

Stage 2 Archaeological Assessment Etobicoke Creek Trunk Sewer Improvements and Upgrades, Part of Lots 13-14, Concession 2 East of Centre Road; Lots 11-12, Concession 3 East of Centre Road; and Lot 11, Concession 4 East of Centre Road (Former Township of Toronto, County of Peel), Cities of Brampton and Mississauga, Regional Municipality of Peel, Ontario

Original Report

Prepared for:

Jacobs

245 Consumers Road
Toronto, ON M2J 1 R3

Archaeological Licence: P383 (Williams)

PIF P383-0271-2021

Archaeological Services Inc. File: 20EA-212

4 February 2022



Executive Summary

Archaeological Services Inc. (ASI) was contracted by Jacobs, on behalf of the Regional Municipality of Peel, to conduct a Stage 2 Archaeological Assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades. The proposed work includes both subsurface microtunnel boring and open cut trenching along the proposed Deep Trunk Alignment from Kennedy Road, south of First Gulf Boulevard, following Etobicoke Creek northeast to Dixie Road before extending southeast and ending at Derry Road East.

A Stage 1 assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades Schedule C Municipal Class Environmental Assessment was previously conducted by ASI (2020). Background research and a property inspection determined that portions of the Study Area retained archaeological potential and Stage 2 test pit survey was recommended.

The Stage 2 property survey was conducted on November 15, 16, and 19, 2021, in accordance with the *Ontario Heritage Act* and the S & Gs. Approximately 72.8 percent of the Study Area (2.19 hectares) was previously assessed and did not require Stage 2 survey. An additional 9.8 percent of the Study Area (0.30 hectares) was not subject to Stage 2 survey on account of previous disturbance and permanently low and wet conditions. Approximately 16.8 percent of the Study Area (0.50 hectares) was subject to test pit survey at five metre intervals and judgmental test pit survey at 10 metre intervals to confirm previous disturbance. The remaining 0.6 percent of the Study Area (0.02 hectares) is represented by a portion of Etobicoke Creek. The Construction Report of the current trunk sewer (Figure 9) shows that this portion of the creek bed was disturbed by the installation of the trunk sewer and a concrete encasement. This area is disturbed and therefore does not have marine archaeological potential.

No archaeological resources were encountered during the Stage 2 survey for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project, and no further archaeological assessment is recommended.



Project Personnel

- **Senior Project Manager:** Lisa Merritt, MSc. (P094) Partner, Director, Environmental Assessment Division
- **Project Coordinator:** Katrina Thach, Hon. BA (R1225), Associate Archaeologist, Project Coordinator, Environmental Assessment Division
- **Project Administrator:** Hannah Brouwers, Hon. BA (R1270), Archaeologist, Project Administrator, Environmental Assessment Division
- **Project Director:** Blake Williams, MLitt (P383), Lead Archaeologist, Project Manager, Environmental Assessment Division
- **Project Manager:** Blake Williams
- **Field Director:** Emily Meikle, MA (R1191), Archaeologist, Field Director, Environmental Assessment Division
- **Field Archaeologists:** William Hayward Johns, BDes.; Kaitlin Kirk, BA
- **Report Preparation:** Jessica Lytle, MSc (P1066), Lead Archaeologist, Technical Writer and Fieldwork Coordinator, Environmental Assessment Division
- **Graphics:** Peter Bikoulis, PhD, Archaeologist, GIS Technician, Operation Division
- **Report Reviewer:** Lisa Merritt; Blake Williams



Table of Contents

Executive Summary	2
Project Personnel	3
1.0 Project Context	7
1.1 Development Context	7
1.1.1 Treaties and Traditional Territories	8
1.2 Historical Context	9
1.3 Archaeological Context	9
1.3.1 Current Land Use and Field Conditions	9
1.3.2 Geography	10
1.3.3 Previously Registered Archaeological Sites	11
1.3.4 Previous Archaeological Assessments	12
2.0 Field Methods	16
2.1 Areas of No Archaeological Potential	17
2.2 Test Pit Survey	18
2.3 Watercourse Evaluation	19
2.4 Stage 2 Assessment Results Summary	19
3.0 Record of Finds	20
3.1 Inventory of Documentary and Material Record	20
4.0 Analysis and Conclusions	21
5.0 Recommendations	22
6.0 Legislation Compliance Advice	23
7.0 Bibliography and Sources	25
8.0 Images	28
8.1 Field Photography	28
8.2 Historical Imagery	32



9.0 Maps	35
----------	----

List of Tables

Table 1: Registered Sites within One Kilometre of the Study Area	11
Table 2: Stage 2 Survey Results Summary	19
Table 3: Inventory of Documentary and Material Record	21

List of Images

Image 1: Previously disturbed Kennedy Road right-of-way; no potential.	28
Image 2: Previously disturbed Kennedy Road right-of-way and underlying drainage culvert; no potential.	28
Image 3: Kennedy Road culvert draining into Etobicoke Creek; no potential.	28
Image 4: Previously graded cricket pitch containing utilities; no potential.	28
Image 5: Previously graded cricket pitch; no potential.	29
Image 6: Permanently low and wet marsh; no potential.	29
Image 7: Test pit survey at five metre intervals in progress.	29
Image 8: Test pit survey at five metre intervals in progress.	29
Image 9: Intact soil stratigraphy demonstrating topsoil (A-horizon) overlying subsoil (B-horizon).	30
Image 10: Intact soil stratigraphy demonstrating topsoil (A-horizon) overlying subsoil (B-horizon).	30
Image 11: Judgmental test pit survey at 10 metre intervals in progress.	30
Image 12: Disturbed soil stratigraphy demonstrating redeposited topsoil overlying fill; intact topsoil (A-horizon) is absent.	30
Image 13: Disturbed soil stratigraphy demonstrating redeposited topsoil overlying fill; intact topsoil (A-horizon) is absent.	31
Image 15: Previous grading and resodding of cricket pitch within the Brampton Rugby Union Football facility (7575 Kennedy Road South) <i>circa</i> 2015 (City of Brampton, n.d.).	32
Image 16: Imagery of Shaft 2 within the previously disturbed cricket pitch located at the Brampton Rugby Union Football club facility <i>circa</i> June 2019 (Google Earth).	33
Image 17: Previous grading and resodding of cricket pitch within the Brampton Rugby Union Football facility <i>circa</i> 2020 (City of Brampton, n.d.).	34



List of Figures

Figure 1: Location of the Study Area	36
Figure 2: Stage 2 Assessment Results - Sheet Key	37
Figure 3: Stage 2 Assessment Results - Sheet 1	38
Figure 4: Stage 2 Assessment Results - Sheet 2	39
Figure 5: Stage 2 Assessment Results - Sheet 3	40
Figure 6: Stage 2 Assessment Results - Sheet 4	41
Figure 7: Stage 2 Assessment Results - Sheet 5	42
Figure 8: Stage 2 Assessment Results - Sheet 6	43
Figure 9: Construction Report Showing Creek Bed Disturbance	44



1.0 Project Context

Archaeological Services Inc. (ASI) was contracted by Jacobs, on behalf of the Regional Municipality of Peel, to conduct a Stage 2 Archaeological Assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades (Figure 1). A Municipal Class Environmental Assessment previously completed for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project determined the Deep Trunk Alignment option to be the preferred sewer alignment. The Deep Trunk Alignment starts at Kennedy Road south of First Gulf Boulevard and approximately follows Etobicoke Creek northeast to Dixie Road before extending southeast and ending at Derry Road East (Figure 1). It measures approximately 3.8 kilometres in total length.

The proposed work includes both subsurface microtunnel boring and open cut trenching (Figure 1). Along the Deep Trunk Alignment, five shafts (Shafts 1-5) will allow access for microtunnel boring of a 1500-millimetre diameter sewer line between Shafts 1 to 5 at depths of 10-50 metres below the ground surface. Open trenching will occur at the shaft and connection locations, in addition to the section between Shaft 5 and Derry Road. The Stage 2 Study Area represents all areas affected by surface disturbance and open trenching.

All activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* (*Ontario Heritage Act*, R.S.O. c. O.18, 1990, as amended in 2019) and the 2011 *Standards and Guidelines for Consultant Archaeologists* (S & G), administered by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), formerly the Ministry of Tourism and Culture (MHSTCI, 2011).

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (Environmental Assessment Act, R.S.O., 1990 as amended 2020) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted in accordance with the Municipal



Engineers' Association document *Municipal Class Environmental Assessment* (Municipal Class Environmental Assessment, 2000, as amended 2015).

In addition, this Stage 2 assessment has been commissioned to satisfy the recommendations of the previous Stage 1 assessment that was undertaken as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades Schedule C Municipal Class Environmental Assessment (ASI, 2020).

ASI has been actively engaging with Indigenous communities who have expressed an interest in the archaeological work within the Study Area for this project on behalf of the Regional Municipality of Peel. Fieldwork was coordinated with the Huron Wendat Nation and the Mississaugas of the Credit First Nation. No concerns were expressed during the execution of the fieldwork. A detailed account of all First Nations engagement can be found in the *Supplementary Documentation: Indigenous Engagement* document associated with this report.

Authorization to access and carry out all activities necessary for the completion of this Stage 2 assessment was granted by Jacobs on January 21, 2021, the City of Mississauga on November 5, 2021, and retroactively by Ontario Infrastructure and Lands Corporation on January 13, 2022.

1.1.1 Treaties and Traditional Territories

The Study Area is within Treaty 13a, signed on August 2, 1805, by the Mississaugas and the British Crown in Port Credit at the Government Inn. A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit River and were to retain a one-mile strip of land on each of its banks, which became the Credit Indian Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississauga of the New Credit First Nation, 2001; Mississaugas of the Credit First Nation, 2017).



1.2 Historical Context

A comprehensive review of the pre-contact Indigenous and Euro-Canadian occupations of the Peel region is presented in the Stage 1 report (ASI, 2020, pp. 1–7). To summarize, background research indicates that the general vicinity of the Study Area has been attractive to human settlement for thousands of years, primarily by Indigenous people and more recently by Euro-Canadian settlers. Historically, the Study Area corridor is within part of Lots 13-14, Concession 2 East of Centre Road, Lots 11-12, Concession 3 East of Centre Road, and Lot 11, Concession 4 East of Centre Road in the Former Township of Toronto, County of Peel, Ontario.

1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Study Area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research: the site record forms for registered sites available online from the MHSTCI through *Ontario's Past Portal*; published and unpublished documentary sources; and the files of ASI.

1.3.1 Current Land Use and Field Conditions

The Stage 2 Study Area is generally located in a mixed agricultural and industrial context centered on Etobicoke Creek and its floodplain near the intersection of Highways 410 and 407 at the Mississauga-Brampton border. The west portion of the Stage 2 Study Area (Shaft 1) is adjacent to Kennedy Road which follows a northwest-southeast alignment and features between four and six lanes of vehicular traffic with a sidewalk on each side of the roadway. East of Kennedy Road is an athletic complex with sports fields and the Etobicoke Creek Trail which intersect with the Study Area (Shaft 2 and Biscayne Connection). Further east, just north of Etobicoke Creek and the intersection of Highways 407 and 410, the Study Area intersects with the location of the former Brampton Wastewater Treatment facility, now overgrown (Shaft 3).



A hydro corridor, agricultural fields, industrial/commercial facilities, and the Dixie Road right-of-way are located between Highway 407 and Derry Road in proximity to the eastern portion of the Study Area (Shafts 4-5 and open cut trench). Dixie Road follows a northwest-southeast alignment and features between six and nine lanes of undivided vehicular traffic and generally lacks sidewalks. A short section of sidewalks on each side of the roadway is located to the north of Derry Road East. Dixie Road is bound by industrial and commercial facilities to the west and recreation facilities and undeveloped lands to the east between Drew Avenue in the north and Dixie Road East in the south.

The Stage 2 survey for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project was conducted on November 15, 16, and 19, 2022, under the field direction of Emily Meikle (R1191).

1.3.2 Geography

A comprehensive summary of the geology and physiography of the Peel region is presented in the Stage 1 report (ASI, 2020, pp. 9–10). To summarize, the Study Area is situated within the bevelled till plains of the Peel Plain physiographic region of southern Ontario (Chapman & Putnam, 1984). The Peel Plain is a level-to-undulating area of clay soil which covers an area of approximately 77,700 hectares across the central portions of the Regional Municipalities of York, Peel, and Halton. The Peel Plain has a general elevation of between 150 and 230 metres above sea level with a gradual uniform slope towards Lake Ontario. The Peel Plain is sectioned by the Credit, Humber, Don, and Rouge Rivers with deep valleys as well as a number of other streams such as the Bronte, Oakville, and Etobicoke Creeks. These valleys are in places bordered by trains of sandy alluvium. The region is devoid of large, undrained depressions, swamps, and bogs, nevertheless the dominant soil possesses imperfect drainage.

The Stage 2 Study Area is in proximity to, and contains a section of Etobicoke Creek. Etobicoke is derived from the Algonkian word “Wah-do-be kaug” meaning “place where the alders grow”. The Etobicoke Creek watershed, including its major tributaries Spring Creek, Little Etobicoke Creek, and West Etobicoke Creek, drains an area of approximately 211 square kilometres within the cities of Brampton, Mississauga, Toronto, and the Town of Caledon. The creeks flow



south from its headwaters in Caledon into Lake Ontario through 68 percent urban, 27 percent rural and five percent urbanizing land (TRCA, 2018).

1.3.3 Previously Registered Archaeological Sites

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database maintained by the MHSTCI. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 kilometres east to west, and approximately 18.5 kilometres 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 Study Area under review is located in Borden block AkGw.

According to the Ontario Archaeological Sites Database, 10 previously registered archaeological sites are located within one kilometre of the Study Area, none of which are located within 50 metres (MHSTCI, 2021). A summary of the sites is provided below.

Table 1: Registered Sites within One Kilometre of the Study Area

Borden Number	Site Name	Temporal/ Cultural Affiliation	Site Type	Researcher
AkGv-99	J.A. McBride	Euro-Canadian	Homestead	Mayer, Poulton & Assoc. Inc. 1990
AkGv-100	N/A	Pre-contact Indigenous	Findspot	Mayer, Poulton & Assoc. Inc. 1990
AkGw-78	Beanfield	Indigenous; Early to Middle Archaic	Camp	Stewart 1995



Borden Number	Site Name	Temporal/ Cultural Affiliation	Site Type	Researcher
AkGw-79	Sniper	Indigenous; Middle to Late Woodland	Camp	Stewart 1994
AkGw-81	Wild Pear	Pre-contact Indigenous	Findspot	Stewart 1994
AkGw-82	Spitfire	Indigenous; Late Archaic	Findspot	Stewart 1994
AkGw-255	N/A	Indigenous; Middle Woodland	Findspot	ASI 2004
AkGw-302	Mount Charles	Euro-Canadian	Blacksmith shop	ASI 2006a
AkGw-477	Moore Site	Euro-Canadian	Homestead	Stantec 2014, 2016
AkGw-541	King's Park Findspot	Indigenous; Middle Archaic	Findspot	Toronto and Region Conservation Authority 2021

1.3.4 Previous Archaeological Assessments

According to the background research, 12 previous reports detail fieldwork within 50 metres of the Study Area.



Reports within the Study Area

(ASI, 1992) Stage One Archaeological Assessment of the Dixie Road Widening from Derry Road to Steeles Avenue, Regional Municipality of Peel, Ontario. Licence #92-010. ASI file 92WA-01.

ASI conducted a Stage 1 assessment for the widening of Dixie Road between Derry Road and Steeles Avenue, overlapping with the current Study Area at Dixie Road. The Dixie Road right-of-way was determined to be disturbed, and no further work was recommended.

(ASI, 1999) Stage 1/2 Archaeological Resource Assessment of Block 8, Orion Gate City of Brampton Regional Municipality of Peel, Ontario. CIF 1999-007-027. ASI file 99GQ-01.

ASI conducted a Stage 1-2 assessment for the Orion Gate development area, located southeast of Kennedy Road South at First Gulf Boulevard and overlapping the current Study Area along the Etobicoke Creek Trail system, on the north side of Etobicoke Creek. This section of the project area was determined to be naturally sloped, and not recommended for further work.

(ASI, 2006a) Stage 2 Archaeological Assessment Dixie Road and Derry Road Intersection Improvement Class Environmental Assessment, City of Brampton, Regional Municipality of Peel, Ontario. P057-250-2006. ASI file 06EA-073.

ASI conducted a Stage 2 assessment of the Dixie Road and Derry Road intersection improvements, the east limit overlapping with the current Study Area just north of Derry Road East. The east limit north of the Derry Road right-of-way was visually assessed and determined to be disturbed. No further archaeological assessment was recommended.

(ASI, 2006b) Stage 2 Archaeological Assessment Twinning of Etobicoke Trunk Sewer Section S.13B Class Environmental Assessment City of Mississauga and City of Brampton, Regional Municipality of Peel, Ontario. P057-235-2006. ASI file 06EA-069.

ASI conducted a Stage 2 assessment for the Etobicoke Trunk Sewer section S.13B, overlapping the current Study Area from south of the 407 to Derry Road



East. The field review determined that construction commenced prior to the Stage 2 archaeological assessment and thus there were no areas remaining to test pit. The area was recommended to be free of further archaeological concern.

(ASI, 2009) Stage 1 Archaeological Assessment Drew Road Extension Class Environmental Assessment from Dixie Road to Tomken Road, Regional Municipality of Peel, City of Mississauga. P057-522-2009. ASI file 08EA-325.

ASI conducted a Stage 1 assessment for the Drew Road Extension from Dixie Road to Tomken Road, overlapping portions of the current Study Area between Tomken Road and Dixie Road. The field review determined the area did not hold archaeological potential due to disturbance, and no further archaeological assessment was recommended.

(WSP, 2018) Stage 1 Archaeological Assessment 7575 Kennedy Road City of Brampton Lots 13 & 14, Concession 2 East of Centre Road (Hurontario Street), Geographic Township of Toronto, City of Brampton, Regional Municipality of Peel. P476-0005-2018.

WSP conducted a Stage 1 assessment of 7575 Kennedy Road, overlapping the portion of the Study Area within the Brampton Rugby Union Football facility. Background research and a property inspection determined the overlapping cricket field retained archaeological potential and Stage 2 assessment was recommended.

(Timmins Martelle Heritage Consultants Inc., 2016b) Stage 1 & 2 Archaeological Assessment Infrastructure Ontario 220 Westcreek Boulevard (N03906) Part of Lot 13, Concession 2, East of Centre Road/Hurontario Street (EHS) Former Geographic Township of Toronto, Former County of Peel Now City of Brampton, Regional Municipality of Peel, Ontario. P1075-0021-2016.

Timmins Martelle Heritage Consultants Inc. conducted a Stage 1-2 assessment of 220 Westcreek Boulevard, the former Brampton Wastewater Treatment facility, which overlaps with the current Study Area. Test pit survey was conducted at five-metre intervals and increased to ten-metre intervals when met with disturbance. No archaeological resources were discovered, and no further archaeological assessment was recommended.



(ASI, 2020) Stage 1 Archaeological Assessment Etobicoke Creek Trunk Sewer Improvements and Upgrades Lots 11-15, Concessions 1-4 ECR Former Toronto Township, County of Peel City of Brampton, City of Mississauga Regional Municipality of Peel, Ontario. P380-0065-2020.

ASI conducted a Stage 1 assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades Municipal Class Environmental Assessment, which included the current Stage 2 Study Area. Background research and a property inspection determined that portions of the project area demonstrated archaeological potential, and Stage 2 assessment was recommended.

Additional Reports within 50 metres of the Study Area

Stage 1 and 2 Archaeological Assessment, Part of Lot 12, Concession 3 East of Hurontario Street, City of Mississauga, Regional Municipality of Peel, Ontario. CIF 2000-116-037. ASI file 00PG-004.

ASI conducted a Stage 1-2 assessment of Falco Properties land within part of Lot 12, Concession 3 east of Hurontario Street. Pedestrian survey at five metre intervals did not identify any archaeological resources within the project area and no further work was recommended.

(ASI, 2008) Stage 2 Archaeological Assessment Sanitary Sewer Diversion Class Environmental Assessment Study Regional Municipality of Peel, Ontario. P057-185. ASI file 05EA-123.

ASI conducted a Stage 2 assessment for the Sanitary Sewer Diversion Class Environmental Assessment on the south side of the hydro easement from Fletcher's Creek, west of Hurontario Street, to Etobicoke Creek, between Tomken Road and Dixie Road. Test pit and pedestrian surveys resulted in the identification of Site P1 (AjGw-394) and Findspot P2; both represented by Indigenous lithic debitage. Stage 3 was recommended for Site P1, and the remainder of the project area was not recommended for further assessment.



(Timmins Martelle Heritage Consultants Inc., 2016a) Stage 1 & 2 Archaeological Assessment 7715 Kennedy Road South, City of Brampton Part of Lot 14, Concession 2 (East of Hurontario Street) former Geographic Township of Toronto former Peel County, now R.M. of Peel, Ontario (Official Plan Amendment OP2006-092 and Zoning By-law 204-2013). P083-112-2011.

Timmins Martelle Heritage Consultants Inc. conducted a Stage 1-2 assessment of 7715 Kennedy Road South. A test pit survey was conducted at five-metre intervals. No archaeological resources were recovered, and no further archaeological assessment was recommended.

(TRCA, 2013) Archaeological Assessment (Stage 1-2) in the Humber River and Etobicoke Creek Watersheds, Peel Region Humber and Etobicoke Hip: Peel Region, City of Brampton. P303-134-2012.

The Toronto and Region Conservation Authority conducted a Stage 1-2 assessment of six areas in the Humber River and Etobicoke Creek Watersheds. Area E is located in naturalized parkland on City of Brampton property on Lot 14, Concession II north Division east of Hurontario Street. A test pit survey was conducted at five-metre intervals, which did not encounter archaeological resources. No further archaeological assessment was recommended.

2.0 Field Methods

The Stage 2 Study Area comprises sections of the Deep Trunk Alignment which starts at Kennedy Road south of First Gulf Boulevard and approximately follows Etobicoke Creek northeast to Dixie Road before extending southeast and ending at Derry Road East (Figure 1). It measures approximately 3.8 kilometres in total length and covers an area of 3.0 hectares (Figures 2-8).

The Stage 2 property survey was conducted under the field direction of Emily Meikle (R1191) on November 15, 16, and 19, 2021, in accordance with the *Ontario Heritage Act* and the S & G, Section 2. During the field assessments, weather and lighting conditions permitted good visibility and were in accordance with the S & G, Section 2.1, Standard 3. During the time of survey, conditions were seasonal with cloudy skies and temperatures of 5-9 degrees Celsius.



Photographs of all field conditions were taken (Images 1-13), and the location and direction of each photograph is mapped in Figures 3-8.

As per Section 2.1 of the S & G, all lands were within areas where ploughing was not possible or viable and therefore subject to test pit survey. According to Section 2.1.2, Standard 2 of the S & G, any undisturbed areas requiring test pit survey within 300 metres of any feature of archaeological potential must be subject to systematic assessment at five metre intervals. Test pits were placed at five metre intervals until disturbance was encountered, and then judgmentally increased to ten metres intervals as per S & G Section 2.1.8. All test pits were excavated following the S & G Section 2.1.2 Standards 2-9. All test pits were excavated by hand to a minimum of 30 centimetres in diameter and into the first five centimetres of subsoil. Each test pit was examined for stratigraphy, cultural features, and evidence of fill. Test pit fill was screened through six-millimetre mesh to facilitate artifact recovery. Afterwards, all test pits were backfilled, and their locations were recorded on field maps. Any factors that precluded the excavation of test pits (e.g., excessive slope, drainage, exposed bedrock, previous disturbance) were noted, and the areas were mapped and photographed.

Fieldwork was conducted using a Samsung Galaxy S4 tablet running Esri Collector software equipped with a sub-metre Trimble Catalyst Global Navigation Satellite System in conjunction with project mapping provided by Jacobs to ensure the assessment remained within the Study Area limits.

2.1 Areas of No Archaeological Potential

Approximately 72.8 percent of the Study Area (2.19 hectares) was previously assessed and not subject to Stage 2 assessment as per S & G Section 2.1, Standard 2.c (ASI, 1992, 1999, 2006b, 2006a, 2020; Timmins Martelle Heritage Consultants Inc., 2016b) (Figures 3-8).

Visual assessment determined that a small portion of the Study Area did not retain archaeological potential. Approximately 8.5 percent of the Study Area (0.26 hectares) had been previously subject to deep and extensive ground disturbance and was not subject to Stage 2 survey, as per S & G Section 2.1, Standard 2.b. The lands documented as being previously disturbed include the berm



supporting the Kennedy Road right-of-way (Figure 3; Images 1-2), a drainage culvert extending from under Kennedy Road to Etobicoke Creek (Figure 3; Image 3), and a previously graded cricket pitch (Figure 4; Images 4-5). The cricket pitch is located at the northern limit of the Brampton Rugby Union Football facility (7575 Kennedy Road South) and includes proposed Shaft 2. The cricket pitch was previously graded and resodded in 2015, and underwent further disturbance during 2019-2020 during the refurbishment of the field for a tournament (see Section 8.2, Images 14-16).

Approximately 1.3 percent of the Study Area (0.04 hectares) was documented as being permanently low and wet and was not subject to Stage 2 survey, as per S & G Section 2.1, Standard 2.a.i. The areas documented as being permanently low and wet include a marsh associated with Etobicoke Creek (Figure 6; Image 6).

2.2 Test Pit Survey

Approximately 7.0 percent of the Study Area (0.21 hectares) was found to contain natural topsoil (A-horizon) and was subject to test pit survey at five metre intervals following S & G Section 2.1.2, Standards 1-9. The areas subject to test pit survey at five metre intervals include scrubland adjacent to Etobicoke Creek within proposed Shaft 1, Shaft 5, and the open trench east of Shaft 5 (Figures 3 and 7; Images 7-8).

Undisturbed stratigraphy in the Study Area is characterized by approximately 20-40 centimetres of brown (10YR 4/3) to very dark grayish brown (10YR 3/2) silty clay topsoil (A-horizon) overlying a reddish brown (2.5YR 4/3) to grayish brown (10YR 5/2) silty clay subsoil (B-horizon) (Images 9-10).

Approximately 9.8 percent of the Study Area (0.29 hectares) did not contain natural topsoil (A-horizon) and was subject to judgmental test pit survey at 10 metre intervals to confirm previous disturbance following S & G Section 2.1.8, Standards 1-2. The areas subject to judgmental test pit survey include scrubland adjacent to the Etobicoke Creek Trail (Figures 3-4), and scrubland between Shaft 5 and Dixie Road (Figure 7; Image 11).



Disturbed stratigraphy in the Study Area is characterized by 10 centimetres of redeposited very dark grayish brown (10YR 3/2) clay loam topsoil, atop at least 50 centimetres of yellowish brown (10YR 5/4) clay fill mixed with grayish brown (10YR 5/2) and brown (10YR 4/3) clay containing gravel and asphalt (Images 12-13).

2.3 Watercourse Evaluation

The remaining 0.6 percent of the Study Area (0.02 hectares) is represented by a portion of Etobicoke Creek (Figure 7). As the project will impact the creek bed its archaeological potential was evaluated following the MHSTCI's (2016) *Criteria For Evaluating Marine Archaeological Potential* checklist. Upon reviewing the Construction Record for the existing trunk sewer, the creek bed in this area was previously disturbed by construction and the installation of a concrete encasement (Figure 9); the creek bed in this area is disturbed and therefore does not have marine archaeological potential.

2.4 Stage 2 Assessment Results Summary

A summary of the Stage 2 assessment results for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project can be found in Table 2 below.

Table 2: Stage 2 Survey Results Summary

Survey Method	Area	Description	Images
Not assessed due to previous assessment; no archaeological potential	2.19 hectares (72.8 percent)	ASI, 1992, 1999, 2006b, 2006a, 2020; Timmins Martelle Heritage Consultants Inc., 2016b	N/A
Visually assessed as being previously disturbed; no archaeological potential	0.26 hectares (8.5 percent)	Kennedy Road right-of-way, Kennedy Road drainage culvert,	1-5



Survey Method	Area	Description	Images
		previously graded cricket pitch	
Visually assessed as having permanently low and wet conditions; no archaeological potential	0.04 hectares (1.3 percent)	Marsh associated with Etobicoke Creek	6
Test pit survey; five metre intervals	0.21 hectares (7.0 percent)	Scrubland adjacent to Etobicoke Creek	7-10
Judgmental test pit survey; 10 metre intervals	0.29 hectares (9.8 percent)	Scrubland adjacent to Etobicoke Creek and trail	11-13
Watercourse disturbed by previous installation of trunk sewer	0.02 hectares (0.6 percent)	Etobicoke Creek	N/A

3.0 Record of Finds

No archaeological resources were encountered during the course of the Stage 2 Archaeological Assessment for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project.

3.1 Inventory of Documentary and Material Record

The documentation related to this archaeological assessment will be curated by ASI until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner(s), the MHSTCI, and any other legitimate interest groups.



Table 3 provides an inventory and location of the documentary and material record for the project in accordance with the S & G, Sections 6.7 and 7.8.2.3.

Table 3: Inventory of Documentary and Material Record

Material	Location	Comments
Written Field Notes, Annotated Field Maps, G.P.S. Logs, etc.	Archaeological Services Inc., 528 Bathurst Street, Toronto, Ontario, M5S 2P9	Hard copy notes stored in Archaeological Services Inc. project folder 20EA-212; G.P.S. and digital information stored on Archaeological Services Inc. network servers
Field Photography (Digital)	Same as above	Stored on Archaeological Services Inc. network servers.
Research/Analysis/Reporting Materials (Various Formats)	Same as above	Hard copy and/or digital files stored on Archaeological Services Inc. network servers.

4.0 Analysis and Conclusions

ASI was contracted by Jacobs, on behalf of the Regional Municipality of Peel, to conduct a Stage 2 Archaeological Assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades (Figure 1). The proposed work includes both subsurface microtunnel boring and open cut trenching along the proposed Deep Trunk Alignment from Kennedy Road, south of First Gulf Boulevard, following Etobicoke Creek northeast to Dixie Road before extending southeast and ending at Derry Road East.

A Stage 1 assessment as part of the Etobicoke Creek Trunk Sewer Improvements and Upgrades Schedule C Municipal Class Environmental Assessment was previously conducted by ASI (2020). Background research and a property



inspection determined that portions of the Study Area retained archaeological potential and Stage 2 test pit survey was recommended.

The Stage 2 property survey was conducted on November 15, 16, and 19, 2021, in accordance with the *Ontario Heritage Act* and the S & G. Approximately 72.8 percent of the Study Area (2.19 hectares) was previously assessed and did not require Stage 2 survey (ASI, 1992, 1999, 2006b, 2006a, 2020; Timmins Martelle Heritage Consultants Inc., 2016b). An additional 9.8 percent of the Study Area (0.30 hectares) was not subject to Stage 2 survey on account of previous disturbance associated with the berm supporting the Kennedy Road right-of-way (Figure 3; Images 1-2), a drainage culvert extending from under Kennedy Road to Etobicoke Creek (Figure 3; Image 3), and a previously graded cricket pitch (Figure 4; Images 4-5); and permanently low and wet conditions of a marsh associated with Etobicoke Creek (Figure 6; Image 6). Approximately 16.8 percent of the Study Area (0.50 hectares) was subject to test pit survey at five metre intervals judgmental test pit survey at 10 metre intervals to confirm previous disturbance (Figures 3-4, 7; Images 7-13).

The remaining 0.6 percent of the Study Area (0.02 hectares) is represented by a portion of Etobicoke Creek (Figure 6). As the project proposes impacts and restoration to Etobicoke Creek, its archaeological potential was evaluated following the MHSTCI's (2016) *Criteria For Evaluating Marine Archaeological Potential* checklist. Upon reviewing the Construction Record for the existing trunk sewer, the creek bed in this area was previously disturbed by construction and the installation of a concrete encasement (Figure 9); the creek bed in this area is disturbed and therefore does not have marine archaeological potential.

No archaeological resources were encountered during the Stage 2 survey for the Etobicoke Creek Trunk Sewer Improvements and Upgrades project, and no further archaeological assessment is recommended.

5.0 Recommendations

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



1. The Etobicoke Creek Trunk Sewer Improvements and Upgrades Study Area does not require further archaeological assessment; and
2. Should the proposed work extend beyond the current Study Area, or should changes to the project design or temporary workspace requirements result in the inclusion of previously un-surveyed lands, these lands should be subject to a Stage 2 archaeological assessment.

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

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

6.0 Legislation Compliance Advice

ASI advises compliance with the following legislation:

- This report is submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation, and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage, Sport, Tourism and Culture Industries, a letter will be issued by the Ministry stating that



there are no further concerns with regards to alterations to archaeological sites by the proposed development.

- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 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.
- Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license



7.0 Bibliography and Sources

- ASI, (Archaeological Services Inc.). (1992). Stage One Archaeological Assessment of the Dixie Road Widening from Derry Road to Steeles Avenue, Regional Municipality of Peel, Ontario. Licence #92-010. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (1999). Stage 1/2 Archaeological Resource Assessment of Block 8, Orion Gate City of Brampton Regional Municipality of Peel, Ontario. CIF 1999-007-027. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (2006a). Stage 2 Archaeological Assessment Dixie Road and Derry Road Intersection Improvement Class Environmental Assessment, City of Brampton, Regional Municipality of Peel, Ontario. P057-250-2006. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (2006b). Stage 2 Archaeological Assessment Twinning of Etobicoke Trunk Sewer Section S.13B Class Environmental Assessment City of Mississauga and City of Brampton, Regional Municipality of Peel, Ontario. P057-235-2006. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (2008). Stage 2 Archaeological Assessment Sanitary Sewer Diversion Class Environmental Assessment Study Regional Municipality of Peel, Ontario. P057-185. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (2009). Stage 1 Archaeological Assessment Drew Road Extension Class Environmental Assessment from Dixie Road to Tomken Road, Regional Municipality of Peel, City of Mississauga. P057-522-2009. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- ASI, (Archaeological Services Inc.). (2020). Stage 1 Archaeological Assessment Etobicoke Creek Trunk Sewer Improvements and Upgrades Lots 11-15, Concessions 1-4 ECR Former Toronto Township, County of Peel City of Brampton, City of Mississauga Regional Municipality of Peel, Ontario.



- P380-0065-2020. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- Chapman, L. J., & Putnam, F. (1984). The Physiography of Southern Ontario (Vol. 2). Ontario Ministry of Natural Resources.
- Ontario Heritage Act, R.S.O. c. O.18, (1990).
- MHSTCI, (Ministry of Heritage, Sport, Tourism and Culture Industries). (2011). Standards and Guidelines for Consultant Archaeologists. Cultural Programs Branch, Ontario Ministry of Tourism and Culture.
- MHSTCI, (Ministry of Heritage, Sport, Tourism and Culture Industries). (2016). Criteria for Evaluating Marine Archaeological Potential A Checklist for Non-Marine Archaeologists.
- MHSTCI, (Ministry of Heritage, Sport, Tourism and Culture Industries). (2021). Ontario's Past Portal. PastPortal. <https://www.pastport.mtc.gov.on.ca>
- Environmental Assessment Act, R.S.O., (1990).
- Mississauga of the New Credit First Nation. (2001). Toronto Purchase Specific Claim: Arriving at an Agreement.
- Mississaugas of the Credit First Nation. (2017). Treaty Lands and Territory. <http://mncfn.ca/category/treaty-lands-and-territory/>
- Municipal Class Environmental Assessment, (2000).
- Timmins Martelle Heritage Consultants Inc. (2016a). Stage 1 & 2 Archaeological Assessment 7715 Kennedy Road South, City of Brampton Part of Lot 14, Concession 2 (East of Hurontario Street) former Geographic Township of Toronto former Peel County, now R.M. of Peel, Ontario (Official Plan Amendment OP2006-092 and Zoning By-law 204-2013). P083-112-2011. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- Timmins Martelle Heritage Consultants Inc. (2016b). Stage 1 & 2 Archaeological Assessment Infrastructure Ontario 220 Westcreek Boulevard (N03906) Part of Lot 13, Concession 2, East of Centre Road/Hurontario Street (EHS) Former Geographic Township of Toronto, Former County of Peel Now City of Brampton, Regional Municipality of Peel, Ontario. P1075-0021-2016. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.



- TRCA, (Toronto and Region Conservation Authority). (2013). Archaeological Assessment (Stage 1-2) in the Humber River and Etobicoke Creek Watersheds, Peel Region Humber and Etobicoke Hip: Peel Region, City of Brampton. P303-134-2012. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.
- TRCA, (Toronto and Region Conservation Authority). (2018). Etobicoke & Mimico Creek Watershed Features. <https://trca.ca/conservation/watershed-management/etobicoke-mimico-creek/watershed-features/>
- WSP. (2018). Stage 1 Archaeological Assessment 7575 Kennedy Road City of Brampton Lots 13 & 14, Concession 2 East of Centre Road (Hurontario Street), Geographic Township of Toronto, City of Brampton, Regional Municipality of Peel. P476-0005-2018. Report on file with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.



8.0 Images

8.1 Field Photography



Image 1: Previously disturbed Kennedy Road right-of-way; no potential.



Image 3: Kennedy Road culvert draining into Etobicoke Creek; no potential.



Image 2: Previously disturbed Kennedy Road right-of-way and underlying drainage culvert; no potential.



Image 4: Previously graded cricket pitch containing utilities; no potential.



Image 5: Previously graded cricket pitch; no potential.



Image 7: Test pit survey at five metre intervals in progress.



Image 6: Permanently low and wet marsh; no potential.



Image 8: Test pit survey at five metre intervals in progress.



Image 9: Intact soil stratigraphy demonstrating topsoil (A-horizon) overlying subsoil (B-horizon).



Image 11: Judgmental test pit survey at 10 metre intervals in progress.



Image 10: Intact soil stratigraphy demonstrating topsoil (A-horizon) overlying subsoil (B-horizon).



Image 12: Disturbed soil stratigraphy demonstrating redeposited topsoil overlying fill; intact topsoil (A-horizon) is absent.



Image 13: Disturbed soil stratigraphy demonstrating redeposited topsoil overlying fill; intact topsoil (A-horizon) is absent.

8.2 Historical Imagery



Image 14: Previous grading and resodding of cricket pitch within the Brampton Rugby Union Football facility (7575 Kennedy Road South) *circa* 2015 (City of Brampton, n.d.).



Image 15: Imagery of Shaft 2 within the previously disturbed cricket pitch located at the Brampton Rugby Union Football club facility *circa* June 2019 (Google Earth).



Image 16: Previous grading and resodding of cricket pitch within the Brampton Rugby Union Football facility *circa* 2020 (City of Brampton, n.d.).

9.0 Maps



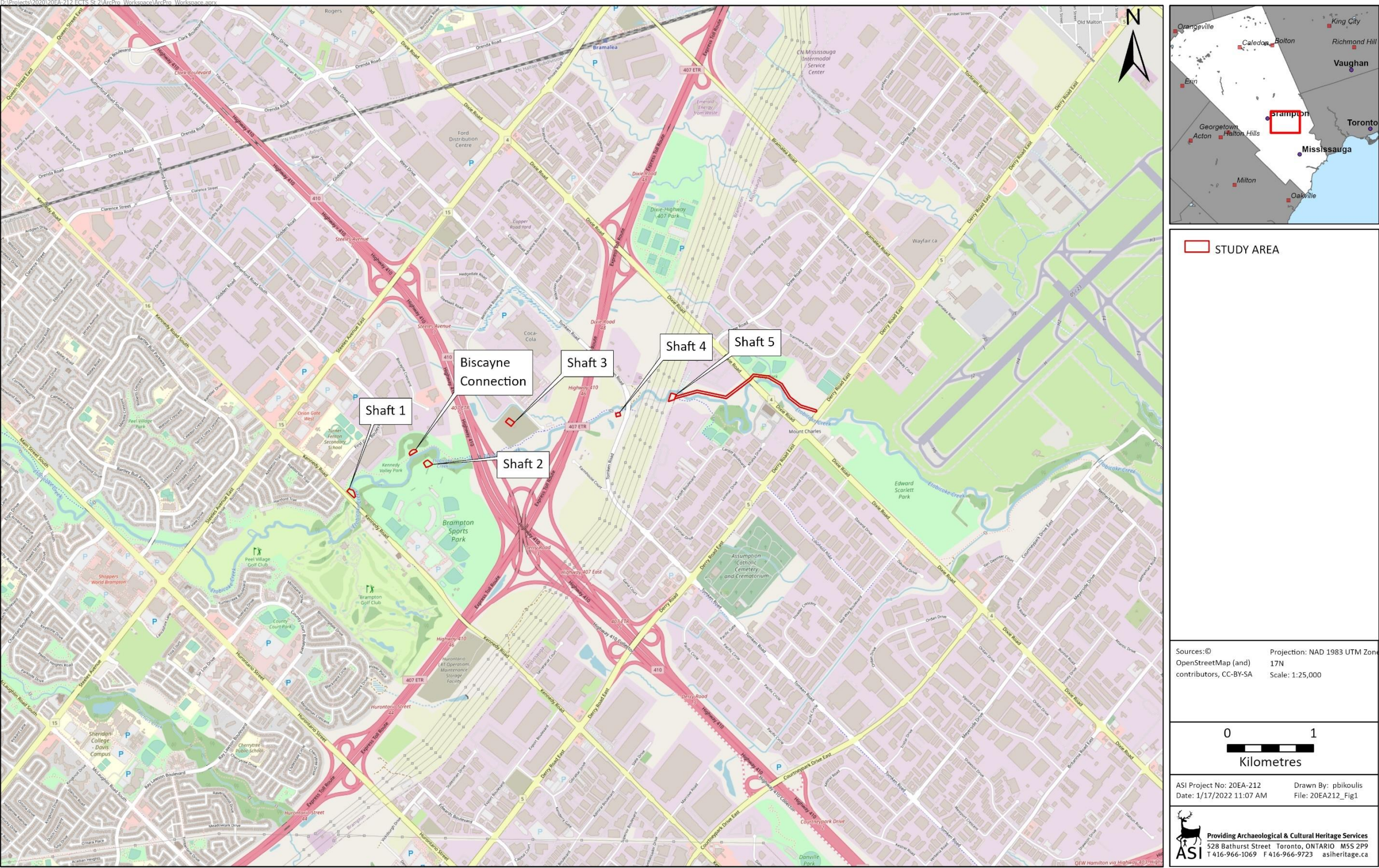


Figure 1: Location of the Study Area





Figure 2: Stage 2 Assessment Results - Sheet Key





Figure 3: Stage 2 Assessment Results - Sheet 1





Figure 4: Stage 2 Assessment Results - Sheet 2





Figure 5: Stage 2 Assessment Results - Sheet 3





Figure 6: Stage 2 Assessment Results - Sheet 4



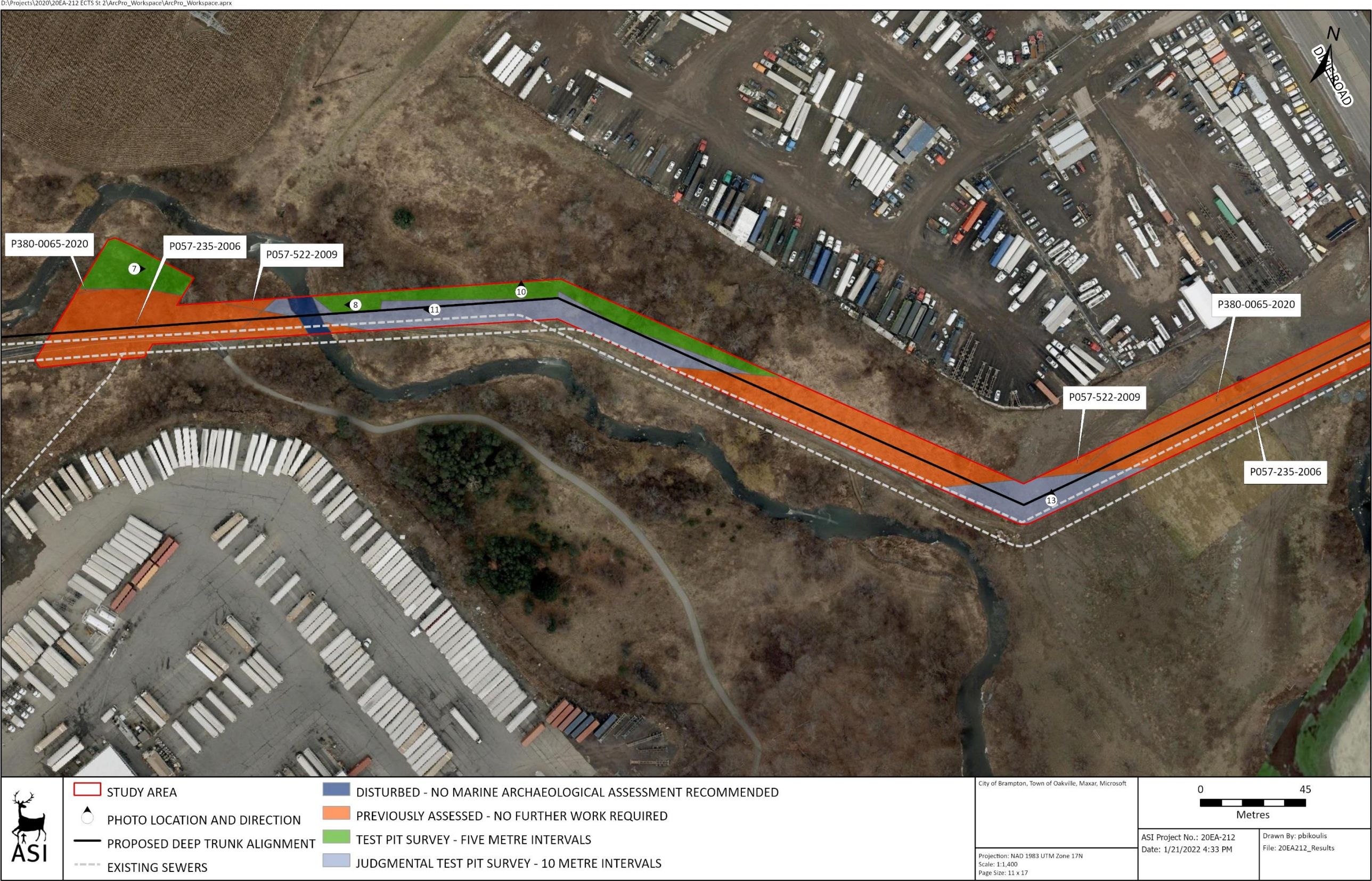


Figure 7: Stage 2 Assessment Results - Sheet 5





Figure 8: Stage 2 Assessment Results - Sheet 6



