environment

The Project Area is located primarily in the Schomberg Clay Plains physiographic region. The Schomberg Clay Plains are described as:

A number of topographic basins along the northern slopes of the Oak Ridges Moraine contain deep deposits of stratified clay and silt. Located near Schomberg, Newmarket, and to the north of Lake Scugog, the three larger areas, taken together, cover about 475 square miles...in the first two areas the surface under the clay is that of drumlinized till plain. The smaller drumlins are completely covered, but many of the larger ones escape complete burial although the clay may occur well up the slopes of the hills.

Chapman and Putnam 1984:177

The soils of the Schomberg series are well drained with surface texture ranging from silt loam to silty clay loam, with the majority occurring in the silty clay loam class (Hoffman et al. 1962:61). Additionally, a portion of the Project Area is in the Smithfield soils. The Smithfield soils are found in the low lying land between the swells of the Schomberg soils and near present-day streams (Hoffman et. al 1962:62). The topography is gently undulating and the drainage is imperfect. Silty clay loam is by far the dominant surface texture, although some silt loam also occurs. The soils are stone-free and erosion is little or no problem.

The closest potable water source would have been Bailey Creek (also labeled as Keenansville Creek), to the west of the Project Area (Map 1 and 2).



1.3.2 Land Use and Current Conditions

The Project Area is linear, running east-west along Keenansville Road, within the existing road right-of-way (ROW) and also runs north-south, approximately 900 metres along unopened Concession Road 8 throughout the span of the ROW, approximately 20 metres. The Project Area is characterized as a road ROW, along Keenansville Road, characterized as a two lane, asphalt road with ditching on either side. The Project Area is also characterized as an unopened concession road, situated between two agricultural fields.

1.3.3 Registered Archaeological Sites and Previous Archaeological Assessments

The Ontario Archaeological Sites Database (OASD), maintained by the MTCS, was consulted in order to determine if any archaeological sites had been identified within one kilometre of the Project Area (MTCS 2016). This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 km west to east and approximately 18.5 km north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The area under review is within Borden Block *BaGx*.

A search of the OASD as well as Golders corporate records revealed the presence of three previously registered archaeological sites within one kilometer of the Project Area (Table 2). All three sites are Euro-Canadian historical scatters; none of the sites are located within 300 metres of the current Project Area.

Table 2: Sites Recorded in MTCS Database within 1km of Project Area

Borden	Site Name	Cultural Affiliation	Site Type	Time Period
BaGx-5	Colgan A	Euro-Canadian	Scatter	Historic
BaGx-6	Colgan B	Euro-Canadian	Scatter	Historic
BaGx-7	Colgan C	Euro-Canadian	Scatter	Historic

In 2005, Amick conducted a Stage 1 and 2 archaeological assessment on Lot 11, Concession 7, Township of Adjala-Tosorontio, County of Simcoe under PIF # P058-078 (Amick 2006). Three archaeological sites, all historical scatters were recorded.

Colgan A (BaGx-5) is a historic scatter, approximately 40 by 50 metres in size. A total of 156 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggests an age range for this site from 1840 to 1860. The period of occupation for this site represents a relatively early settlement site for the area. As the site has the potential to yield valuable information regarding the early occupation of Adjala Township, as Stage 3 site specific assessment was recommended (Amick 2006:27).

Colgan B (BaGx-6) is a historic scatter, approximately 45 by 40 metres in size. A total of 80 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggests an age range for this site from 1880 to 1930. As the site was not considered to be significant, Stage 3 specific assessment was not recommended (Amick 2006:27).

Colgan C (BaGx-7) is a historic scatter, approximately 23 by 22 metres in size. A total of 60 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggests an age range for this site from 1880 to



STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA- TOSORONTIO, SIMCOE COUNTY ONTARIO

1890. As the site was not considered to be significant, Stage 3 specific assessment was not recommended (Amick 2006:27).

Stage 3 Archaeological Site-specific Assessment of the Colgan A Site (BaGx-5) was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the MTCS. In 2011 a Stage 3 was undertaken under PIF # P058-806-2011 and entered into the Archaeological Reports Registry on April 14, 2016. The Colgan A Site (BaGx-5) site produced 19th century material. Historical documentation suggests that this site relates to the occupation of the McCullough family, who occupied the property from 1848 through to 1860 (Amick 2016). Stage 4 mitigation through excavation or avoidance was recommended. In 2012, the Stage 4 Mitigation of Colgan A Site (BaGx-5) was completed and it was confirmed that the site dates to the middle of the 19th century (Circa 1848-1860) and represents an early Euro-Canadian homestead (Amick 2015). The Stage 4 was entered into the Registry on November 25, 2015.



2.0 FIELD METHODOLOGY

2.1 Stage 1 Property and Stage 2 Property Survey

The Stage 1 property assessment was conducted on December 2, 2016. The assessment was undertaken under Professional Archaeological License number P243 issued to Dr. Carla Parslow of Golder.

The weather during the assessment was sunny with cloudy periods, cool with a temperature of 5 degrees Celsius. The weather conditions during the assessment were acceptable and at no time were weather or lighting conditions detrimental to the identification of cultural resources. Map 4 illustrates the Stage 1 assessment results. Map 4 also illustrates photo locations and directions, while Images 1-12 depict the conditions of the Project Area.

The Project Area consists of the Keenansville Road ROW (Images 1 through 6) whose limits are delineated by steeply constructed ditching and wetlands (Image 2 and 12). The Project Area contains signs of previous ground disturbance including telephone poles and municipal infrastructure such as buried gas lines and telecommunications infrastructure (Images 2 through 7).

2.2 Stage 2 Property Survey

The Stage 2 property survey was conducted on December 2, 2016. The assessment was undertaken under Professional Archaeological License number P243 issued to Dr. Carla Parslow of Golder. The field work was also directed by Carla Parslow.

Test pit survey was completed within the unopened Concession 8 road ROW. Test pits were initially hand excavated at five metre intervals. Upon observance of disturbed soils, the intervals were increased to 10 metres. Had undisturbed soil been observed, intervals would have been reduce to five metres. One small area within the unopened ROW was determined to be relatively undisturbed and test pit at 5 metre intervals (Map 4). Each test pit was at least 30 centimetres in diameter and was excavated five centimetres into subsoil (which was an average depth of 25 centimetres), examining the test pit for stratigraphy, cultural features or evidence of fill (Images 9 and 11). All soil was screened through six millimetre hardware cloth to facilitate the recovery of any archaeological resources (Image 10). All test pits were backfilled and returned to grade.

The test pits exhibited disturbance and potentially fill. Soil is characterized as a brown silty loam mixed with gravels. No artifacts, other than a 1966 Canadian penny, were recovered.



3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. Despite completion of test pit survey it was determined that large portions of the Project Area have been previously impacted by extensive ground altering activities. No archaeological remains were identified or recovered from the Project Area. Table 3 provides an inventory of the documentary record for this assessment.

Table 3: Inventory of Stage 1 and 2 Documentary Record

Document Type	Current Location of Document	Additional Comments	Quantity
Field Notes	Golder office in Whitby	Stored digitally in electronic project folder	1 word processed page
Hand Drawn Maps	Golder office in Whitby	In hard copy and electronic project folders	1
Maps Provided by Client	Golder office in Whitby	Stored digitally in electronic project folder	1
Digital Photographs	Golder office in Whitby	All photos stored digitally in electronic project folder	45 photos in .jpeg format



4.0 ANALYSIS AND CONCLUSIONS

4.1 Determination of Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. In accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) 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 indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
 - Accessible or inaccessible shoreline (e.g., high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (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 (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:
 - Food or medicinal plants;
 - Scarce raw minerals (e.g., quartz, copper, ochre or outcrops of chert);
 - Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and
- Early historical transportation routes.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. Finally, extensive land disturbance can eradicate archaeological potential.

In archaeological potential modeling, a distance to water criterion of 300 metres is generally employed for primary water courses, such as lakes, rivers, streams and creeks as well as secondary watercourses, such as intermittent streams and creeks, springs, marshes and swamps.



Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. The MTCS also views the presence of previously registered archaeological resources as a prime indicator of archaeological potential.

4.1.1 Potential for Pre- and Post-contact Indigenous Archaeological Sites

Following the criteria outlined above in Section 4.1 to determine pre- and post-contact Indigenous archaeological potential, a number of factors can be highlighted. The soils of the Project Area would have been suitable for pre-contact Indigenous agricultural practices and several water sources are located nearby, including Bailey Creek less than 300 metres west of the Project Area. When the above noted archaeological potential criteria were applied to the Project Area, it exhibits archaeological potential for pre-contact and post-contact Indigenous sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.1.1), areas of no or low levels of previous disturbance retained their archaeological potential. Map 4 illustrates areas of potential within the Project Area that were determined to require further Stage 2 assessment and underwent the property survey.

4.1.2 Potential for Historic Euro-Canadian Archaeological Sites

Following the criteria outlined above in Section 4.1 to determine historical Euro-Canadian archaeological potential, a number of factors can be highlighted. The Project Area is located within the historic limits of the village of Keenansville and along the early road grid system. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.1.1), areas of no or low levels of previous disturbance retained their archaeological potential. Map 4 illustrates areas of potential within the Project Area that were determined to require further Stage 2 assessment and underwent the property survey.

4.2 Archaeological Integrity

A negative indicator of archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost.

Section 1.3.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) states that:

Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources.

MTCS 2011:18

As documented in Section 2.0, the Project Area consists predominately of Keenansville Road whose limits are delineated by steeply constructed ditches. As such, the Keenansville Road ROW was identified as disturbed and lacked archaeological integrity. Furthermore, the southern portion of unopened Concession Road 8 is identified as a graded and graveled roadway and as such, no longer retains archaeological integrity.



4.3 Stage 1 Background Assessment Conclusions

Based on the standards, as set out by MTCS on establishing archaeological potential, compared to the historical and archaeological context of the Project Area, it appears that the Project Area has archaeological potential. However, based on the results of the property inspection in the Project Area, particularly the road ROWs, there is a demonstrated lack of archaeological integrity.

The exceptions to this conclusion was the unopened area within Concession Road 8 that may contain intact soils. Currently this area between two agricultural fields, lined with trees and contains overgrown vegetation and required Stage 2 test pit survey to assess for culturally significant deposits, prior to any ground disturbance activities.

4.4 Stage 2 Property Survey Conclusions

While archaeological potential was considered moderate to high for pre- and post-contact Indigenous sites and historical Euro-Canadian archaeological sites within the unopened area of Concession Road 8, the Stage 2 archaeological assessment did not result in the identification of any archaeological resources of cultural heritage value or interest. Given the absence of finds, the cultural heritage value or interest of the Project Area is considered to be sufficiently documented. Since no archaeological resources of cultural heritage value or interest were recovered, none of the criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) were met and no Stage 3 archaeological assessment of the Project Area is required.



5.0 RECOMMENDATIONS

The Project Area was sufficiently assessed and no items of cultural heritage value or interest were recovered; no further archaeological assessment of the Project Area is required. This conclusion is consistent with the cultural heritage value or interest evaluation criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

It is recommended that the Project Area be considered free from further archaeological concern. No further archaeological assessment is necessary.

The MTCS is asked to review the results and recommendations presented herein, to accept this report into the Ontario Public Register of Archaeological Reports and to inform the proponent that the provincial concerns for archaeological resources for this Project Area have been met.



6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ontario Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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 of Cemeteries at the Ministry of Consumer Services is also immediately notified.



7.0 BIBLIOGRAPHY AND SOURCES

Amick

- 2006 Report on the Stage 1-2 Archaeological Assessment of the Proposed Draft Plan, Part of Lot 11, Concession 7, (Formerly Township of Adjala), Township of Adjala-Tosorontio, County of Simcoe. (PIF # P058-078). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.
- 2016 Stage 3 Archaeological Site Specific Assessment of the Colgan A Site (BaGx-5) within Proposed Draft Plan of Subdivision (AT-T-0701), Part of Lot 11, Con. 7 (Geographic Twp. of Adjala), Twp. of Adjala-Tosorontio, County of Simcoe. (PIF # P058-806-2011). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.
- 2016 Stage 4 Archaeological Site Specific Assessment of the Colgan A Site (BaGx-5) within Proposed Draft Plan of Subdivision (AT-T-0701), Part of Lot 11, Con. 7 (Geographic Twp. of Adjala), Twp. of Adjala-Tosorontio, County of Simcoe. (PIF # P038-420-2012). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.

Belden, H.

- 1881 *Simcoe Supplement to the Illustrated Atlas of the Dominion of Canada.*

Chapman, L.J. and Putnam, D.F.

- 1984 *The Physiography of Southern Ontario. 3rd Edition.* Ontario Geological Survey Special Volume 2. Ontario Ministry of Natural Resources, Toronto, Ontario.

Ellis, Chris J. and Neal Ferris (editors)

- 1990 *The Archaeology of Southern Ontario to A.D. 1650.* Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.

Ferris, Neal

- 2009 *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes.* University of Arizona Press, Tucson.

Hoffman, D.W. R.E. Wicklund, and N.R. Richards

- 1962 *Soil Survey of Simcoe County.* Report No. 29 of the Ontario Soil Survey. Canadian Department of Agriculture and the Ontario Agricultural College.

Hunter, Andrew F.

- 1909a *A History of Simcoe County Volume I – Its Public Affairs.* Published by the Simcoe County Council, Barrie, Ontario.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**

Morris, J.L.

1943 *Indians of Ontario*. 1964 Reprint. Department of Lands and Forests, Government of Ontario.

MTCS (Ministry of Tourism, Culture and Sport)

2011 *Standards and Guidelines for Consultant Archaeologists*. Ministry of Tourism, Culture and Sport, Culture Division, Programs and Services Branch, Culture Programs Unit, Toronto, Ontario.

2016 Sites within a One Kilometre Radius of the Project Area, provided from the Ontario Archaeological Sites Database, November, 2016.

Schmalz, Peter S.

1991 *The Ojibwa of Southern Ontario*. University of Toronto Press, Toronto, Ontario.



8.0 IMAGES

All images will follow on succeeding pages.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 1: Facing west-southwest on Keenansville Road, asphalt roadway steeply sloping.



Photo 2: Facing north, on Keenansville Road, steeply cut ditching with utilities, no potential.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 3: Facing north, on Keenansville Road, steeply cut ditching with utilities, no potential.



Photo 4: Facing west, on Keenansville Road, steeply cut ditching with utilities, no potential.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 5: Facing east-northeast, on Keenansville Road, steeply cut ditching with utilities, no potential.



Photo 6: Facing west-southwest, on Keenansville Road, steeply cut ditching with utilities, no potential.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 7: Facing south, at unopened Concession 8 Road entrance and Keenansville Road intersection. Entrance disturbed with utilities, no potential.



Photo 8: Facing north on unopened Concession 8 Road. Steep ditching and wetlands, low potential, test pit at 10 metre intervals.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 9: Facing north-northwest, test pit survey at five metre intervals.



Photo 10: Facing south, screening soils from test pit survey.



**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT - PART
LOTS 12 AND 13, CONCESSION 8, TOWNSHIP OF ADJALA-
TOSORONTIO, SIMCOE COUNTY ONTARIO**



Photo 11: Facing down but looking north, typical test pit, disturbed context.

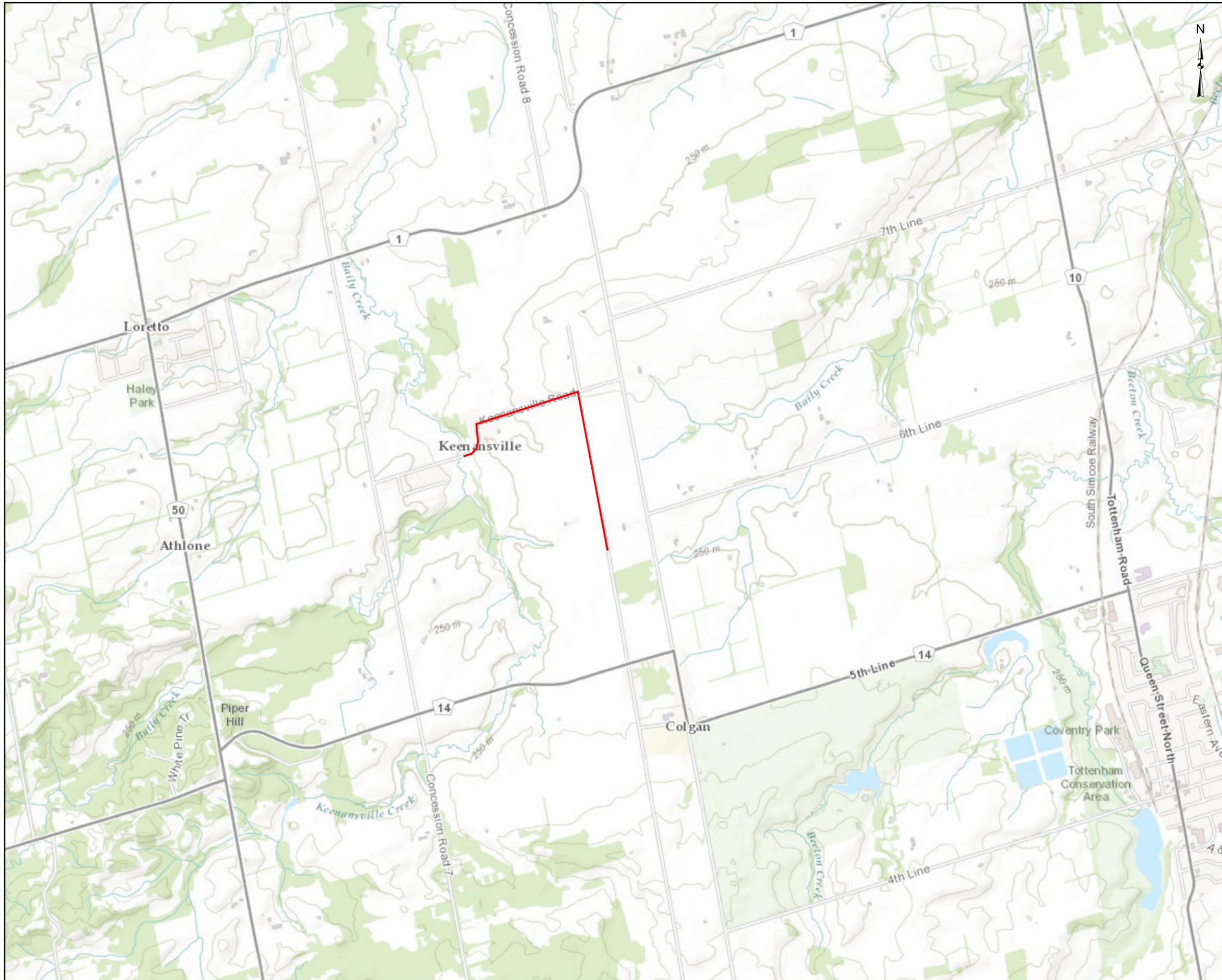


Photo 12: Facing south, southern part of Concession Road 8, graded and graveled, no potential.



9.0 MAPS

All mapping will follow on succeeding pages.



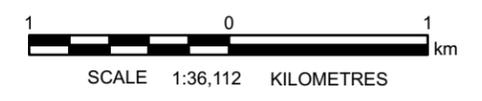
LEGEND



DRAFT

REFERENCE

Base Data - esri base map web services
 Produced by Golder Associates Ltd
 Projection: Web Mercator (Auxiliary Sphere) Datum: WGS 84



PROJECT			
Stage 1 and 2 Archaeological Assessment			
TITLE			
Project Location			
	PROJECT NO.	1657699	REV. 0
	DESIGN	Date()	
	GIS	CP 20Dec16	
	CHECK		
	REVIEW		
			Map 1



LEGEND



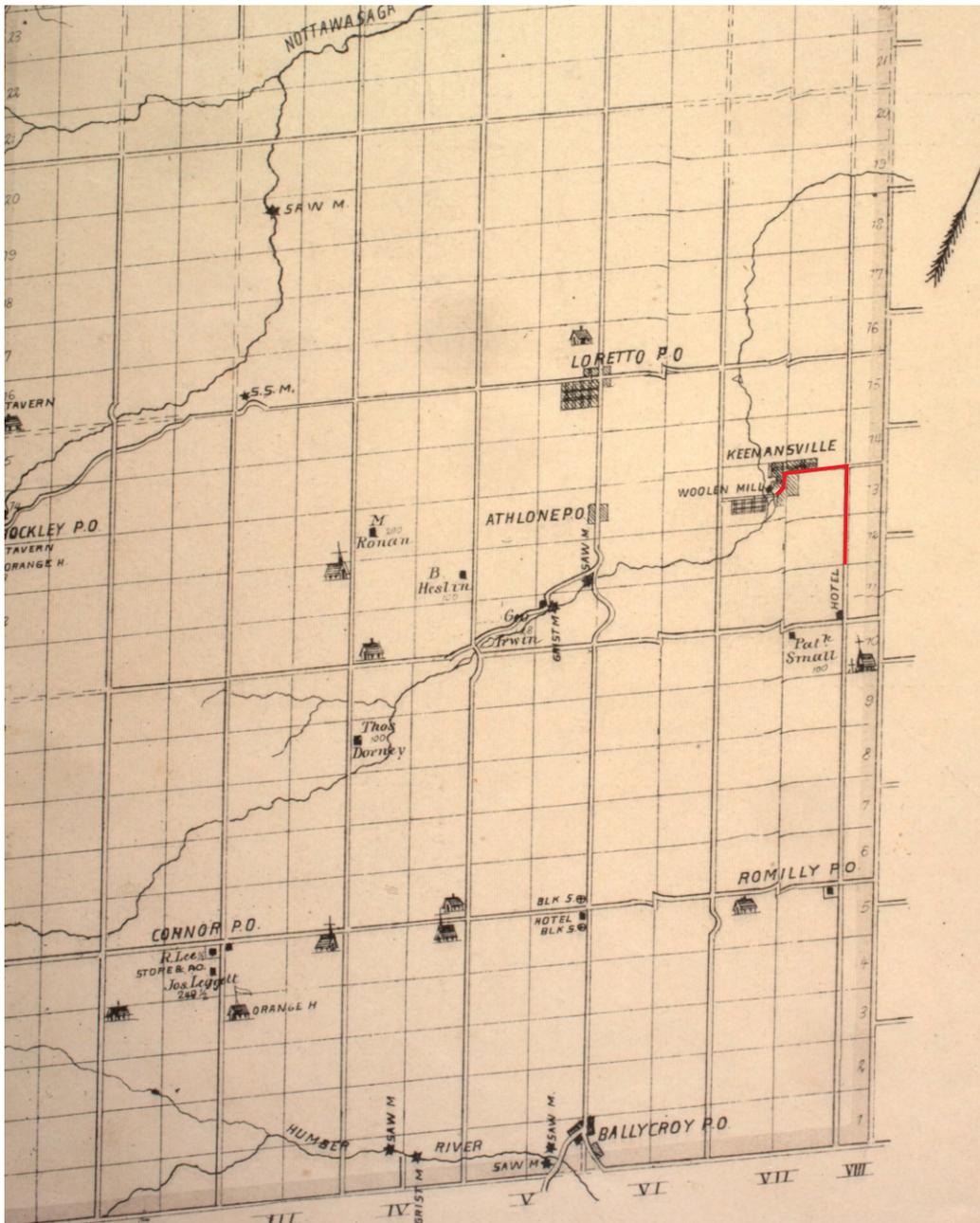
DRAFT

REFERENCE

Base Data - esri base map web services
 Produced by Golder Associates Ltd
 Projection: Web Mercator (Auxillary Sphere) Datum: WGS 84



PROJECT		Stage 1 and 2 Archaeological Assessment	
TITLE		Aerial Image of Project Location	
	PROJECT NO.	1657699	REV. 0
	DESIGN	Date()	
	GIS	CP	20Dec16
	CHECK		
	REVIEW		
			Map 2



LEGEND



Study Area

REFERENCE

Simcoe supplement in Illustrated atlas of the Dominion of Canada. Toronto : H. Belden, 1881.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

Stage 1 and 2 Archaeological Assessment

TITLE

Project Location in 1881



PROJECT No.	1657699	FILE No.	1657699-001
CADD		SCALE	Not to Scale
CHECK	CAP	Map 3	



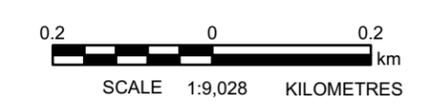
LEGEND

- No Potential/Disturbed - Photo Documented
- Stage 2 Test Pit Survey 10 Metre Intervals
- Stage 2 Test Pit Survey 5 Metre Intervals

DRAFT

REFERENCE

Base Data - esri base map web services
 Produced by Golder Associates Ltd
 Projection: Web Mercator (Auxillary Sphere) Datum: WGS 84



PROJECT			
Stage 1 and 2 Archaeological Assessment			
TITLE			
Stage 1 and 2 Methods and Results			
	PROJECT NO.	1657699	REV. 0
	DESIGN	Date()	
	GIS	CP	20Dec16
	CHECK		
	REVIEW		
			Map 4



10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Golder has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective, developments and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*.



Report Signature Page

GOLDER ASSOCIATES LTD.

Draft

Draft

Jamie Lemon, M.A.
Project Archaeologist

Carla A. Parslow Ph.D.
Associate, Senior Archaeologist

JL/CP/mp

Golder, Golder Associates and the GA globe design are trademarks of Golder Associates Corporation.

\\golder.gds\gal\mississauga\active\2016\3 proj\1657699 exp services_stage 2 aa_colgan\reporting\draft report\p243-0343-2016_22dec2016_re jl.docx

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
100, Scotia Court
Whitby, Ontario, L1N 8Y6
Canada
T: +1 (905) 723 2727





GOLDER

ORIGINAL REPORT

Stage 1 and 2 Archaeological Assessment

*Colgan Community Wastewater Treatment Plan and Outfall, Class EA
(Phases 3 – 4), Part of Lot 11, Concession 7, and Road Allowance between
Concessions 7 and 8, Geographic Township of Adjala, Township of
Adjala-Tosorontio, Simcoe County, Ontario*

Submitted to:

exp Services Inc.

80 Bancroft Street
Hamilton, Ontario
L8E 2W5

Licensee: Rhiannon Fisher (P468)

PIFs: P468-0016-2018 & P468-0022-2018

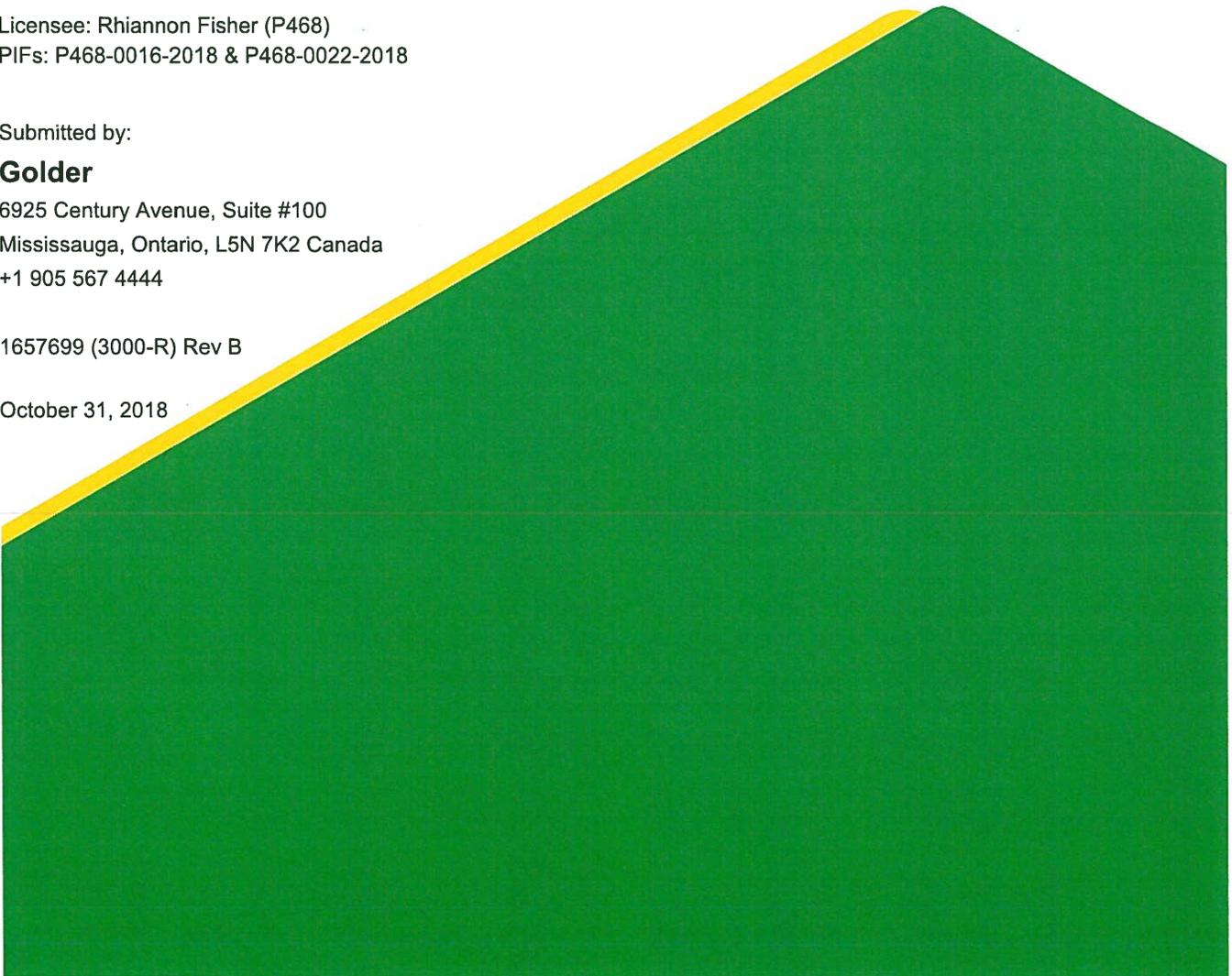
Submitted by:

Golder

6925 Century Avenue, Suite #100
Mississauga, Ontario, L5N 7K2 Canada
+1 905 567 4444

1657699 (3000-R) Rev B

October 31, 2018



Distribution List

E-copy - exp Services Inc.

E-copy - Ministry of Tourism, Culture and Sport

E-copy - Golder Associates Ltd.

Executive Summary

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

Golder Associates Ltd. (Golder) was retained by exp Services Inc. (EXP) to conduct a Stage 1 and 2 archaeological assessment for the preferred outfall location on Bailey Creek at Concession Road 8 and its associated forcemain. The forcemain is approximately 5 km in length from the preferred location of the wastewater treatment plant (WWTP) to the outfall location. The proposed forcemain along Concession Road 8 will be confined to a 10-15 m corridor from ditch-to-ditch within existing road right-of-way. For the purposes of this Stage 1 and 2 assessment, the Project Area includes the preferred WWTP location, the outfall on Bailey Creek at Concession Road 8, and the associated forcemain from the preferred WWTP to the outfall on Bailey Creek at Concession Road 8 (Map 1). The Project Area is located within the following Lot and Concessions, in the Geographic Township of Adjala, Township of Adjala-Tosorontio, Simcoe County:

- 1) WWTP: Part of Lot 11, Concession 7;
- 2) Forcemain: Part of Lot 11, Concession 7 and Road Allowance between Concessions 7 and 8; and,
- 3) Outfall: Road Allowance between Concessions 7 and 8.

This study is being undertaken in advance of submission of a Schedule 'C' Municipal Class EA - Phase 3 and Phase 4, under the *Environmental Assessment Act*. Detailed design of the infrastructure is not available at the time of assessment and report completion.

The Project Area is traversed by Bailey Creek and located within the historic limits of the village of Keenansville and along the early road grid system. Based on the standards, as set out by the *Ministry of Tourism Culture and Sport* (MTCS) on establishing archaeological potential, and compared to the historical and archaeological context of the Project Area, it appeared that the Project Area had archaeological potential for pre- and post-contact Indigenous sites as well as historical Euro-Canadian archaeological sites. However, the Stage 1 and 2 assessment did not result in the identification of any archaeological resources of cultural heritage value or interest. Given the absence of finds, the cultural heritage value or interest of the Project Area is considered to be sufficiently documented.

Based on the results of the Stage 1 and 2 archaeological assessment documented herein, the following recommendations are presented:

- 1) It is recommended that the Project Area be considered free from further archaeological concern. No further archaeological assessment is necessary.

The MTCS is asked to review the results and recommendations presented herein, to accept this report into the Ontario Public Register of Archaeological Reports and to inform the proponent that the provincial concerns for archaeological resources for this Project Area have been met.

Despite best efforts and all due diligence, no archaeological assessment can necessarily account for all potential archaeological resources. Should deeply buried archaeological resources be identified during ground disturbance activity associated with future development of the Project Area, ground disturbance activities should be immediately halted, and the Archaeology Division of the Culture Programs Unit of the MTCS notified.

Table of Contents

- 1.0 PROJECT CONTEXT 1**
 - 1.1 Development Context..... 1
 - 1.2 Objectives..... 1
 - 1.3 Historical Context..... 2
 - 1.3.1 Pre-contact Indigenous Archaeological Resources 2
 - 1.3.1.1 Paleo Indian Period..... 2
 - 1.3.1.2 Archaic Period..... 3
 - 1.3.1.3 Woodland Period 4
 - 1.3.2 Post-Contact or Historic Indigenous Documentation 5
 - 1.3.3 Historic Euro-Canadian Documentation 6
 - 1.3.3.1 Lot 11, Concession 7, and Road Allowances between Concessions 7 and 8..... 6
 - 1.4 Archaeological Context 7
 - 1.4.1 The Natural Environment 7
 - 1.4.2 Land Use and Current Conditions..... 7
 - 1.4.3 Registered Archaeological Sites and Previous Archaeological Assessments 8
 - 1.4.4 Date of Fieldwork 9
- 2.0 FIELDWORK..... 10**
 - 2.1 Methodology..... 10
 - 2.2 Stage 1 and 2 Survey..... 10
- 3.0 RECORD OF FINDS 12**
- 4.0 ANALYSIS AND CONCLUSIONS..... 13**
 - 4.1 Determination of Archaeological Potential 13
 - 4.1.1 Potential for Pre- and Post-Contact Indigenous Archaeological Sites..... 14
 - 4.1.2 Potential for Historic Euro-Canadian Archaeological Sites..... 14
 - 4.2 Archaeological Integrity..... 14
 - 4.3 Stage 1 and 2 Assessment Conclusions 14
- 5.0 RECOMMENDATIONS 16**

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION.....17

7.0 BIBLIOGRAPHY AND SOURCES 18

8.0 IMAGES20

9.0 MAPS27

10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT32

TABLES

Table 1: Cultural Chronology of South-Central Ontario.....2

Table 2: Sites Recorded in MTCS Database within 1km of Project Area8

Table 3: Inventory of Stage 1 and 2 Documentary Record12

IMAGES

Image 1: Bailey Creek, showing erosion and disturbance associated with construction of paved driveway, facing east.21

Image 2: End of Concession Road 8 at Bailey Creek, showing disturbance associated with construction of paved driveway and culvert, facing north.21

Image 3: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road and paved residential driveway, facing northeast.22

Image 4: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road, facing northeast.22

Image 5: Concession Road 8 and western ditch, showing disturbance associated with construction of gravel road, facing north.23

Image 6: Unopened section of Concession Road 8, showing disturbance associated with construction of intersecting paved County Road 1 road, facing south.23

Image 7: Test Pit 1, showing mottled fill and disturbance, facing north.24

Image 8: Crew test pitting in eastern ditch of unopened Concession Road 8, facing south.24

Image 9: Test Pit 5, showing undisturbed context, facing north.25

Image 10: Test Pit 10, showing gravel inclusions and disturbance, facing north.25

Image 11: Unopened section of Concession Road 8, showing disturbance associated with construction of intersecting paved Keenansville Road, facing south.26

Image 12: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road and paved residential driveway, facing northeast.26

MAPS

Map 1 - **Project Area**28

Map 2 - **Aerial of Project Area**.....29

Map 3 - **Project Area on 1881 Illustrated Atlas**30

Map 4 - **Assessment Results and Photo Map**31

Personnel

Project Director	Hugh Daechsel, M.A. (P051), Principal, Senior Archaeologist
Project Manager	Nimal Ragavan Nithiyantham, M.A. (P390), Archaeologist
Project Licensee	Rhiannon Fisher, M.Sc. (P468), Archaeologist
Licensed Field Director	Matthew Muttart M.Sc. (R1208), Archaeological Supervisor (R399)
Field Assistant	Donny Vongphakdy, B.Sc., Archaeological Field Technician
Report Production	Alisha Mohamed-Marchant, M.A. (R1149), Archaeologist Christopher Lemon, B.Sc. (R288), Archaeologist Carla Parslow, Ph.D. (P243), Associate, Senior Archaeologist Nimal Ragavan Nithiyantham, M.A. (P390), Archaeologist
Senior Review	Hugh Daechsel, M.A. (P051), Principal, Senior Archaeologist
GIS	Michael Martins, B.A., Shane Collins, B.A.

Acknowledgements

Client	Jean-Louis Gaudet, Project Coordinator, exp Services Inc.
---------------	---

1.0 PROJECT CONTEXT

1.1 Development Context

In January 2016, the Township of Adjala-Tosorontio completed the Colgan Master Servicing Plan Amendment which identified a preferred wastewater servicing solution for approved growth areas in the Community of Colgan. The Master Servicing Plan satisfied Phases 1 and 2 of the Municipal Class Environmental Assessment (Class EA) process for the wastewater projects, which are subject to Schedule C of the Municipal Class EA. Phases 3 and 4 of the Class EA process involve the identification of the preferred locations and design concepts for the wastewater treatment plant (WWTP), forcemain, and outfall to service the growth areas.

To facilitate this study, Golder Associates Ltd. (Golder) was initially retained in 2016 to conduct a Stage 1 and 2 archaeological assessment to evaluate the preferred locations and design concepts of the WWTP, forcemain, and outfall (Golder 2018). Following this study, based on comments received from the public and the Township, a new outfall location was identified on Bailey Creek at Concession Road 8. This alternative outfall location and its associated forcemain was recommended for the Colgan WWTP Class EA.

To further support this study, Golder was subsequently retained by exp Services Inc. (EXP) to conduct a Stage 1 and 2 archaeological assessment for the preferred outfall location on Bailey Creek at Concession Road 8 and its associated forcemain. The forcemain is approximately 5 km in length from the preferred location of the WWTP to the new outfall location. The proposed forcemain along Concession Road 8 will be confined to a 10-15 metre (m) corridor from ditch-to-ditch within existing road right-of-way. For the purposes of this Stage 1 and 2 assessment, the Project Area includes the preferred WWTP location, the outfall on Bailey Creek at Concession Road 8, and the associated forcemain from the preferred WWTP to the outfall on Bailey Creek at Concession Road 8 (Map 1). The Project Area is located within the following Lot and Concessions, in the Geographic Township of Adjala, Township of Adjala-Tosorontio, Simcoe County:

- 1) WWTP: Part of Lot 11, Concession 7;
- 2) Forcemain: Part of Lot 11, Concession 7 and Road Allowance between Concessions 7 and 8; and,
- 3) Outfall: Road Allowance between Concessions 7 and 8.

This study is being undertaken in advance of submission of a Schedule 'C' Municipal Class EA - Phase 3 and Phase 4, under the *Environmental Assessment Act*. Detailed design of the infrastructure is not available at the time of assessment and report completion. This Stage 1 and 2 archaeological assessment was conducted under the professional archaeological consultant licensee, Rhiannon Fisher (P458). Permission to access the Project Area and conduct archaeological activities was granted by EXP.

1.2 Objectives

The objectives of a Stage 1 and 2 archaeological assessment, as outlined by the 2011 *Standards and Guidelines for Consultant Archaeologists* published by the *Ministry of Tourism, Culture, and Sport (MTCS)* (2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- To evaluate in detail the property's archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property;

- To determine whether the property contains archaeological resources requiring further assessment; and,
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

1.3 Historical Context

1.3.1 Pre-contact Indigenous Archaeological Resources

Table 1 provides a general outline of the culture history of southern Ontario (based on Ellis and Ferris 1990). Previous archaeological assessments and research surveys have demonstrated that Simcoe County, specifically what later became the Township of Adjala-Tosorontio, was utilized by pre-contact Indigenous peoples.

Table 1: Cultural Chronology of South-Central Ontario

Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9000 - 8400 BC	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 – 8000 BC	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 BC	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 BC	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 BC	increasing site size
	Broadpoints	1800 - 1500 BC	large chipped lithic tools
	Small Points	1500 – 1100 BC	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 BC	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 BC	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 BC - AD 500	increased sedentism
	Princess Point	AD 550 – 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	AD 900 – 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	AD 1300 – 1400	long longhouses (100m +)
	Late Ontario Iroquoian	AD 1400 – 1650	tribal warfare and displacement
Historic Indigenous	Various Algonkian Groups	AD 1700 – 1875	early written records and treaties

1.3.1.1 Paleo Indian Period

The first human occupation of south-central Ontario begins just after the end of the Wisconsin Glacial Period. Although there were a complex series of ice retreats and advances which played a large role in shaping the local topography, south-central Ontario was finally ice free by 12,500 years ago.

The first human settlement can be traced back 11,000 years, when this area was settled by Native groups that had been living south of the Great Lakes. The period of these early Native inhabitants is known as the Paleo-Indian Period (Ellis and Deller 1990).

The current understanding of settlement patterns of Early Paleo-Indian peoples suggests that small bands, consisting of probably no more than 25-35 individuals, followed a pattern of seasonal mobility extending over large territories. One of the most thoroughly studied of these groups followed a seasonal round that extended from as far south as Chatham, Ontario, to the Horseshoe Valley north of Barrie, Ontario. Early Paleo-Indian sites tend to be located in elevated locations on well-drained loamy soils. Many of the known sites were located on former beach ridges associated with glacial lakes. There are a few extremely large Early Paleo-Indian sites, such as one located close to Parkhill, Ontario, which covered as much as six hectares. It appears that these sites were formed when the same general locations were occupied for short periods of time over the course of many years. Given their placement in locations conducive to the interception of migratory mammals such as caribou, it has been suggested that they may represent communal hunting camps. There are also smaller Early Paleo-Indian camps scattered throughout the interior of south-western and southcentral Ontario, usually situated adjacent to wetlands.

The most recent research suggests that population densities were very low during the Early Paleo-Indian Period (Ellis and Deller 1990:54). Archaeological examples of Early Paleo-Indian sites are rare.

The Late Paleo-Indian Period (8400-8000 BC) has been less well researched and is consequently more poorly understood. By this time the environment of south-central Ontario was coming to be dominated by closed coniferous forests with some minor deciduous elements. It seems that many of the large game species that had been hunted in the early part of the Paleo-Indian Period had either moved further north, or as in the case of the mastodons and mammoths, become extinct.

Like the early Paleo-Indian peoples, late Paleo-Indian peoples covered large territories as they moved about in response to seasonal resource fluctuations. On a province wide basis, Late Paleo-Indian projectile points are far more common than Early Paleo-Indian materials, suggesting a relative increase in population.

The end of the Late Paleo-Indian Period was heralded by numerous technological and cultural innovations that appeared throughout the Archaic Period, likely a result of the dynamic nature of the post-glacial environment and region-wide population increases.

1.3.1.2 Archaic Period

During the Early Archaic Period (8000-6000 BC), the jack and red pine forests that characterized the Late Paleo-Indian environment were replaced by forests dominated by white pine with some associated deciduous trees (Ellis, Kenyon and Spence 1990:68-69). One of the more notable changes in the Early Archaic Period is the appearance of side and corner-notched projectile points. Other significant innovations include the introduction of ground stone tools such as celts and axes, suggesting the beginnings of a simple woodworking industry. The presence of these often large and not easily portable tools suggests there may have been some reduction in the degree of seasonal movement, although it is still suspected that population densities were quite low, and band territories large.

During the Middle Archaic Period (6000-2500 BC) the trend to more diverse toolkits continued, as the presence of netsinkers suggest that fishing was becoming an important aspect of the subsistence economy. It was also at this time that "bannerstones" were first manufactured.

Another characteristic of the Middle Archaic is an increased reliance on local, often poor-quality chert resources for the manufacturing of projectile points. It seems that during earlier periods, when groups occupied large territories, it was possible for them to visit a primary outcrop of high quality chert at least once during their seasonal round. However, during the Middle Archaic, groups inhabited smaller territories that often did not encompass a source of high quality raw material. In these instances, lower quality materials which had been deposited by the glaciers in the local till and river gravels were utilized.

It is also during the latter part of the Middle Archaic Period that long distance trade routes began to develop, spanning the northeastern part of the continent. In particular, native copper tools manufactured from a source located northwest of Lake Superior were being widely traded (Ellis, Kenyon and Spence 1990:66). By 3500 BC the local environment had stabilized in a near modern form (Ellis, Kenyon and Spence 1990:69).

During the Late Archaic Period (2500-950 BC) the trend towards decreased territory size and a broadening subsistence base continued. Late Archaic sites are far more numerous than either Early or Middle Archaic sites, and it seems that the local population had definitely expanded.

This suggestion of increased territoriality is also consistent with the regionalized variation present in Late Archaic projectile point styles. It was during the Late Archaic Period that distinct local styles of projectile points appear. Also, during the Late Archaic Period, the trade networks which had been established during the Middle Archaic continued to flourish.

1.3.1.3 Woodland Period

The Early Woodland Period (950 to 400 BC) is distinguished from the Late Archaic Period primarily by the addition of ceramic technology. Furthermore, the thin, well-made projectile points which were produced during the terminal part of the Archaic Period continue in use. However, the Early Woodland variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance.

The trade networks which were established in the Middle and Late Archaic Periods also continued to function. During the last 200 years of the Early Woodland Period, projectile points manufactured from high quality raw materials from the American Midwest begin to appear on sites in southwestern Ontario.

In terms of settlement and subsistence patterns, the Middle Woodland (300 BC to AD 500) provides a major point of departure from the Archaic and Early Woodland Periods. While Middle Woodland peoples still relied on hunting and gathering to meet their subsistence requirements, fish were becoming an even more important part of the diet.

It is also at the beginning of the Middle Woodland Period that rich, densely occupied sites appear along the margins of major rivers and lakes. While these areas had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years and large deposits of artifacts often accumulated. Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on over the course of the year.

The Late Woodland Period began with a shift in settlement and subsistence patterns involving an increasing reliance on corn horticulture (Fox 1990:185). Corn may have been introduced into southwestern Ontario from the American Midwest as early as AD 600 or a few centuries before. Corn did not become a dietary staple, however, until at least three to four hundred years later, and then the cultivation of corn gradually spread into south-central and southeastern Ontario.

The Late Woodland Period is widely accepted as the beginning of agricultural life ways in south-central Ontario. The first agricultural villages in southern Ontario date to the 10th century AD. Unlike the riverine base camps of the Middle Woodland Period, these sites are located in the uplands, on well-drained sandy soils. Categorized as "Early Ontario Iroquoian" (AD 900-1300), many archaeologists believe that it is possible to trace a direct line from the Iroquoian groups which later inhabited southern Ontario at the time of first European contact, back to these early villagers.

The Middle Ontario Iroquoian Period (AD 1300-1400) witnessed several interesting developments in terms of settlement patterns and artifact assemblages. Changes in ceramic styles have been carefully documented, allowing the placement of sites in the first or second half of this 100-year period. Moreover, villages, which averaged approximately 0.6 hectares in extent during the Early Ontario Iroquoian Period, now consistently range between one and two hectares. Village size also continues to expand throughout the Late Ontario Iroquoian Period, with many of the larger villages showing signs of periodic expansions.

1.3.2 Post-Contact or Historic Indigenous Documentation

The post-contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking peoples by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and beginning of the 18th century (Schmalz 1991).

Following the introduction of Europeans to North America, the nature of First Nations settlement size, population distribution, and material culture shifted as settlers began to colonize the land. Despite this shift in First Nations life ways, "written accounts of material life and livelihood, the correlation of historically recorded villages to their archaeological manifestations, and the similarities of those sites to more ancient sites have revealed an antiquity to documented cultural expressions that confirms a deep historical continuity to Iroquoian systems of ideology and thought" (Ferris 2009:114). As a result, First Nation peoples of southern Ontario have left behind archaeologically significant resources throughout Southern Ontario which show continuity with past peoples, even if this connection has not been recorded in historical Euro-Canadian documentation.

The Project Area is situated within the Geographic Township of Adjala-Tosorontio, Simcoe County, Ontario. The area first enters the Euro-Canadian historic record as part of Treaty Number 18. Treaty Number 18 is recorded as having been made between the Crown and the Chippewas on October 17, 1818. Morris (1943) describes Treaty number 18 the following way:

Treaty No. 18 ... was a provisional agreement made the 17th day of October, 1818 between the Honourable William Claus on behalf of His Majesty the King and the Principal Men of the Chippewa Nation of Indians, inhabiting the northern parts of the unpurchased lands, within the Home District, on consideration of a yearly payment of twelve hundred pounds by His Majesty to the Chippewa Indians, the said tract being described as follows: Bounded by the District of London on the west, by Lake Huron on the north, by the Penetanguishene purchase (made in 1815) on the east; by the south shore of Kempenfeldt Bay; the western shore of Lake Simcoe and Cooks Bay and the Holland River to the north west angle of the Township of King.

Morris 1943: 23-24

1.3.3 Historic Euro-Canadian Documentation

European settlement of Simcoe County and, in turn, Adjala-Tosorontio Township began as soon as the treaty between the Crown and the First Nations was completed. Almost immediately after the signing of Treaty Number 18, Simcoe County began to be subdivided into townships (Hunter 1909:39). However, the division of the county into townships was not the first Euro-Canadian activity in the area, for it was seven years earlier, in 1811, that Samuel Wilmot received instructions to begin the survey of a road between Kempenfelt Bay and Penetanguishene (Ibid:39). The survey of Adjala-Tosorontio Township is reported to have begun in 1819 and conducted by Gabriel Lount. It was resumed in 1832 by his son George Lount and assisted by Gabriel's other son Samuel Lount (Ibid:39-42). Each lot in Adjala-Tosorontio Township was measured to encompass 200 acres. Many of the initial early settlers to the region were of Irish origin.

It is reported that as early as the year 1828, a few settlers began to take up lots in the lands just north of Bailey's Creek. Among these were the Connors, Kelly, and Keenan families. It was from the last family that the village of Keenansville derived its name. Robert Keenan was the District Councillor from 1846 through to 1849 as well as the Reeve of Adjala from 1857 through to the late 1860s (Hunter 1909).

The 1871 and 1881 cartographic resources consulted for Simcoe County show that the village remained active throughout the later part of the nineteenth century. The 1871 Hogg's Map of the County of Simcoe depicts Keenansville as a small village built around a structure, most likely a mill, on Bailey Creek (also known as Keenansville Creek) located on part of Lots 13 and 14, in Concession 7, of Adjala Township. The Simcoe Supplement in the 1881 Illustrated Atlas portrays Keenansville as home to a number of buildings, including a large woollen mill on Bailey Creek, suggesting the village's significance as a commercial centre (Map 3).

1.3.3.1 Lot 11, Concession 7, and Road Allowances between Concessions 7 and 8

The Project Area is located within the following Lot and Concessions, in the Geographic Township of Adjala, Township of Adjala-Tosorontio, Simcoe County:

- 1) WWTP: Part of Lot 11, Concession 7;
- 2) Forcemain: Part of Lot 11, Concession 7 and Road Allowance between Concessions 7 and 8; and,
- 3) Outfall: Road Allowance between Concessions 7 and 8.

The property ownership history for Lot 11, Concession 7, was previously studied as part of a Stage 1 and 2 assessment by Amick Consultants Limited (AMICK) in 2005 (AMICK 2006) (see Section 1.3.3). Thus, only the road allowance between Concessions 7 and 8 were subject to further property ownership research for the purposes of this Stage 1 and 2 assessment.

The 1871 Hogg's Map does not depict structures (other than the presumed mills on the waterways) within the township lots however proprietors are listed. The portion of the Project Area located within the road allowance between Concessions 7 and 8 of Adjala Township border the properties of P. Keogh (Lots 14-15 Concession 8), P. McCarty (Lots 16 and 19 as well as the southern half of Lot 17) and J. McCabe (Lot 18 and the northern half of Lot 17). It is undeterminable, based on the mapping consulted, whether or not the aforementioned lots were resided upon by their land owners or tenant farmers. The 1881 Simcoe Supplement provides the names of only a few, possibly prominent, land owners as well as significant public and commercial buildings such as churches, school houses, mills, and hotels. No proprietors or structures are portrayed within the Project Area in the 1881 Simcoe Supplement (Map 3).

The Project Area in the mid to late nineteenth century appears to have been agricultural land for which the land use was primarily farming. This characterization appears to have remained true through the twentieth century and into the twenty-first century (Map 2).

1.4 Archaeological Context

1.4.1 The Natural Environment

The Project Area is located primarily in the Schomberg Clay Plains physiographic region. The Schomberg Clay Plains are described as:

A number of topographic basins along the northern slopes of the Oak Ridges Moraine contain deep deposits of stratified clay and silt. Located near Schomberg, Newmarket, and to the north of Lake Scugog, the three larger areas, taken together, cover about 475 square miles...in the first two areas the surface under the clay is that of drumlinized till plain. The smaller drumlins are completely covered, but many of the larger ones escape complete burial although the clay may occur well up the slopes of the hills.

Chapman and Putnam 1984:177

The soils of the Schomberg series are well drained with surface texture ranging from silt loam to silty clay loam and with the majority occurring in the silty clay loam class (Hoffman et al. 1962:61). Additionally, a portion of the Project Area is in the Smithfield soils. The Smithfield soils are found in the low-lying land between the swells of the Schomberg soils and near present-day streams (Hoffman et. al 1962:62). The topography is gently undulating and the drainage is imperfect. Silty clay loam is by far the dominant surface texture, although some silt loam also occurs. The soils are stone-free and erosion is little or no problem.

The closest potable water source would have been Bailey Creek, which traverses the north (proposed outfall) and central (south of County Road 1) portions of the Project Area (Maps 1 and 2).

1.4.2 Land Use and Current Conditions

The Project Area is located within the Geographic Township of Adjala, Township of Adjala-Tosorontio, Simcoe County. The Project Area includes the preferred WWTP location, the outfall on Bailey Creek at Concession Road 8, and the associated forcemain from the preferred WWTP to the outfall on Bailey Creek at Concession Road 8 (Map 1). The forcemain is approximately 5 km in length from the preferred location of the WWTP to the new outfall location. The proposed forcemain along Concession Road 8 will be confined to a 10-15 m corridor from ditch-to-ditch within existing road right-of-way.

The portion of the Project Area which contains the WWTP and east-west alignment of the forcemain is characterized as agricultural land. The portion of the Project Area which contains the north-south alignment of the forcemain can be characterized as either opened two lane gravel road or unopened overgrown concession road situated between agricultural fields. The unopened section of Concession Road 8 was open to the public at one point in time but was later abandoned. Whether opened or unopened, ditching exists along both sides of the concession road. The portion of the Project Area which contains the outfall can be characterized as a paved private driveway and culvert for Bailey Creek.

1.4.3 Registered Archaeological Sites and Previous Archaeological Assessments

The Ontario Archaeological Sites Database (OASD), maintained by the MTCS, was consulted to determine if any archaeological sites had been identified within one kilometre (km) of the Project Area (MTCS 2016). A search of the OASD as well as Golder's corporate records revealed the presence of three previously registered archaeological sites within 1 km of the Project Area (Table 2). All three sites are Euro-Canadian historical scatters. None of the sites are located within 300 m of the current Project Area.

Table 2: Sites Recorded in MTCS Database within 1km of Project Area

Borden	Site Name	Cultural Affiliation	Site Type	Time Period
BaGx-5	Colgan A	Euro-Canadian	Scatter	Historic
BaGx-6	Colgan B	Euro-Canadian	Scatter	Historic
BaGx-7	Colgan C	Euro-Canadian	Scatter	Historic

In 2005, Amick Consultants Limited (AMICK) conducted a Stage 1 and 2 archaeological assessment on Lot 11, Concession 7, Township of Adjala-Tosorontio, County of Simcoe under PIF: P058-078 (AMICK 2006). Three archaeological sites, all historical scatters, were recorded.

Colgan A (BaGx-5) is a historic scatter, approximately 40 by 50 m in size. A total of 156 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggested an age range for the site from 1840 to 1860. The period of occupation for the site represented a relatively early settlement site for the area. As the site had the potential to yield valuable information regarding the early occupation of Adjala Township, a Stage 3 site specific assessment was recommended (AMICK 2006:27).

Colgan B (BaGx-6) is a historic scatter, approximately 45 by 40 m in size. A total of 80 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggested an age range for this site from 1880 to 1930. As the site was not considered to be significant, Stage 3 specific assessment was not recommended (AMICK 2006:27).

Colgan C (BaGx-7) is a historic scatter, approximately 23 by 22 m in size. A total of 60 artifacts were collected during the Stage 2 property survey. Analysis of these artifacts suggested an age range for this site from 1880 to 1890. As the site was not considered to be significant, Stage 3 specific assessment was not recommended (AMICK 2006:27).

Stage 3 Archaeological Site-specific Assessment of the Colgan A Site (BaGx-5) was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the MTCS. In 2011, a Stage 3 was undertaken under PIF: P058-806-2011 and entered into the Archaeological Reports Registry on 14 April 2016. The Colgan A Site (BaGx-5) site produced nineteenth century material. Historical documentation suggested that this site relates to the occupation of the McCullough family who occupied the property from 1848 through to 1860 (AMICK 2016). Stage 4 mitigation through excavation or avoidance was recommended. In 2012, the Stage 4 Mitigation of Colgan A Site (BaGx-5) was completed and it was confirmed that the site dates to the middle of the nineteenth century (c. 1848-1860) and represents an early Euro-Canadian homestead (AMICK 2015). The Stage 4 was entered into the Registry on 25 November 2015.

The Project Area assessed in the 2005 Stage 1 and 2 assessment encompasses the east-west alignment of the forcemain in the Project Area of the current Stage 1 and 2 Assessment which this report details (see Map 4).

In 2016, Golder conducted a Stage 1 and 2 archaeological assessment on part of Lots 12 and 13, Concession 8, Adjala-Tosorontio Township, under PIF: P243-0343-2016 (Golder 2018). This assessment was also associated with proposed infrastructure to support the waste water treatment plant. The Project Area comprised of an alignment which ran approximately 1.8 km in length and spanned a width of approximately 20 m along an unopened section of Concession Road 8. The 2016 Stage 1 background study found archaeological potential to exist within the Project Area and Stage 2 archaeological assessment was recommended for portions of the Project Area not found to be previously disturbed. No artifacts were recovered and no features were uncovered during the Stage 2 test pit survey thus no further archaeological assessment of that Project Area was recommended.

The Project Area assessed in the 2016 Stage 1 and 2 assessment is encompassed within the Project Area of the current Stage 1 and 2 Assessment for which this report details (see Map 4).

1.4.4 Date of Fieldwork

The Stage 1 and 2 archaeological fieldwork was conducted on 1 August 2018 under archaeological consulting licence P468 (PIFs: P468-0016-2018 and P468-0022-2018), issued to Rhiannon Fisher of Golder. Golder Archaeological Supervisor Matthew Muttart (R1208) acted as the licensed field director during the Stage 1 and 2 fieldwork.

2.0 FIELDWORK

2.1 Methodology

The Project Area includes the preferred WWTP location, the outfall on Bailey Creek at Concession Road 8, and the associated forcemain from the preferred WWTP to the outfall on Bailey Creek at Concession Road 8 (Map 1). The forcemain is approximately 5 km in length from the preferred location of the WWTP to the new outfall location. The proposed forcemain along Concession Road 8 will be confined to a 10-15 m corridor from ditch-to-ditch within existing road right-of-way. The portion of the Project Area which contains the WWTP and east-west alignment of the forcemain is characterized as agricultural land. The portion of the Project Area which contains the north-south alignment of the forcemain can be characterized as either opened two lane gravel road or unopened overgrown concession road situated between agricultural fields. Whether opened or unopened, ditching exists along both sides of the concession road. The portion of the Project Area which contains the outfall can be characterized as a paved private driveway and culvert for Bailey Creek.

As the portion of the Project Area which contains the WWTP and east-west alignment of the forcemain was previously studied as part of a Stage 1 and 2 assessment by AMICK in 2005 (AMICK 2006) (see Section 1.3.3), only the unassessed sections of the portions of the Project Area which contain the north-south alignment of the forcemain and the outfall were subject to further Stage 1 and 2 assessment. Thus, the archaeological field work conducted as part of the current Stage 1 and 2 assessment was focused on the unassessed portions of the Project Area along Concession Road 8 from ditch-to-ditch (10-15 m) within the existing road right-of-way.

The method of survey employed during the Stage 1 and 2 archaeological assessment was test pit survey where possible and photographic documentation of all disturbance hindering test pit survey. Test pits, 30 centimetres (cm) in diameter and located at 5 m intervals, were excavated by hand. Where possible, test pits were excavated at least 5 cm into the subsoil, resulting in a total depth ranging from 24 to 40 cm. Soil from all test pits was screened through six millimetre hardware cloth mesh to facilitate the identification and recovery of archaeological resources. All test pits were backfilled and returned to grade.

2.2 Stage 1 and 2 Survey

The weather observed during the Stage 1 and 2 fieldwork included a temperature range of between 20 and 25 degrees Celsius, with 70 percent humidity and light rain throughout the day. Visibility and lighting were judged to be good and did not impede the identification of archaeological resources.

The northernmost portion of the Project Area consisted of an opened section of Concession Road 8 north of County Road 1 and south of Bailey Creek. This portion of the Project Area can be characterized as a two lane gravel road with ditching on either side (Map 4; Images 3-5). To the north end of this segment, a culvert and paved private driveway was observed where Bailey Creek intersected with Concession Road 8 (Map 4; Images 1-2). Erosion and disturbance were observed along the banks of Bailey Creek. Asphalt was observed along the sides of the concession road where it connected to the paved driveways of residential units. Disturbance associated with the construction and use of the paved driveways, culvert, and concession road were observed within the entirety of this portion of the Project Area.

South of County Road 1, the Project Area consisted of an unopened section of Concession Road 8. This portion of the Project Area can be characterized as an abandoned concession road, located between agricultural fields, and overgrown by foliage (Map 4; Images 6 and 8). To the north end of this portion, a tributary of Bailey Creek intersects the concession road. Survey test pits conducted on the unopened section of Concession Road 8 were characterized by disturbed soils with dense gravel inclusions over sterile subsoil. Test pits in the west and east ditches along Concession Road 8 had identical soil characteristics of dark sandy to silty soil depending on saturation and location within the ditch. The subsoil in these test pits was characterized as gray and orange sandy soil with clay deposits in more saturated areas. A few test pits contained loose grey sand lenses near the interface. No artifacts were recovered and no features were uncovered in any of the survey test pits (Map 4; Images 7, 9 and 10).

South of the unopened concession road, the Project Area consisted of an opened section of Concession Road 8 north of Keenansville Road. This portion of the Project Area can be characterized as a two lane gravel road with ditching on either side. The entirety of this portion of the Project Area was observed to be disturbed due to the construction activities associated with the construction of the paved Keenansville Road (Map 4; Image 11) as well as the construction and use of the concession road itself.

The final portion of the Project Area assessed during this Stage 1 and 2 assessment comprised of a small opened section of Concession Road 8 at the southernmost end of the proposed forcemain alignment before it extends west to the WWTP (Map 4). This portion of the Project Area is south of the Project Area assessed as part of the 2016 Stage 1 and 2 assessment by Golder (Golder 2018) and east of the Project Area investigated during the 2006 Stage 1 and 2 assessment by AMICK (AMICK 2006) (see Section 1.3.3). This portion of the Project Area can be characterized as a two lane gravel road with ditching on either side (Map 4; Image 12). Asphalt was observed along the sides of the concession road where it connected to the paved driveway of a residential unit. The entirety of this portion of the Project Area was observed to be disturbed due to the construction activities associated with the construction and use of the paved intersections and concession road itself.

Photo documentation of the Stage 1 and 2 fieldwork within the Project Area, including soil disturbances encountered, are provided in Images 1 to 12 in Section 8.0 of this report. The Stage 1 and 2 assessment results and image locations can be viewed in Map 4 of in Section 9.0 of this report.

3.0 RECORD OF FINDS

The Stage 1 and 2 archaeological assessment was conducted employing the methods described in Section 2.0. It was determined that large portions of the Project Area have been previously impacted by extensive ground altering activities. No archaeological remains were identified or recovered from the Project Area. Table 3 provides an inventory of the documentary record for this assessment.

Table 3: Inventory of Stage 1 and 2 Documentary Record

Document Type	Current Location of Document	Additional Comments	Quantity
Field Notes	Golder office in Mississauga	Stored digitally in electronic project folder	2 word processed pages
Field Maps	Golder office in Mississauga	Stored digitally in electronic project folder	1
Maps Provided by Client	Golder office in Mississauga	Stored digitally in electronic project folder	1
Digital Photographs	Golder office in Mississauga	All photos stored digitally in electronic project folder	58 photos in .jpeg format

4.0 ANALYSIS AND CONCLUSIONS

4.1 Determination of Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. In accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) 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 indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
 - Accessible or inaccessible shoreline (e.g., high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (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 (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:
 - Food or medicinal plants;
 - Scarce raw minerals (e.g., quartz, copper, ochre or outcrops of chert);
 - Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and
- Early historical transportation routes.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. Finally, extensive land disturbance can eradicate archaeological potential.

In archaeological potential modelling, a distance to water criterion of 300 m is generally employed for primary water courses, such as lakes, rivers, streams and creeks as well as secondary watercourses, such as intermittent streams and creeks, springs, marshes, and swamps.

Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. The MTCS also views the presence of previously registered archaeological resources as a prime indicator of archaeological potential.

4.1.1 Potential for Pre- and Post-Contact Indigenous Archaeological Sites

Following the criteria outlined above in Section 4.1 to determine pre- and post-contact Indigenous archaeological potential, several factors can be highlighted. The soils of the Project Area would have been suitable for pre-contact Indigenous agricultural practices and several water sources are located nearby, including Bailey Creek which intersects the proposed infrastructure alignment in the north and central portions of the Project Area (Maps 1 and 2). When the above noted archaeological potential criteria were applied to the Project Area, it exhibited archaeological potential for pre-contact and post-contact Indigenous sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.2), areas of no or low levels of previous disturbance retained their archaeological potential.

4.1.2 Potential for Historic Euro-Canadian Archaeological Sites

Following the criteria outlined above in Section 4.1 to determine historical Euro-Canadian archaeological potential, several factors can be highlighted. The Project Area is located within the historic limits of the village of Keenansville and along the early road grid system. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.2), areas of no or low levels of previous disturbance retained their archaeological potential.

4.2 Archaeological Integrity

A mitigating factor in determining archaeological potential is extensive land disturbance. This includes widespread earth movement activities that would have eradicated or relocated any cultural material to such a degree that the information potential and cultural heritage value or interest has been lost.

Section 1.3.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) states that:

Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources.

MTCS 2011:18

The Project Area consists of both the opened and unopened sections of Concession Road 8 ROW. The sections of Concession Road 8 that are opened and currently used as a roadway are considered to have possible disturbance and lower archaeological integrity.

4.3 Stage 1 and 2 Assessment Conclusions

Based on the standards, as set out by the MTCS on establishing archaeological potential, and compared to the historical and archaeological context of the Project Area, it appeared that the Project Area had archaeological potential for pre- and post-contact Indigenous sites as well as historical Euro-Canadian archaeological sites. As described in Section 4.1, this potential was determined by environmental factors such as the suitable soils and branches of Bailey Creek present within the Project Area as well as historic factors such as the Project Area being located within the historic limits of the village of Keenansville and along the early road grid system. Furthermore, the presence of three archaeological sites registered within 1 km of the Project Area is also considered a contributing factor when determining archaeological potential. However, the Stage 1 and 2 assessment did not result in the identification of any archaeological resources of cultural heritage value or interest.

The soil disturbances encountered during the Stage 1 and 2 assessment can be attributed to the opened and utilized sections of the two-lane concession road as well as the previous use of the unopened overgrown sections of the concession road. Given the absence of finds, the cultural heritage value or interest of the Project Area is considered to be sufficiently documented. Since no archaeological resources of cultural heritage value or interest were recovered, none of the criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) were met and no Stage 3 archaeological assessment of the Project Area is required.

5.0 RECOMMENDATIONS

Based on the results of the Stage 1 and 2 archaeological assessment documented herein, the following recommendations are presented:

- 1) It is recommended that the Project Area be considered free from further archaeological concern. No further archaeological assessment is necessary.

The MTCS is asked to review the results and recommendations presented herein, to accept this report into the Ontario Public Register of Archaeological Reports and to inform the proponent that the provincial concerns for archaeological resources for this Project Area have been met.

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ontario Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns regarding 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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 of Cemeteries at the Ministry of Consumer Services is also immediately notified.

7.0 BIBLIOGRAPHY AND SOURCES

Amick Consultants Ltd.

- 2016 Stage 4 Archaeological Site Specific Assessment of the Colgan A Site (BaGx-5) within Proposed Draft Plan of Subdivision (AT-T-0701), Part of Lot 11, Con. 7 (Geographic Twp. of Adjala), Twp. of Adjala-Tosorontio, County of Simcoe. (PIF # P038-420-2012). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.
- 2016 Stage 3 Archaeological Site Specific Assessment of the Colgan A Site (BaGx-5) within Proposed Draft Plan of Subdivision (AT-T-0701), Part of Lot 11, Con. 7 (Geographic Twp. of Adjala), Twp. of Adjala-Tosorontio, County of Simcoe. (PIF # P058-806-2011). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.
- 2006 Report on the Stage 1-2 Archaeological Assessment of the Proposed Draft Plan, Part of Lot 11, Concession 7, (Formerly Township of Adjala), Township of Adjala-Tosorontio, County of Simcoe. (PIF # P058-078). Report on file with the Ministry of Tourism, Culture & Sport, Toronto.

Belden, H.

- 1881 *Simcoe Supplement to the Illustrated Atlas of the Dominion of Canada.*

Chapman, L.J. and Putnam, D.F.

- 1984 *The Physiography of Southern Ontario. 3rd Edition.* Ontario Geological Survey Special Volume 2. Ontario Ministry of Natural Resources, Toronto, Ontario.

Ellis, Chris J. and Neal Ferris (editors)

- 1990 *The Archaeology of Southern Ontario to A.D. 1650.* Occasional Publication of the London Chapter, Ontario Archaeological Society, Number 5.

Ferris, Neal

- 2009 *The Archaeology of Native-Lived Colonialism: Challenging History in the Great Lakes.* University of Arizona Press, Tucson.

Golder Associates Ltd.

- 2018 Stage 1 and 2 Archaeological Assessment, Part of Lots 12 and 13, Concession 8, Township of Adjala-Tosorontio, Simcoe County, Ontario

Hoffman, D.W. R.E. Wicklund, and N.R. Richards

- 1962 *Soil Survey of Simcoe County.* Report No. 29 of the Ontario Soil Survey. Canadian Department of Agriculture and the Ontario Agricultural College.

Hogg, John.

1871 *Hogg's Map of the County of Simcoe.*

Hunter, Andrew F.

1909a *A History of Simcoe County Volume I – Its Public Affairs.* Published by the Simcoe County Council, Barrie, Ontario.

Morris, J.L.

1943 *Indians of Ontario.* 1964 Reprint. Department of Lands and Forests, Government of Ontario.

MTCS (Ministry of Tourism, Culture and Sport)

2011 *Standards and Guidelines for Consultant Archaeologists.* Ministry of Tourism, Culture and Sport, Culture Division, Programs and Services Branch, Culture Programs Unit, Toronto, Ontario.

2016 Sites within a One Kilometre Radius of the Project Area, provided from the Ontario Archaeological Sites Database, November, 2016.

Schmalz, Peter S.

1991 *The Ojibwa of Southern Ontario.* University of Toronto Press, Toronto, Ontario.

8.0 IMAGES

All images will follow on succeeding pages.

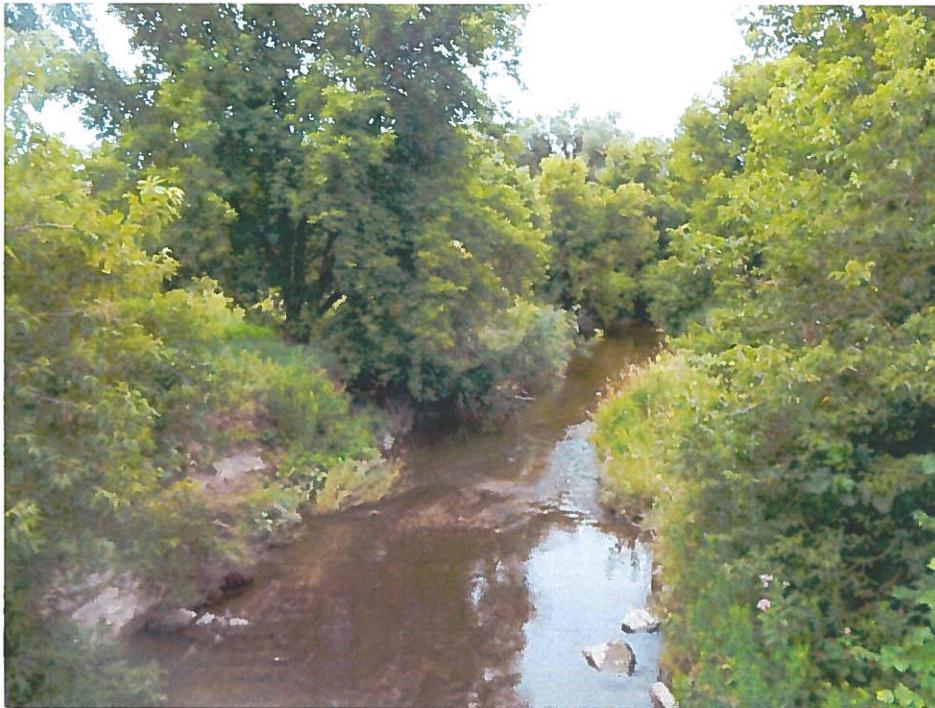


Image 1: Bailey Creek, showing erosion and disturbance associated with construction of paved driveway, facing east.



Image 2: End of Concession Road 8 at Bailey Creek, showing disturbance associated with construction of paved driveway and culvert, facing north.



Image 3: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road and paved residential driveway, facing northeast.



Image 4: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road, facing northeast.



Image 5: Concession Road 8 and western ditch, showing disturbance associated with construction of gravel road, facing north.



Image 6: Unopened section of Concession Road 8, showing disturbance associated with construction of intersecting paved County Road 1 road, facing south.



Image 7: Test Pit 1, showing mottled fill and disturbance, facing north.



Image 8: Crew test pitting in eastern ditch of unopened Concession Road 8, facing south.



Image 9: Test Pit 5, showing undisturbed context, facing north.



Image 10: Test Pit 10, showing gravel inclusions and disturbance, facing north.



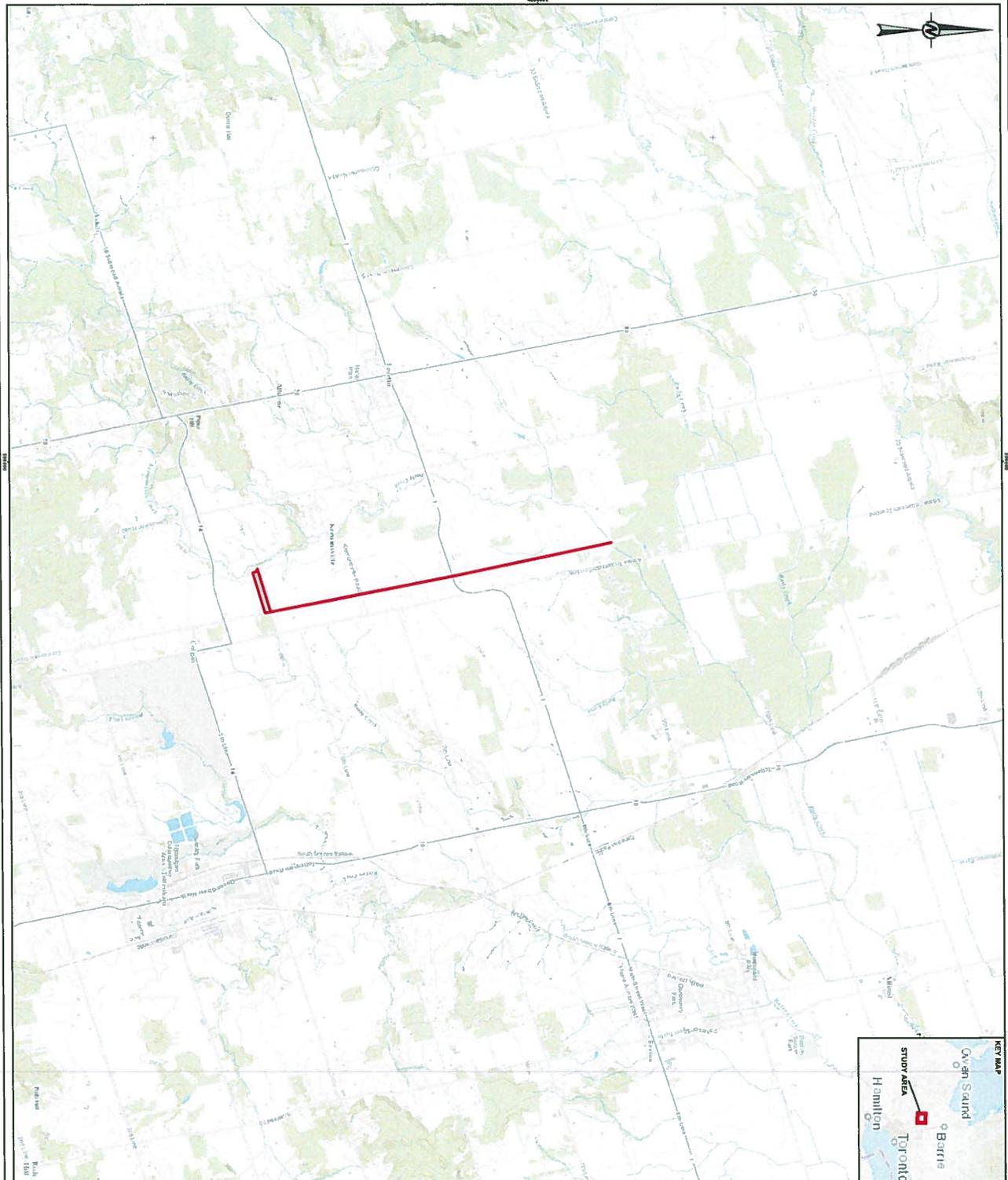
Image 11: Unopened section of Concession Road 8, showing disturbance associated with construction of intersecting paved Keenansville Road, facing south.



Image 12: Concession Road 8 from western ditch, showing disturbance associated with construction of gravel road and paved residential driveway, facing northeast.

9.0 MAPS

All maps will follow on succeeding pages.



LEGEND
 Project Area



REFERENCES
 1. SERVICE LAYER CREDITS SOURCES: ESRI, HERE, DELOUPE, INTERMAP, INCREMENT P, CORP. GEOID USGS FAD NPS, NRCAN, GEBCO, ION, DOWNSIDE, OMBANK, OPENSTREETMAP, CONTRIBUTIONS, AND THE GIS USER COMMUNITY
 2. PROJECTION: TRANSVERSE MERCATOR WAD 1983 UTM ZONE 77N

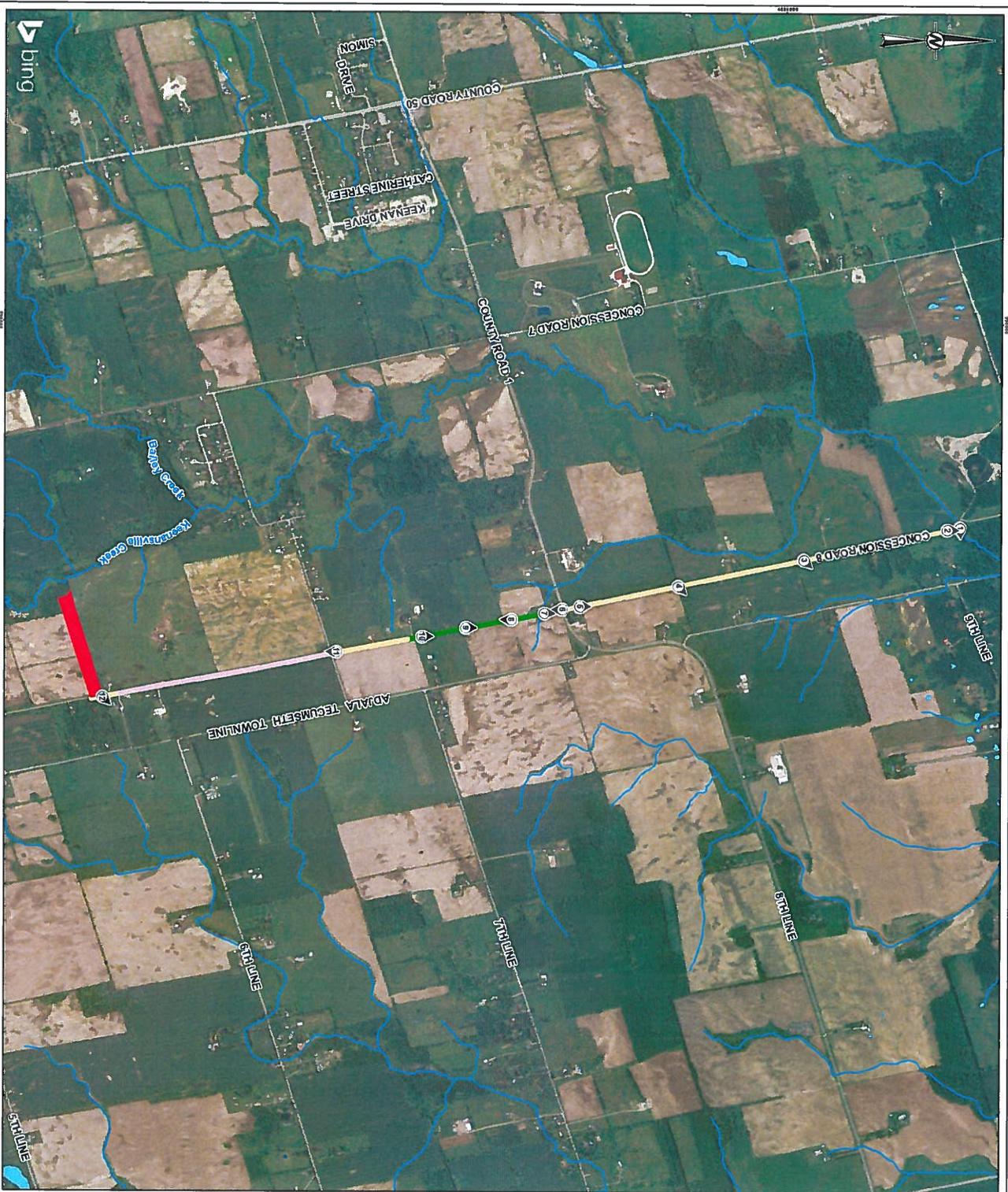
TRIBUTE COMMUNITIES

PROJECT
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT - ALTERNATIVE
 OUTFALL AND FOREMAIN - COLGAN WWTP, 8TH CONCESSION
 TORONTO, SIMCOE COUNTY, ONTARIO

PROJECT AREA

CONSULTANT	15571847.00	2018.08.21
DESIGNED	SFC	
PREPARED	SFC/JAM	
REVIEWED	AMM	
APPROVED	HAD	
PROJECT NO.	1657699	0001
REV		1





- LEGEND**
- Photo Location
 - Watercourse
 - Waterbody
 - Stage 1-2 Assessed - Disturbed, No Further Assessment Recommended
 - Stage 1-2 Assessed, Test Pit Surveyed at 5m - Disturbed, No Further Assessment Recommended
 - Previously Assessed (AMICK 2006)
 - Previously Assessed (GOLDER 2018)



REFERENCES

1. SIMCOE SUPPLEMENT IN ILLUSTRATED ATLAS OF THE DOMINION OF CANADA, TORONTO: H. BELDEN, 1881
2. PROJECTION: TRANSVERSE MERCATOR (NAD 1983) UTM ZONE 17N

CLIENT
 TRIBUTE COMMUNITIES

PROJECT
 STAGE 1 ARCHAEOLOGICAL ASSESSMENT – ALTERNATIVE OUTFALL AND FORGEMAN - COLGAN WWTP, 8TH CONCESSION TOWNSHIP, SIMCOE COUNTY, ONTARIO

ASSESSMENT RESULTS AND PHOTO MAP

CONSULTANT	YVA YAVAR DC	2018-08-21
DESIGNED	SFC	
PREPARED	SFC/M	
REVISIONS	AMM	
DATE	HJD	
PROJECT NO	16577699	0001
SCALE		
FIGURE		4

10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Golder has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective, developments, and purpose described to Golder by the Client. The factual data, interpretations, and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations, and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings, and other documents as well as electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration, and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

Unless otherwise stated, the suggestions, recommendations, and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling, and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*.

Signature Page

Golder Associates Ltd.



Alisha Mohamed-Marchant, M.A.
Archaeologist



Hugh Daeschel, M.A.
Principal, Senior Archaeologist

AMM/HJD/wlm/ka

Golder and the G logo are trademarks of Golder Associates Corporation

\\golder.gds\gall\mississauga\active\2016\3 proj\1657699 exp services_stage 2 aa_colgan\phase 2000 & 3000\deliverables\final\1657699 rep 2018'10'31 stage 1&2 arch assess p468-0016-2018 p468-0022-2018 (final).docx



golder.com
