
APPENDIX H
ARCHAEOLOGICAL ASSESSMENT

**Stage 1 Archaeological Assessment
Background Study**

**Dundas Street Bus Rapid Transit Planning Study
Brant Street to Trafalgar Road,
City of Burlington and Town of Oakville,
Regional Municipality of Halton**

Prepared for:

McCormick Rankin Corporation
2655 North Sheridan Way, Suite 300
Mississauga, ON L5K 2P8
Tel: (905) 823-8500
Fax: (905) 823-8503
LGreen@mrc.ca & NAhmed@mrc.ca
www.mrc.ca

Archaeological Licence P094 (Lisa Merritt)
MTC PIF P094-032-2011
ASI File 10EA-250

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Archaeological Services Inc.

528 Bathurst St.
Toronto, Ontario
Canada, M5S 2P9

T 416-966-1069
F 416-966-9723
info@IASI.to/www.IASI.to

Stage 1 Archaeological Assessment (Background Research)

Dundas Street Bus Rapid Transit Planning Study, Brant Street to Trafalgar Road, City of Burlington and Town of Oakville, Regional Municipality of Halton, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by McCormick Rankin Corporation, Mississauga, on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (background research) as part of the Dundas Street Bus Rapid Transit (BRT) Planning Study, in the City of Burlington and Town of Oakville, Regional Municipality of Halton, Ontario. ASI previously conducted a number of archaeological assessments along the current study corridor. The results of this work will be summarized below and any data gaps will also be addressed.

The Stage 1 Archaeological Assessment determined that 128 archaeological sites have been registered within one kilometre of the study corridor, four of which are located immediately adjacent to Dundas Street. A review of the geography and local nineteenth century land use of the study corridor also suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

Based on the review of the previous archaeological assessments, it was determined that although the existing ROW lands have been previously disturbed, a number of areas beyond the disturbed ROW have remained undisturbed and contain archaeological potential.

In light of these results, ASI makes the following recommendations:

1. Once the preferred alternative is chosen, the route should be reviewed to determine potential impacts to archaeological resources associated with the Dundas Street BRT;
2. A Stage 2 Archaeological Assessment is required on any lands along the Dundas Street BRT corridor where there is potential for archaeological sites (Figures A-1 to A-13: green highlighted areas) if the proposed project is to impact these lands. This work will be done in accordance with Ministry of Tourism and Culture's 2010 *Standards and Guidelines for Consultant Archaeologists*;
3. If construction activities are proposed along the existing Dundas Street ROW immediately adjacent to Nelson Cemetery, St. John's Cemetery, St. Paul's Cemetery, or Munn's Church Cemetery, a Cemetery Investigation will be required, in accordance with the Ministry of Tourism and Culture's 2010 *Standards and Guidelines for Consultant Archaeologists*, to confirm the presence or absence of unmarked graves beyond the cemetery limits;



4. Given the character of the evidence for the remains designated as the Finch site (Site H2; AiGw- 448), Parkes site (Site H3; AiGw-449), House site (Site H4; AiGw-450), and Site H5 (AiGw-551)], each represents a significant archaeological resource. If one or more site can not be protected within the proposed undertaking, it should be subjected to comprehensive Stage 3-4 salvage excavation.

The assessment should entail the excavation of a series of one metre square test units within the site area to determine the nature and extent of cultural deposits within the plough zone. The location of these units would be determined according to the results of the site map overlaid with the location of positive surface finds or test pits. The test units should be excavated to sterile subsoil, and soil fills screened through six millimetre mesh to facilitate artifact recovery. The subsoil should be trowelled and all profiles examined for undisturbed cultural deposits. In the event that significant cultural deposits are encountered, further mitigation should be undertaken.

Such mitigation will likely entail the removal by Gradall of all topsoil within the site area effected by the undertaking. The exposed subsoil should then be examined for the presence of cultural features. If no features are observed, a recommendation may be then made to clear the site area of any further archaeological concern. Should archaeological deposits be encountered, these deposits must be thoroughly documented and excavated by hand.



**ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION**

PROJECT PERSONNEL

<i>Senior Project Manager:</i>	Lisa Merritt, MSc [MTC license P094] <i>Senior Archaeologist, Assistant Manager, Environmental Assessment Division</i>
<i>Project Director (licensee):</i>	Lisa Merritt
<i>Project Manager/Archaeologist:</i>	Caitlin Lacy, Hon. BA [MTC license R303] <i>Staff Archaeologist</i>
<i>Project Coordinator:</i>	Sarah Jagelewski, Hon. BA <i>Research Archaeologist</i>
<i>Field Director:</i>	Peter Carruthers, MA, CAHP [MTC license P163] <i>Senior Associate</i>
<i>Report Writer and Graphics:</i>	Caitlin Lacy
<i>Report Reviewer:</i>	Lisa Merritt

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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by McCormick Rankin Corporation (MRC), Mississauga, on behalf of Halton Region, to conduct a Stage 1 Archaeological Assessment (background research) as part of the Dundas Street Bus Rapid Transit (BRT) Planning Study, in the City of Burlington and Town of Oakville, Regional Municipality of Halton, Ontario (Figure 1). ASI previously conducted a number of archaeological assessments along the current study corridor. The results of this work will be summarized below and any data gaps will be addressed.

This assessment was conducted under the project management of Caitlin Lacy (R303) and project direction of Lisa Merritt (P094-031-2011), both of ASI.

The objectives of this report are:

- To provide information about the geography, history, previous archaeological fieldwork and current land condition of the study corridor;
- To evaluate in detail the archaeological potential of the study corridor which can be used, if necessary, to support recommendations for Stage 2 Archaeological Assessment for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 Archaeological Assessment, if necessary.

This report describes the Stage 1 assessment that was conducted for this project and is organized as follows: Section 1.0 describes the project context and summarizes the background study that was conducted to provide the archaeological and historical context for the project study area; Section 2.0 describes the field methods used during the assessment and summarizes the results of the property inspection; Section 3.0 provides an analysis of the assessment results and evaluates the archaeological potential of the study area; Section 4.0 provides recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the Ministry of Tourism and Culture's (MTC) *2011 Standards and Guidelines for Consultant Archaeologists*, e.g., advice on compliance with legislation, works cited, mapping and photo-documentation.

1.1 Development Context

All work has been undertaken as required by *Environmental Assessment Act*, RSO (1990) and regulations made under the Act. All activities carried out during this assessment were completed in accordance with the terms of the *Ontario Heritage Act* (2005) and the MTC's *2011 Standards and Guidelines for Consultant Archaeologists*.

Authorization to carry out the activities necessary for the completion of the Stage 1 assessment was granted to ASI by MRC on February 2, 2011.

1.2 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the study corridor, 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 in the study area; the site record forms for registered sites housed at the MTC; published and unpublished documentary sources; and the files of ASI.

1.2.1 Previous Archaeological Research

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTC. 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 km east to west, 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 study corridor under review is located in Borden blocks *AiGx* and *AiGw*.

According to the OASD (email communication, Robert von Bitter, MCL Data Coordinator, February 7, 2011), 128 archaeological sites have been registered within 1 km of the study corridor, four of which are located immediately adjacent to Dundas Street (Table 1).

Table 1: List of registered sites within a one kilometre radius of the study corridor.

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-6	West of 25	Aboriginal	Campsite	N. Emerson, 1972
AiGw-7	East of Orchard Road	Aboriginal	Campsite	N. Emerson, 1972
AiGw-8	Dryden	Aboriginal	Campsite	N. Emerson
AiGw-30	Boot	Aboriginal – Archaic	Campsite	A. Roberts, 1972
AiGw-31	Rainey	Aboriginal	Campsite	A. Roberts, 1974
AiGw-35	Dumbo	Aboriginal	Unknown	A. Roberts, 1974
AiGw-39	Tremaine Road	Aboriginal – Archaic	Undetermined	S. Thomas, 1975
AiGw-41	Special Activity	Aboriginal	Isolated Find	S. Thomas, 1975
AiGw-42	Farm Lane	Aboriginal	Isolated Find	S. Thomas, 1975
AiGw-46	Camping Area	Aboriginal	Village	S. Thomas, 1975
AiGx-63		Aboriginal	Campsite	MIA, 1981
AiGw-65	North Tremaine	Aboriginal – Woodland	Isolated Find	S. Thomas, 1975
AiGw-75	M1	Aboriginal – Woodland	Campsite	J. Chisholm 1975
AiGw-94	Ireland 2	Aboriginal – Archaic	Undetermined	A. Roberts, 1976 MIA, 1981, 1998
AiGw-95	Walker's Line	Aboriginal – Archaic	Isolated Find	A. Roberts, 1975
AiGw-96	N. Richardson	Aboriginal – Archaic	Undetermined	A. Roberts, 1975
AiGw-98	Scattered Finds	Aboriginal	Campsite	A. Roberts, 1975, R. Sutton, 2004
AiGw-98.1	Scattered Finds	Unknown	Unknown	Unknown
AiGw-100	Five Acre Field	Aboriginal – Woodland	Campsite	A. Roberts, 1980 AS12, 2004
AiGw-124	Tara	Aboriginal – late Paleo-Indian, early Woodland	Campsite	MIA, 1980
AiGw-125	80-403-2	Aboriginal	Isolated Find	MIA, 1980
AiGw-126	80-403-5	Aboriginal	Isolated Find	MIA, 1980
AiGw-133	81-403-5	Aboriginal	Isolated Find	MIA, 1981

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-149	81-403-21	Aboriginal	Isolated Find	MIA, 1981
AiGw-150	81-409-22	Aboriginal	Isolated Find	MIA, 1981
AiGw-151	81-403-23	Aboriginal	Isolated Find	MIA, 1981
AiGw-153	81-403-25	Aboriginal	Isolated Find	MIA, 1981
AiGw-154	81-403-26	Aboriginal	Isolated Find	MIA, 1981
AiGw-155	81-403-27	Aboriginal	Isolated Find	MIA, 1981
AiGw-174	81-403-53	Aboriginal	Isolated Find	MIA, 1981
AiGw-177	81-TCPL-3	Aboriginal	Isolated Findspot	MIA, 1981
AiGw-178	81-TCPL-4	Aboriginal – Archaic	Isolated Find	MIA, 1981
AiGw-200		Aboriginal	Isolated Find	MIA, 1987
AiGw-201		Aboriginal – Woodland	Isolated Find	MIA, 1987
AiGw-203	Proudfoot's Hollow	Euro-Canadian	Mill	J. Triggs 1989
AiGw-206	Ophelia	Aboriginal	Isolated Find	ASI, 1991
AiGw-207	Portia	Aboriginal – Woodland	Isolated Find	ASI, 1991
AiGw-208	Schooner	Euro-Canadian	Isolated Find	ASI, 1991
AiGw-209	Pettit	Historic Euro-Canadian	Homestead	ASI, 1991
AiGw-210	Chestnut	Undetermined Pre-contact	Isolated Findspot	ASI, 1991
AiGw-211	Bastille	Undetermined Pre-contact	Isolated Findspot	ASI, 1991
AiGw-212	Robespierre	Undetermined Pre-contact	Campsite	ASI, 1991
AiGw-213	Descartes	Undetermined Pre-contact	Campsite	ASI, 1991
AiGw-214	Hazelnut	Late Archaic	Isolated Findspot	ASI, 1991
AiGw-215	Potemkin	Undetermined Pre-contact	Campsite	ASI, 1991
AiGw-216	Acorn	Early Archaic	Isolate Findspot	ASI, 1991
AiGw-217	Walnut	Middle Archaic	Isolated Findspot	ASI, 1991
AiGw-218	Levar-Reid	Historic Euro-Canadian	Homestead	ASI, 1991
AiGw-219	Oakdene	Undetermined Pre-contact	Campsite	ASI, 1991
AiGw-226	William Smith	Euro-Canadian	Homestead	
AiGw-227	Abigail Post Homestead	Historic Euro-Canadian, Undetermined Pre-contact	Homestead, Isolated Findspot	MHC, 1992
AiGw-228	Uptown Core Lands 2	Historic Euro-Canadian, Undetermined Pre-contact	Unknown	MHC, 1992
AiGw-229	Uptown Core Lands 3	Historic Euro-Canadian	Homestead/school	MHC, 1992
AiGw-230	Daniel Munn Homestead	Historic Euro-Canadian, Undetermined Pre-contact	Homestead, Isolated Findspot	MHC, 1992
AiGw-231	Uptown Core Lands 5	Early Woodland	Isolated Findspot	MHC, 1992
AiGw-236	PenEquity 3	Undetermined Pre-contact	Isolated Findspot	MHC, 1992
AiGw-253	West Oak	Aboriginal	Campsite	ASI, 1994
AiGw-269		Aboriginal – Woodland	Isolated Find	ASI, 1995
AiGw-294		Aboriginal	Isolated Find	ASI, 1997

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-301	Bucolic	Aboriginal – Archaic	Campsite	J. Fisher, 1998
AiGw-308		Aboriginal	Isolated Find	ASI, 1998
AiGw-309		Aboriginal	Isolated Find	ASI, 1998
AiGw-310		Aboriginal	Isolated Find	ASI, 1998
AiGw-312		Aboriginal – Archaic	Isolated Find	ASI, 1998
AiGw-359		Aboriginal	Isolated Find	ASI, 2000
AiGw-360		Aboriginal – Archaic	Isolated Find	ASI, 2000
AiGw-361		Aboriginal	Isolated Find	ASI, 2000
AiGw-362		Aboriginal	Isolated Find	ASI, 2000
AiGw-363		Aboriginal	Isolated Find	ASI, 2000
AiGw-369		Aboriginal	Isolated Find	Archeoworks, 2001
AiGw-370		Aboriginal	Isolated Find	Archeoworks, 2001
AiGw-371		Aboriginal	Isolated Find	Archeoworks, 2001
AiGw-372		Aboriginal	Isolated Find	Archeoworks, 2001
AiGw-373		Aboriginal	Lithic Scatter	Archeoworks, 2001
AiGw-374	Miniature Horses	Aboriginal	Campsite	Archeoworks, 2001
AiGw-378	Richview I	Aboriginal	Lithic Scatter	AAL3, 2001
AiGw-379	Richview II	Aboriginal	Lithic Scatter	AAL, 2001
AiGw-381	Pineberry Site	Aboriginal	Campsite	AAL, 2002
AiGw-382	Pineberry II	Aboriginal – Archaic	Lithic Scatter	AAL, 2002
AiGw-383	Shiloh	Aboriginal	Campsite	Archeoworks, 2003
AiGw-384	Alton	Euro-Canadian	Homestead	ASI, 2003
AiGw-385		Aboriginal	Isolated Find	ASI 2003
AiGw-387		Aboriginal – Woodland	Isolated Find	ASI, 2003
AiGw-398	McCarthy	Aboriginal	Campsite	AAL, 2004
AiGw-399	McCarthy II	Aboriginal – Archaic	Isolated Find	AAL, 2004
AiGw-400	McCarthy III	Aboriginal – Archaic	Isolated Find	AAL, 2004
AiGw-403	Sundial	Euro-Canadian	Cabin	AAL, 2004
AiGw-404	Resnick	Aboriginal – Archaic	Isolated Find	AAL, 2004
AiGw-405	Multinational I	Aboriginal	Campsite	AAL, 2005
AiGw-406	Multinational II	Aboriginal	Campsite	AAL, 2005
AiGw-407	Multinational III	Aboriginal	Campsite	AAL, 2005
AiGw-408	Multinational IV	Aboriginal – Archaic	Isolated Find	AAL, 2005
AiGw-410	Multinational VI	Aboriginal – Archaic	Isolated Find	AAL, 2005
AiGw-411	Multinational VII	Aboriginal	Isolated Find	AAL, 2005
AiGw-412	Multinational VIII	Aboriginal	Isolated Find	AAL, 2005
AiGw-448	Finch	Euro-Canadian	Homestead	ASI 2006
AiGw-449	Parks	Euro-Canadian	Homestead	ASI 2006
AiGw-450	House	Euro-Canadian	Homestead	ASI 2006
AiGw-451	H5	Euro-Canadian	Homestead	ASI 2006
AiGw-465	Loyalist	Euro-Canadian	Homestead	ASI 2007
AiGw-466	Kaitting	Euro-Canadian	Homestead	ASI 2007
AiGw-469		Aboriginal - Woodland	Isolated Find	ASI 2007
AiGw-470		Aboriginal	Isolated Find	ASI 2007
AiGw-481		Aboriginal	Isolated Find	ASI 2007
AiGw-485		Aboriginal	Lithic Scatter	ASI 2007
AiGw-486		Aboriginal	Lithic Scatter	ASI 2007
AiGw-487		Aboriginal	Isolated Find	ASI 2007



Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-510	Birney	Euro-Canadian	Homestead	FAC 2008
AiGw-511		Aboriginal	Isolated Find	FAC 2008
AiGw-512		Aboriginal	Lithic Scatter	FAC 2008
AiGw-513		Aboriginal	Isolated Find	FAC 2008
AiGw-514		Aboriginal - Archaic	Isolated Find	FAC 2008
AiGw-515		Aboriginal - Archaic	Isolated Find	FAC 2008
AiGw-517		Aboriginal	Isolated Find	FAC 2008
AiGw-518		Aboriginal	Isolated Find	FAC 2008
AiGx-17	Walter Rose	Aboriginal - Archaic	Campsite	A. Roberts 1975
AiGx-18	A. Rose	Aboriginal - Archaic	Campsite	A. Roberts 1975
AiGx-19	Sherwood	Aboriginal - Woodland	Campsite	A. Roberts 1975
AiGx-20	Featherstone 1	Aboriginal - Archaic	Campsite	A. Roberts 1975
AiGx-21	Featherstone 2	Aboriginal	Campsite	A. Roberts 1975
AiGx-34	Cultivated Field	Aboriginal	Unknown	A. Roberts
AiGx-35	Guelph Line	Aboriginal	Unknown	A. Roberts, 1975
AiGx-36	Max Featherstone	Aboriginal	Unknown	A. Roberts 1975
AiGx-37	Hartley	Aboriginal – Woodland	Undetermined	A. Roberts 1975
AiGx-38	Watson 2	Aboriginal	Unknown	A. Roberts 1975
AiGx-39	Ireland	Aboriginal – Woodland	Campsite	A. Roberts, 1975 MIA1, 1982
AiGx-63		Aboriginal	Campsite	MIA, 1981
AiGx-74	Ganong	Euro-Canadian	Midden	MIA, 1981
AiGx-75		Unknown	Unknown	MIA, 1981
AiGx-76		Aboriginal – Woodland	Campsite	MIA, 1981
AiGx-98	Scattered Finds	Aboriginal	Campsite	AAL 2004
AiGx-183	Stremble 1	Aboriginal – Woodland	Isolated Find	ARA 1993

The Shiloh site, AiGw-383, was registered in 2003 during an archaeological assessment of a 79.548 ac parcel of land in the City of Burlington (Archeoworks 2003). The site was encountered approximately 350 m southwest of Walker's Lane and 550 m northeast of Dundas Street. A Stage 3 site specific assessment was conducted. A total of 105 lithic artifacts were recovered and the site was thought to represent an Aboriginal hunting camp. A recommendation for no further work was made.

The Multinational III site, AiGw-407, was registered in 2005 during the Stage 1-3 Archaeological Assessment of the Multinational Five Investments Ltd. Property, on Part of Lot 8, Concession 1 (NDS), in the City of Burlington (AAL 2005). The site was discovered in an agricultural field on a knoll overlooking Sheldon Creek. The site consisted of 32 lithic artifacts and was thought to represent an Aboriginal campsite. A recommendation for no further work was made.

The Max Featherstone site, AiGx-36, was registered in 1975 by Arthur Roberts as part of an ambitious archaeological survey in the Towns of Oakville and Burlington (Roberts 1976). In total, 130 new archaeological sites were located during this survey. The report indicates that cultural material was clustered in the immediate vicinity (of Dundas Street and Guelph Line). Little development has occurred in the vicinity, and further work should be conducted to determine if the site has survived. However, the site is located at least 50 m beyond the Dundas Street ROW and will not be impacted.

Finally, the AiGx-76 site was located during the archaeological assessment for Highway 403 (MIA 1981). The site was located on a gentle rise and consisted of 5 undiagnostic lithic artifacts. Further work was

recommended for the site, although it is unclear when this work was completed. The site is situated at the existing Highway 407 southbound on/off ramp and is of no further archaeological concern.

As mentioned in Section 1.0, ASI has conducted a number of previous archaeological assessments along the current Dundas Street BRT corridor. These studies, completed for various phases of road improvements along Dundas Street include: Dundas Street between Brant Street and Proudfoot Trail (ASI 2009a), Dundas Street between Proudfoot Trail and Neyagawa Boulevard (ASI 2003, 2006a), Dundas Street between Neyagawa Boulevard to Oak Park Boulevard (ASI 2006b), and finally Dundas Street between Oak Park Boulevard and Ninth Line (ASI 2003).

The Dundas Street Transportation Corridor Improvements Class EA between Brant Street and Proudfoot Trail was initiated in 2009 (Halton Region 2011a). A Stage 1 Archaeological Assessment has been completed for this section of the Dundas Street BRT corridor (ASI 2009a). The property inspection confirmed that portions of the study corridor had been previously disturbed, are low and wet, or are sloped. However, several areas adjacent to the Dundas Street right-of-way (ROW) remain undisturbed and contain archaeological potential. A Stage 2 archaeological assessment was recommended for lands containing archaeological potential, beyond the disturbed right-of-way (ROW) (Figures 7-17: areas marked in green). A cemetery investigation was also recommended immediately adjacent to Nelson Cemetery (Figure 8), St. John's Cemetery (Figure 8), or St. Paul's Cemetery (Figure 9), if construction activities are proposed along the existing Dundas Street ROW. St. Paul's Cemetery has been designated under Part IV of the *Ontario Heritage Act* (By-Law 82-1996). Note that in 1978, the City of Burlington permitted the removal and relocation of the bodies buried at St. Anne's (Tansley) Cemetery to Greenwood Cemetery and is therefore not of archaeological concern. MTC concurred with our recommendation (letter dated March 28, 2011).

A section of Dundas Street, from 350m east of Colonel Williams Parkway to 350m west of Postmaster was previously assessed by Archeoworks Inc. for the Bronte Road (Regional Road 25) Improvements Class EA (Archeoworks 2001, Halton Region 2002). The report recommended a Stage 2 Archaeological Assessment be conducted once a preferred alternative had been selected (Figures 14-15: areas marked in green). Two cemeteries, St. Luke's Anglican and Palermo United (Figure 14), fall within this area. St. Luke's Church has been designated under Part IV of the *Ontario Heritage Act* (By-Law 2010-020). The cemetery is situated behind the church and parish hall, although it is possible for unmarked graves to be situated outside the delineated cemetery limits. Dundas Street was widened to six lanes in 2007 in front of St. Luke's church (personal communication, Leslie Green, MRC, April 8, 2011). Palermo United Cemetery, designated under Part IV of the *Ontario Heritage Act* (By-Law 2009-076), is situated approximately 500 m east of Bronte Road. The cemetery is bound by a post and rail fence to the north and there is potential for unmarked graves to be situated outside the delineated cemetery limits. A cemetery investigation is required immediately adjacent to Palermo United Cemetery, if construction activities are proposed along the existing Dundas Street ROW.

Road reconstruction of Dundas Street from Proudfoot Trail and Neyagawa Boulevard and the replacement of the existing bridge across the Sixteen Mile Creek is currently underway (Halton Region 2011b). A Cultural Heritage Assessment, including a Stage 1 Archaeological Assessment was completed as part of the Preliminary Design/ EA for structural improvements to the Dundas Street bridge crossing over Sixteen Mile Creek (Figures 16-17) (ASI 2003a). The assessment comprised of land immediately adjacent to the road allowance, between Neyagawa Boulevard and Proudfoot Trail, and in the area of the Sixteen Mile Creek valley proximate to the present bridge crossing. The assessment determined that lands within the creek valley exhibited significant archaeological potential and should be subject to a Stage 2 Archaeological Assessment. MTC concurred with our recommendation (letter dated February 21, 2007).

A Stage 2 Archaeological Assessment was completed between Neyagawa Boulevard and Proudfoot Trail and Neyagawa Boulevard for the replacement of the Dundas Street Bridge over Sixteen Mile Creek, widening Dundas Street from four to six lanes, installing a new watermain, forcemain and sanitary sewer, constructing storm water management facilities, relocating of the intersection of Dundas Street and Fourth Line, and other miscellaneous improvements along this section of Dundas Street (Figures 16-17) (ASI 2006a). The 2005 fieldwork focused on the existing ROW lands and the 2006 work focused on proposed new land acquisitions required for the project. Four historic sites were identified (Sites H2-5) and detailed archival research was conducted in order to place each site within the context of the historic land use within its Lot. Given the character of the evidence for the remains designated as the Finch site (Site H2; AiGw-448), Parkes site (Site H3; AiGw-449), House site (Site H4; AiGw-450), and Site H5 (AiGw-551), each represents a significant archaeological resource. If one or more of sites can not be protected within the proposed road widening and associated improvements, they should be subjected to comprehensive Stage 3-4 salvage excavation. This report was submitted to MTC and ASI is currently addressing their concerns.

Note the Trafalgar Lawn Cemetery, established in 1958, is situated approximately 400 m west of Neyagawa Boulevard. An iron fence defines the limits of the cemetery and the graves are situated well back from the roadway. The Knox Sixteen Presbyterian Cemetery, built in 1845 and designated under Part IV of the *Ontario Heritage Act* (By-Law 1978-085), is located approximately 550 m west of Neyagawa Boulevard and across from the Trafalgar Lawn Cemetery. The cemetery is situated behind the church and off Lions Valley Park Road. Impacts to both cemeteries are not expected and road works to widen Dundas Street in the vicinity of both cemeteries is currently underway.

The Dundas Street Transportation Corridor Class EA from Neyagawa Boulevard to Oak Park Boulevard proposes to widen Dundas Street from 4 to 6 lanes between Neyagawa Boulevard to Oak Park Boulevard. A Stage 1 Archaeological Assessment was completed for this section of Dundas Street (Figures 17-19) (ASI 2006b). The assessment determined that disturbance by commercial and residential development has negated archaeological site potential on the south side of Dundas Street with the exception of the area between Sixth Line and Oak Park Boulevard. Also, the existing ROW has largely been disturbed but should be reviewed for undisturbed locales. A Stage 2 Archaeological Assessment was recommended for all undeveloped land along the corridor. The Munn's Church Cemetery, designated under Part IV of the *Ontario Heritage Act* (By-Law 1993-021), occupies the east corner of the intersection of Dundas Street and Sixth Line. The graves in this historic cemetery extend to the Dundas Street and Sixth Line ROW and the edge of the valley of West Morrison Creek. There is potential for impact to the cemetery by any construction outside of the existing ROW and a cemetery investigation should be conducted if construction activities are proposed along the existing Dundas Street ROW. The Ministry of Tourism and Culture concurred with this recommendation (letter dated June 13, 2007).

Finally, proposed construction for the widening of Dundas Street between Oak Park Boulevard to west of Highway 403 is listed on the Regional Municipality of Halton's Capital Projects (2011-2020) as beginning in 2011. A Stage 1 Archaeological Assessment was completed for the proposed widening of Dundas Street from Oak Park Boulevard to Ninth Line (Figures 19-21) (ASI 2003b). The assessment determined that the study corridor falls within a setting that would generally be considered to exhibit archaeological potential and should be subject to a Stage 2 Archaeological Assessment. MTC concurred with our recommendation (letter dated May 4, 2007). A Stage 2 Archaeological Assessment is currently being completed for this section of the Dundas Street corridor (personal communication, Leslie Green, MRC, April 12, 2011).



The alternatives of Curb BRT versus Median BRT are currently being reviewed by MRC with anticipation of the selection of a preferred alternative in Fall 2011. The preliminary design of the preferred alternative will then commence. Until this time, all of the potential impacts to archaeological resources associated with the Dundas Street BRT will not be addressed.

1.2.2 Geography

In addition to the known archaeological sites, the state of the natural environment is an important predictor of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the study area.

Section 1.3.1 of the *Standards and Guidelines* stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location. Bronte Creek, 16 Mile Creek and numerous tributaries bisect the study corridor.

Section 1.3.1 of the *Standards and Guidelines* also lists other geographic characteristics that can indicate archaeological potential include: 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 (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential. The Niagara Escarpment is an area rich in resources and has long been exploited by Aboriginal peoples.

The study corridor is situated primarily within the till plains of the South Slope physiographic region of southern Ontario. A small portion of the corridor, between Brant Street and Guelph Line, fronts on the Niagara Escarpment. The South Slope spans an area of approximately 2300 km² extending from the Oak Ridges Moraine south to Lake Ontario, and from the Niagara Escarpment east to the Trent River. The South Slope overlies the limestones of the Verulam and Lindsay Formations, the grey shale of the Georgian Bay Formation and the red shale of the Queenston Formation. Till soils of this physiographic region are more sandy in the east and clayey in the west (Chapman and Putnam 1984: 172-174). The Niagara Escarpment extends from the Niagara River to the northern tip of the Bruce Peninsula, continuing through the Manitoulin Islands. Vertical cliffs along the brow mostly outline the edge of the dolostone of the Lockport and Amabel Formations, which the slopes below are carved in red shale. Flanked by landscapes of glacial origin, the rock-hewn topography stands in striking contrast, and its steep-sided valleys are strongly suggestive of non-glacial regions. The area encompassing the study corridor extends from the Dundas Valley northward to the Forks of the Credit. The brow of the

escarpment increases in elevation from approximately 250 m asl to 450 m asl in a distance of 80 m. In this section, the escarpment is cut by numerous creeks (Chapman and Putman 1984: 114-122).

Soils along the study corridor consist of a mix of Oneida clay loam and Jeddo clay loam. Oneida soils are moderately well-drained generally occur in association with the imperfectly drained Chinguacousy and poorly drained Jeddo soils. These soils have developed on fine textured glacial till. The till is largely composed of ice-ground materials from the underlying Ordovician rock formations (Gillespie and Wicklund n.d.: 46). The Jeddo soils are the poorly drained and are found below the escarpment in Burlington and Oakville (Gillespie and Wicklund n.d.: 43).

1.3 Historical Context

This section provides a brief summary of historic research for the study corridor. A review of available primary and secondary source material was undertaken to produce a contextual overview, including a general description of settlement and land use. Historically, the study corridor was located in part of Lots 1-20, between the road allowance for Concession I North of Dundas Street (NDS) and Concession I South of Dundas Street (SDS), in the former Township of Nelson and in part of Lots 13-35, between the road allowance for Concession I NDS and Concession I SDS, in the former Township of Trafalgar South

1.3.1 Contact Period

The first record of a European visit to southern Ontario was made in 1615 by Samuel de Champlain, who reported that a group of Iroquoian-speaking people situated between the New York Iroquois and the Huron were at peace and remained “la nation neutre”. In subsequent years the French visited and traded among the Neutral, but the first documented visit was not until 1626, when the Recollet missionary Joseph de la Roche Daillon recorded his visit to the villages of the Attiwandaron, whose name in the Huron language meant “those who speak a slightly different tongue” (the Neutral apparently referred to the Huron by the same term). Like the Huron, Petun and New York Iroquois, the Neutral people were settled village horticulturalists. The Neutral territory included discrete settlement clusters in the lower Grand River, Fairchild-Big Creek, Upper Twenty Mile Creek, Spencer-Bronte Creek drainages, Milton, Grimsby, Eastern Niagara Escarpment and Onondaga Escarpment areas.

Between 1647 and 1651, the villages of the Neutral were destroyed by the New York Iroquois, who subsequently settled along strategic trade routes on the north shore of Lake Ontario for a brief period during the late 17th-century. One French explorer who is known to have entered the Burlington Bay area during this period was Rene-Robert Cavalier de La Salle, who left Montreal with a flotilla of nine canoes and eventually reached the head of Lake Ontario in September of 1669. After landing, de La Salle’s group travelled to the Seneca village of Tinaouataoua, the exact location of which is open to speculation (ASI 2004:13-14), and his explorations in the area may have utilized the Humber Trail (MPP 1986: 42)

During the late 17th and early 18th centuries, the former Neutral territory came to be occupied by the Mississauga, an Algonquian-speaking southeastern Ojibwa people whose subsistence economy was based on garden farming, as well as hunting, fishing and gathering wild plants. The Mississauga and other Ojibwa groups began expanding southward from their homelands in the upper Great Lakes in the late 17th century, coming into occasional conflict with the New York Iroquois who had established themselves in southern Ontario (although alliances between the two groups were occasionally established as well). The colonial government recognized the Mississauga as the “owners” of the north shore of Lake

Ontario and entered into negotiations for additional tracts of land as the need arose to facilitate European settlement (ASI 2004:14).

The Aboriginal occupation in the study corridor undoubtedly overlapped with the influx of Euro-Canadian settlers, although the evidence is largely anecdotal.

1.3.2 Township Survey and Settlement

Township of Nelson

The land within the Township of Nelson (Figure 2) was acquired by the British from the Mississaugas in 1795. The first township survey was undertaken in 1806, and the first legal settlers occupied their land holdings in the same year. The township was first named “Alexander Township” in honour of Alexander Grant, the administrator of Upper Canada. In 1806, it was renamed in honour of Horatio Viscount Nelson, after his victory at Cabo Trafalgar in Spain the previous year. Nelson was initially settled by the children of Loyalists, soldiers who served during the War of 1812, and by immigrants from England, Scotland and Ireland. By the 1840s, the township was noted for its good land and excellent farms (Smith 1846:121; Armstrong 1985:143; Rayburn 1997:237).

In 1817, it was estimated that the Township of Nelson contained sixty-eight inhabited houses, with a total population of 476. At that time it contained two grist mills and three saw mills (Smith 1851:257-258; Walker & Miles 1877:60).

In 1841, Nelson Township contained 3,059 inhabitants. The oldest principal village in the township during the nineteenth century was Burlington, which had originally been named “Wellington Square.” Other villages within the township during the nineteenth century included Nelson—which was located on Dundas Street, Zimmerman, Lowville, Willbrook, Cumminsville and Kilbride (Smith 1846:121; Crossby 1873:92; Walker & Miles 1872:38-39).

By the 1850s, Nelson contained 3,792 inhabitants and was well settled with schools, churches, prosperous farms and an established system of municipal government. There were five grist mills and seventeen sawmills within the township (Smith 1851:258; Walker & Miles 1877:60). Additional prosperity was brought to Nelson Township when the Toronto branch of the Great Western Railway was constructed across the township in 1854-55. In 1878, the Northern and North Western Railway constructed a rail line diagonally across the township between the towns of Burlington and Milton. Now owned and operated by the Canadian National Railway, this line traverses the study corridor in the vicinity of Tansley, between Appleby Line and Bronte Creek (Twelve Mile Creek) (Emery and Ford 1967:173).

Nelson (Hannahsville)

The historic community of Nelson, presently located in the City of Burlington, is located at the cross roads of Dundas Street and Guelph Line. This post office village was laid out on fifty building lots, most of which measured fifty feet in width. The exceptions were lots 17, 18 and 50 which were slightly irregular due to the angle of the sideline road allowance. This village may have been in existence as early as 1822, when the post office was first opened here. The original name, “Hannahsville,” was given in honour of Hannah Green, daughter of John and Mary Davis Green, and later the wife of Caleb Hopkins. The first known postmaster was William Chisholm in 1832. In 1846, it contained about fifty inhabitants. At that time it contained a store, tavern and post office. By about 1850, the population had doubled to

approximately 100 inhabitants. The village then contained three churches, Episcopal, Presbyterian and Methodist. In 1851, the population stood at 125. The village was connected to Dundas, Hamilton and Toronto by coach. A period Directory listed thirty-two primary business and professional men. The trades listed included those of attorney, Presbyterian clergyman, merchants, mill owner, insurance agent, saw miller, tailors, innkeepers, wagon maker, postmaster, cabinet maker, tanners, saddlers and boot and shoe makers. By 1873, the population had decreased slightly, to about 100 inhabitants. A registered plan of this village was compiled in 1873, which showed several of the cultural heritage resources that were identified during the course of the field review. By 1877, the village contained a public hall which was used for the township meetings, Division courts and for other purposes. It also contained a brick school house, drill shed, hotel, harness shop and telegraph office. The annual agricultural society exhibition was held at this location. The longest serving postmaster was D.W. Springer, who held that office from April 1868 until the closure of the office in November 1913 (Smith 1846:121, 262; Smith 1851:257; Mackay 1851:111; Crossby 1873:208; Walker & Miles 1877:60; Emery and Ford 1967:97; Armstrong 1985:234; Turcotte 1989:77-80).

Tansley (St. Anne's)

According to the Illustrated Historical Atlas of the County of Halton (1877), a concentration of smaller lots containing dwellings fronted on to the south side of Dundas Street just west of Bronte Creek (Figure 2). A cemetery, a few farmsteads, a mill, and railroad are also shown in the vicinity of the study corridor. Although unmarked on the 1877 Atlas (Figure 2), a hamlet had developed in Lots 3 and 4 along Dundas Street that was originally called St. Anne's, and which was renamed Tansley in the 1880s. The mill was probably established at Bronte Creek in the 1870s by James Fisher Bartels who purchased part of Lot 3 in 1871 for the purposes of building a dam and a mill (Land Registry Records; Quinsey 1995).

St. Anne's Cemetery, located north of Dundas Street and west of Bronte Creek, was established in 1815. It is reported that the last person to be buried here was in 1905. In 1978, the City of Burlington permitted the removal and relocation of the bodies buried at St. Anne's Cemetery to Greenwood Cemetery. There is no plaque commemorating the site (Quinsey 1995).

Township of Trafalgar South

The land within the Township of Trafalgar (Figure 3) was acquired by the British from the Mississaugas in 1795. In 1806, Samuel Wilmot surveyed the townships of Nelson, Trafalgar and Toronto from land obtained in this purchase, using Dundas Street (Highway 5) as a baseline from which to survey two concessions north and four concessions south (Smith 1846:197; Armstrong 1985:148; Rayburn 1997:348).

Dundas Street, the baseline survey road in Trafalgar Township had been surveyed in 1793 as a military road connecting Lake Ontario, Lake Erie, Lake St. Clair and Lake Huron, as well as a road to aid Loyalist settlement and deter expansionist claims in Upper Canada. After the two concessions south of Dundas St. were opened up, two new east-west concession line access roads, the Upper Middle Road and the Lower Middle Road, were surveyed. These early east-west roads were later complemented in 1832 by the Lakeshore Road, which was constructed nearby and parallel to an aboriginal pathway skirting Lake Ontario. The concession roads of the 1806 survey, and the line roads running perpendicular, blocked out the township in areas a mile and quarter square with five 200-acre lots to a square. Between every five lots ran a line road (Mathews 1953:45).

Palermo

This post office village was situated on part Lots 30 and 31 in Concessions 1 North and South of Dundas Street, Trafalgar Township. It was first settled in 1805, by a Loyalist named Lawrence Hagar. The community was therefore first named “Hagartown.” The post office was opened in 1837, and the present name was suggested by Dr. William Cobban to honour Lord Nelson, “Duke of Palermo.” The Palermo Agricultural Works were established here by W.A. Lawrence, which contained an iron foundry, blacksmith shop, wood shop and pattern house, and paint shop. The community also contained a hotel and two stores. In 1837, the population was about 150 people. By 1877, the population had doubled to about 300 people. In the nineteenth century, Palermo was a common stage coach stopping point (Crossby 1873:244; Scott 1997:172; Rayburn 1997:262; Walker & Miles 1877:59).

Sixteen Hollow

Sixteen Hollow, situated on Dundas Street at Bronte Creek, developed and thrived in the early nineteenth century given its importance as a stagecoach stop between Toronto and Hamilton. Several mills, an ashery, a distillery, a tavern, blacksmith’s shop, several houses and a storehouse were constructed at Sixteen Hollow by the 1830s by George Chalmers. In 1844, his land and holdings was purchased by John Proudfoot, and the hamlet then became known as Proudfoot’s Hollow. The hamlet continued to thrive in the 1850s; however, the 1860s saw its decline. By the 1880s, only two houses remained occupied (Bourke n.d.).

Munn’s Corners

This settlement acquired its name not only due to the fact that the Munn family had acquired land on either side of Dundas Street and the Sixth Line Road, but also because they were active in the affairs of this settlement. Daniel Munn, the family patriarch, was the first township clerk and built the first tavern in the township at this road intersection. He also sold a part of his land for use as a local cemetery, and his sons sold additional lands upon which the church and schoolhouse were constructed in 1843 or 1844 (deeds 526N and 548N).

Records show that a few skilled workmen had settled at this crossroads. On the north side of Dundas Street, on part Lot 15, was a blacksmith named Hiram Cline as well as a shoemaker named George Elliott. On the opposite side of Sixth Line Road, on Lot 16 Concession 1 NDS, we find record of a labourer named Henry Pope and a butcher named William Long. On Lot 16 Concession 1 SDS we find that John Wray was enumerated as innkeeper, and John Appelbe the Township Clerk (*1871 census* division b2 pp. 4-6).

Trafalgar

This village was originally known as “Postville.” It was situated on Dundas Street at Trafalgar Road on part Lots 12 and 13 Concessions 1 North and South of Dundas Street and on part Lot 35 Concessions 1 and 2 (South of Dundas Street), Toronto Township. In 1877, it contained a drill shed, post office and hotel. The population was approximately 100 (Crossby 1873:339).

1.3.3 Historic Map Review

The 1877 *Illustrated Historical Atlas of the County of Halton* was reviewed to determine the potential for the presence of historical archaeological remains within the study corridor during the nineteenth century (Figures 2 and 3).

Historically, the study corridor was located in part of Lots 1-20, between the road allowance for Concession I NDS and Concession I SDS, in the former Township of Nelson and in part of Lots 13-35, between the road allowance for Concession I NDS and Concession I SDS, in the former Township of Trafalgar. The available data gathered from the atlases is summarized in Table 2. It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

Table 2: Summary of Property Owners and Historic Features within the Study Corridor

Conc.	Lot	Owner(s)	Feature(s)
<i>Township of Nelson</i>			
I SDS	1	Edmund Doran	Homestead, orchard
	2	Robert Emmerson	
	3	Miles O’Riely	Saw Mill, 2 homesteads
	4	J. Bunton I Gallagher Charles Harrison	2 homesteads Homestead 3 homesteads
	5	Edward Dalton	
	6	Charles Harrison	Homestead, orchard
	7	Neil J. Campbell	Homestead, orchard, school house
	8	Jason McKerlie	Homestead, orchard
	9	Mars. & George McKerlie	Homestead, orchard
	10	John Fillman	Homestead
	11	Thomas Hayden	Homestead, orchard
	12	David Bastedo	Homestead, 2 orchards, church, cemetery
	13	Alex McKerlie	Homestead, orchard
	14	Heirs of Jason Ireland	Homestead, orchard
	15	Stephen Atkinson	2 homesteads
	16	Stephen Atkinson	5 homesteads, orchard, church, cemetery
	17	Richard Mitchell	2 homesteads, orchard
	18	Abraham Stinson	Homestead, orchard
	19	Jackson Featherson	
	20	Jackson Featherson	Schoolhouse
I NDS	1	John Alexander	Homestead, orchard
	2	Thomas Page	Homestead, orchard
	3	Hilda Ann Smith	Homestead, orchard
	4	Reverend A. Nelles	Cemetery, homestead, orchard
	5	Neil Johnson	Homestead, orchard
	6	Jason Campbell	Church
	7	Peter Zimmerman Jason McKerlie	Homestead Homestead, orchard
	8	David McLaren Daniel McLaren	2 Homesteads, orchard Homestead, orchard
	9	Jason Alton	Homestead, 2 orchards
	10	Jason Alton	Homestead, orchard
	11	George Alton	Homestead, orchard
	12	J & J.L. Birney	Homestead, orchard

	13	Thomas Ireland	Homestead, orchard
	14	Robert B. Ireland	Homestead, 2 orchards
	15	Peter McCulloch	Nelson post office, school house
	16	David W. Springer	2 homesteads, orchard, church, cemetery
	17	David B. Springer	2 homesteads, 2 orchards
	18	Adam Springer	Orchard
	19	Adam Springer Abraham Stinson	2 homesteads, orchard Homestead, orchard
	20	Jackson Featherson	2 homesteads, 2 orchards
<i>Township of Trafalgar</i>			
I SDS	13	A. H. Post	Drill Shed, Inn
	14	Edward Cornwall	Homestead, orchard
	15	K. H. Munn	Homestead, orchard
	16	John K. Appelbe Esq. W. McWilliams	Homestead, 2 orchards, cemetery
	17	D. A. Buek	Homestead, orchard Homestead, orchard
	18	Charles Colham	Homestead, 3 orchards
	19	W. Y. Pettit	Homestead, 2 orchards
	20	Mrs. J. Pettit	2 homesteads, 2 orchards
	21	Mary Clements	Homestead, 2 orchards
	22	C.C. Gibson J. Kilgars	Church
	23	S.A. Bowman	3 homesteads, orchard
	24	William B. Howell	Homestead, orchard
	25	Estate of John Buck	Homestead, orchard
	26	W. Buck	Homestead, orchard
	27	Estate of Philip Buck	Homestead, orchard
	28	George Buck	Homestead, orchard
	29	Dr. Buck Mrs. E. Moore	Homestead
	30	John Hager	Homestead
	31	Caleb Smith	Homestead, orchard
	32	John E. Ingleheart	Church, homestead, orchard
	33	Francis Wilkinson	Homestead, orchard
	34	D. Smith	Homestead, orchard
	35	Alex Aikman	2 homesteads, orchard
1 NDS	13	Jason Applebe	2 homesteads, orchard
	14	Mr. Papps David McDuffe	Homestead, orchard
	15	William Perkins NR; SS & C	Homestead, orchard, church 4 residences north of church, Structure
	16	Isaac Freeman	Homestead, orchard
	17	W. McWilliams	Homestead, orchard
	18	F. Doty William Kaiting	2 homesteads
	19	Miss. J. Bigger	Homestead, orchard
	20	Mrs. Emily Cline	Homestead, orchard
	21	Charles Thompson	
	22	Estate of James Finlayson James Daugherty	3 homesteads Mill
	23	J.S. Finlayson	3 homesteads
	24	William A. Norton	Homestead, orchard



	25	Robert S, Benson	2 homesteads, orchard
	26	Samuel Welton	2 homesteads, orchard
	27	Hy Carrigue	2 homesteads, 2 orchards
	28	George Buck	Homestead, orchard
	29	William Hope	Homestead, orchard
	30	William Hager H.M. Switzer William Hager	3 homesteads, orchard Palermo Post Office
	31	Jonah Hager William Hager	Homestead, orchard
	32	Estate of J. B. Book	Homestead, orchard
	33	Francis Wilkinson	Homestead, orchard
	34	David McMichael	Homestead, orchard
	35	Jason Van Sickle	Homestead, orchard

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model outlined in Section 2.2, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as Dundas Street, are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The Standards and Guidelines (MTC 2010: 5) stipulates that that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential. A number of properties along the study corridor have been designated under the *Ontario Heritage Act* or are listed on a municipal register. Details concerning these properties can be found in the Cultural Heritage Assessment Report prepared for this project (ASI 2011).

Mapping depicting historic features was produced to illustrate areas of historic archaeological potential (Figures 4 and 5). Historic features include pioneer homesteads, historic institutions (i.e. school house, church), historic roads, and historic settlement centres. Historic cemeteries have also been plotted and include: Nelson United, St. John's Anglican, St. Paul's Presbyterian, Tansley Pioneer, St. Luke's Anglican, Palermo United, Knox Sixteen Presbyterian, and Munn's United. Historic cemeteries require particular attention during archaeological assessment if impact is anticipated in the vicinity.

Therefore, based on the proximity to early Euro-Canadian settlement, early historical transportation routes, and listed/designated properties it may be concluded that there is potential for the recovery of historic cultural material along the study corridor.

2.0 ANALYSIS AND CONCLUSIONS

The archaeological and historical context was analyzed to help determine the archaeological potential of the study area; these data are summarized in Section 2.1 of this report.

2.1 Analysis of Archaeological Potential

The *Standards and Guidelines* lists characteristics that indicate where archaeological resources are most likely to be found. Archaeological potential is confirmed when one or more features of archaeological potential are present. Per Section 1.3.1 of the *Standards and Guidelines*, the study area meets the following criteria used for determining archaeological potential:

- Previously identified archaeological sites (AiGx-36, AiGx-76, AiGw-383, AiGw-407, AiGw-448, AiGw-449, AiGw-450, AiGw-451);
- Water source: primary secondary, or past water source (i.e. Bronte Creek, 16 Mile Creek and numerous tributaries);
- Resources areas (i.e. Niagara Escarpment)
- Areas of early Euro-Canadian Settlement (Nelson, Palermo, Munn's Corner, Trafalgar, pioneer homesteads, churches, cemeteries, etc)
- Early historical transportation routes (i.e. Dundas Street);
- Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site (see ASI 2011);

These criteria characterize the study area as having potential for the identification of Aboriginal and Euro-Canadian archaeological resources.

2.2 Conclusions

The Stage 1 Archaeological Assessment is being conducted to assist with the Dundas Street BRT Planning Study. The assessment determined that 128 archaeological sites have been registered within 1 km of the study corridor, four of which are located immediately adjacent to Dundas Street. A review of the geography and local nineteenth century land use of the study corridor also suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

Based on the review of the previous archaeological assessments, it was determined that although the existing ROW lands have been previously disturbed, a number of areas beyond the disturbed ROW have remained undisturbed and contain archaeological potential.

3.0 RECOMMENDATIONS

In light of these results, ASI makes the following recommendations:

1. Once the preferred alternative is chosen, the route should be reviewed to determine potential impacts to archaeological resources associated with the Dundas Street BRT;
2. A Stage 2 Archaeological Assessment is required on any lands along the Dundas Street BRT corridor where there is potential for archaeological sites (Figures A-1 to A-13: green highlighted areas) if the proposed project is to impact these lands. This work will be done in accordance with

Ministry of Tourism and Culture's 2010 *Standards and Guidelines for Consultant Archaeologists*;

3. If construction activities are proposed along the existing Dundas Street ROW immediately adjacent to Nelson Cemetery, St. John's Cemetery, St. Paul's Cemetery, or Munn's Church Cemetery, a Cemetery Investigation will be required for each cemetery, in accordance with the Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* (MTC 2010), to confirm the presence or absence of unmarked graves beyond the cemetery limits;
4. Given the character of the evidence for the remains designated as the Finch site (Site H2; AiGw-448), Parkes site (Site H3; AiGw-449), House site (Site H4; AiGw-450), and Site H5 (AiGw-551)], each represents a significant archaeological resource. If one or more site can not be protected within the proposed undertaking, it should be subjected to comprehensive Stage 3-4 salvage excavation.

The assessment should entail the excavation of a series of one metre square test units within the site area to determine the nature and extent of cultural deposits within the plough zone. The location of these units would be determined according to the results of the site map overlaid with the location of positive surface finds or test pits. The test units should be excavated to sterile subsoil, and soil fills screened through six millimetre mesh to facilitate artifact recovery. The subsoil should be trowelled and all profiles examined for undisturbed cultural deposits. In the event that significant cultural deposits are encountered, further mitigation should be undertaken.

Such mitigation will likely entail the removal by Gradall of all topsoil within the site area effected by the undertaking. The exposed subsoil should then be examined for the presence of cultural features. If no features are observed, a recommendation may be then made to clear the site area of any further archaeological concern. Should archaeological deposits be encountered, these deposits must be thoroughly documented and excavated by hand.

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

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

ASI advises compliance with the following legislation:

- This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines 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 and Culture, a letter will be issued by the ministry stating that there are

no further concerns with regard to alterations to archaeological sites by the proposed development;

- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of 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*; and
- The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

The documentation related to this archaeological assessment will be curated by Archaeological Services Inc. 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 Ontario Ministry of Tourism and Culture, and any other legitimate interest groups.

5.0 REFERENCES CITED

Archaeological Services Inc.

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- 2003b Stage 1 Archaeological Assessment Dundas Street (Regional Road 5) Improvements from Oak Park Boulevard to Ninth Line (former Trafalgar Township, Halton County), Regional Municipality of Halton, Ontario. Report on file with the Ministry of Tourism and Culture (ASI File 02HA-03, MTC PIF P050-019)
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6.0 MAPS



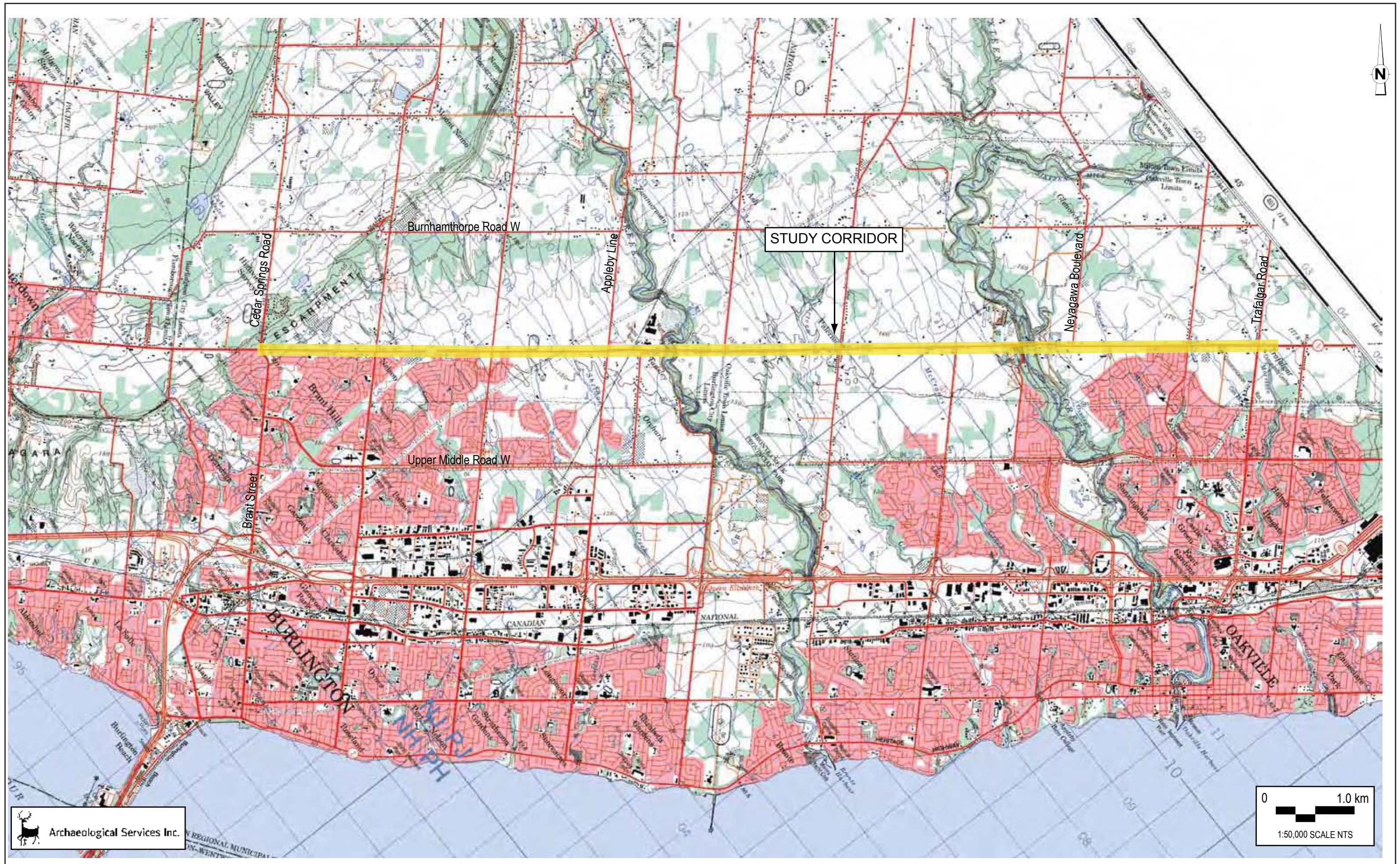


Figure 1: Location of the study corridor

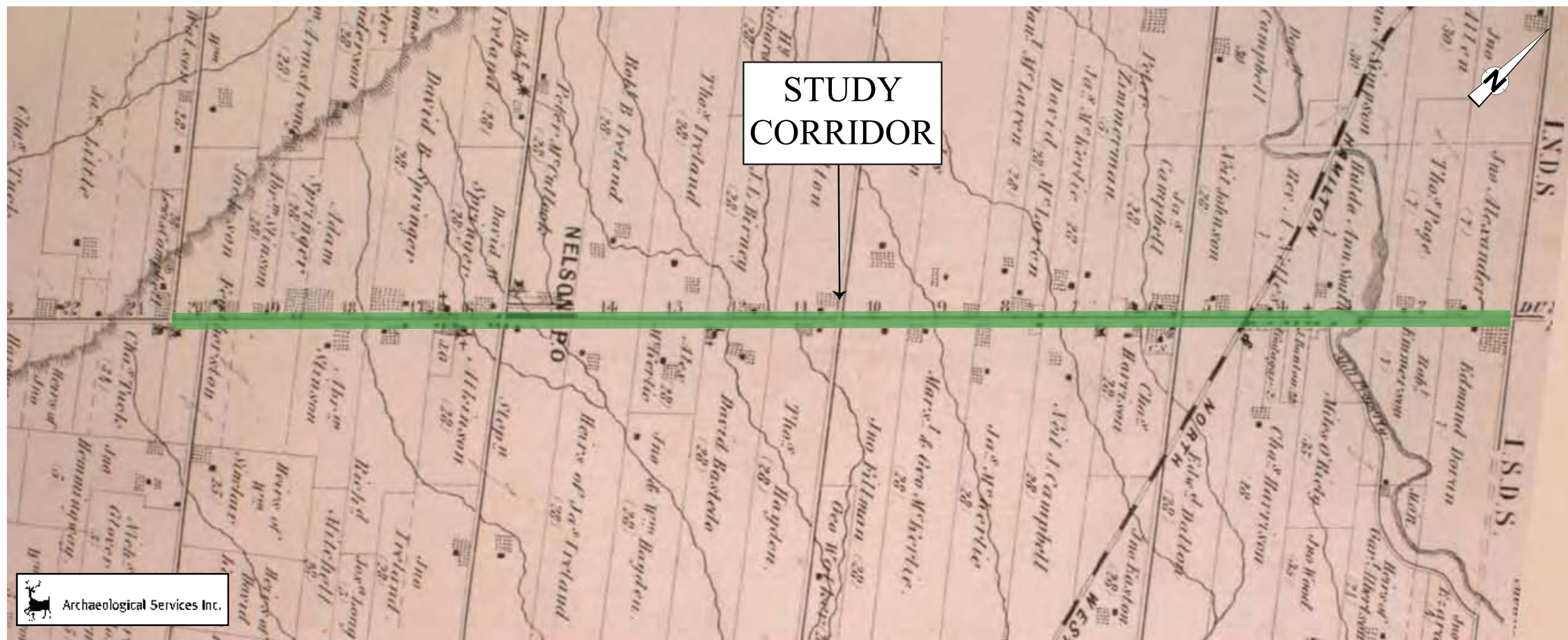


Figure 2: The study corridor overlaid on the 1877 map of the Township of Nelson

Base Map: Illustrated Historical Atlas of the County of Halton, 1877

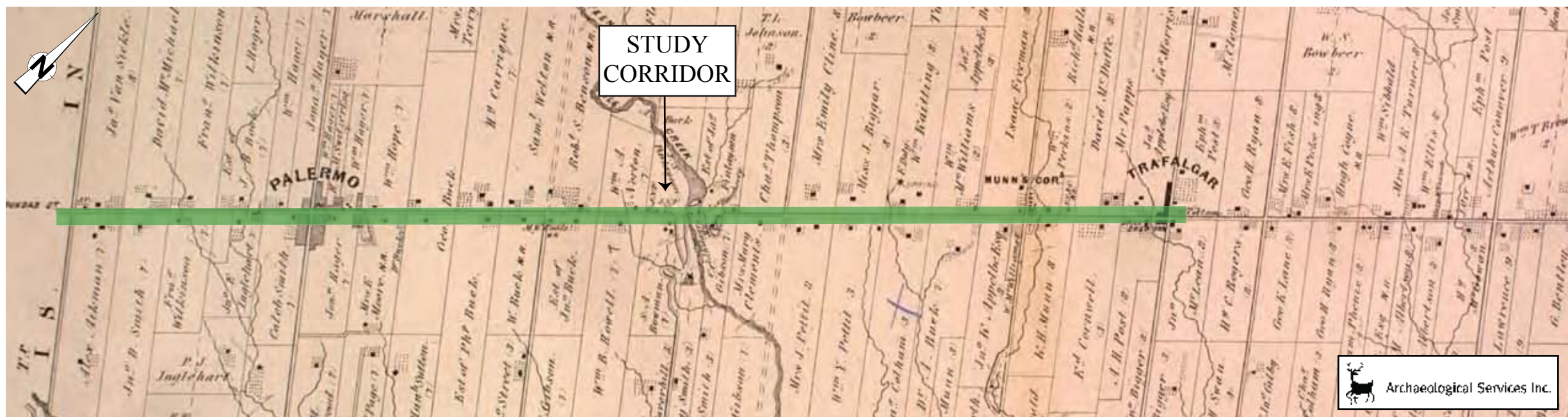
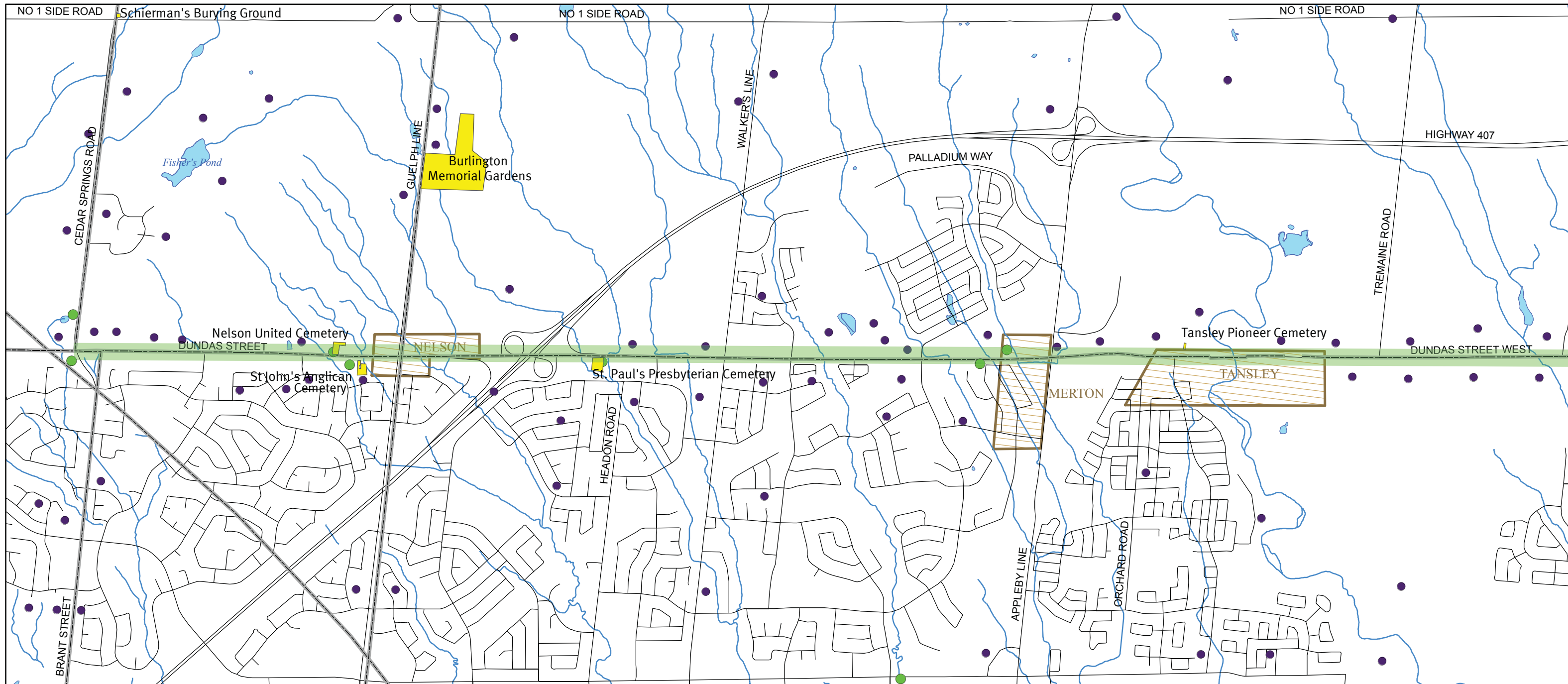
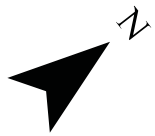


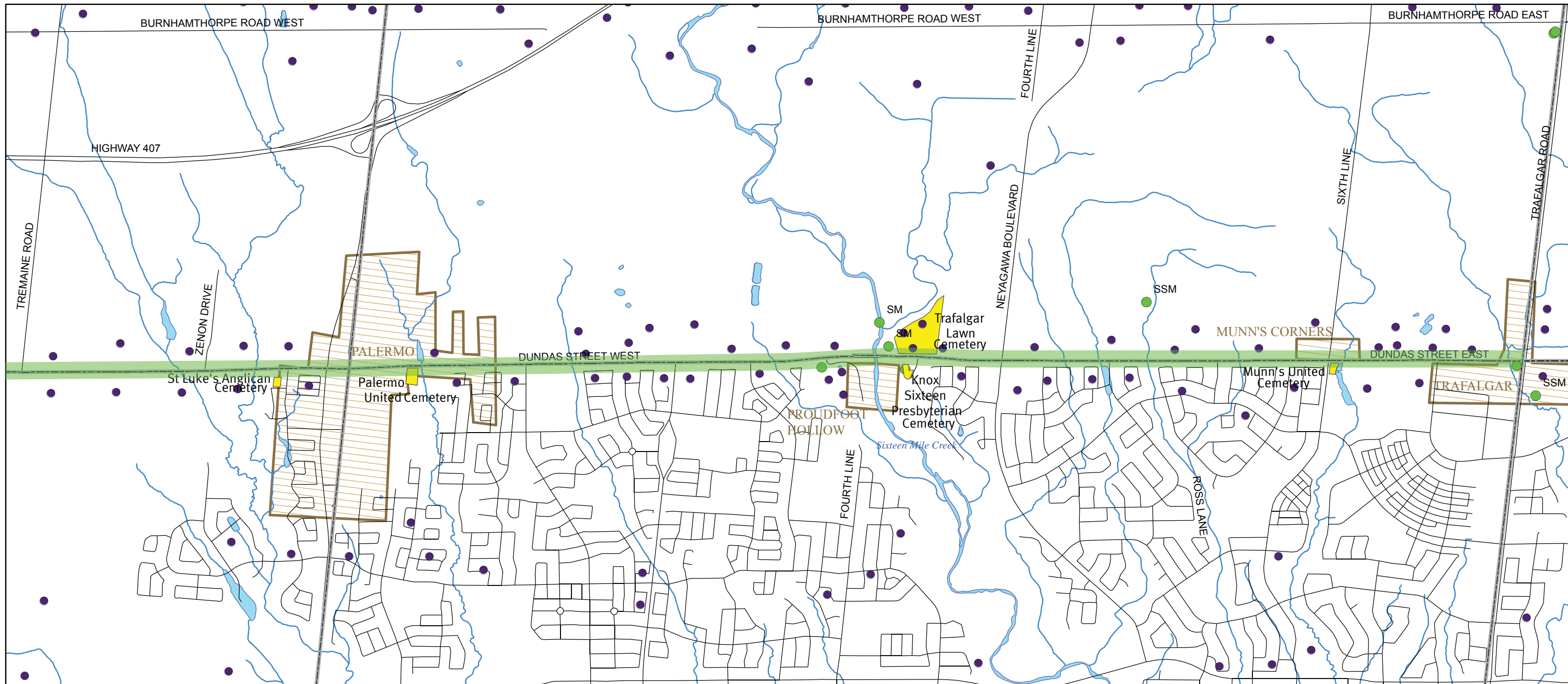
Figure 3: The study corridor overlaid on the 1877 map of the Township of Trafalgar South

Base Map: Illustrated Historical Atlas of the County of Halton, 1877



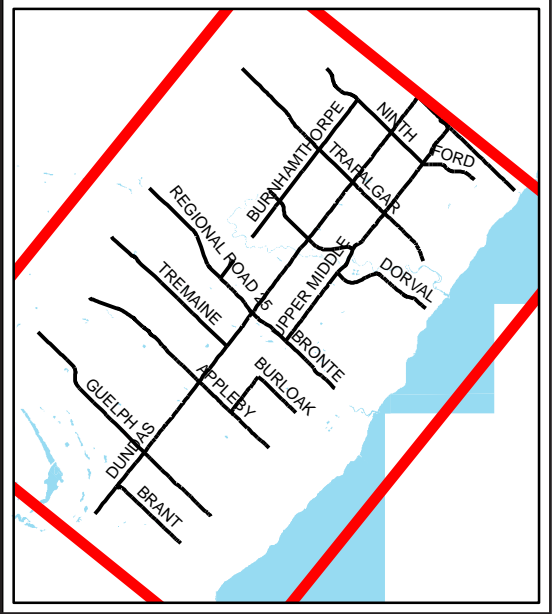
- Historic Homestead
- Historic road
- Cemeteries
- Study Corridor
- Historic Institution
- ▨ Historic Settlement Centre






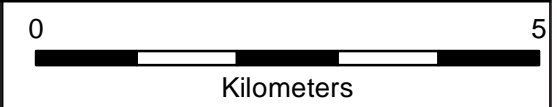
- Historic Homestead
- Historic Institution
- Historic road
- Cemeteries
- ▨ Historic Settlement Centre
- Study Corridor





LEGEND
 Map Sheets

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 Canada, M5S 2P9 info@IASI.to/www.IAS±.to

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Figure 6: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



Figure 7: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



Figure 8: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



Figure 9: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

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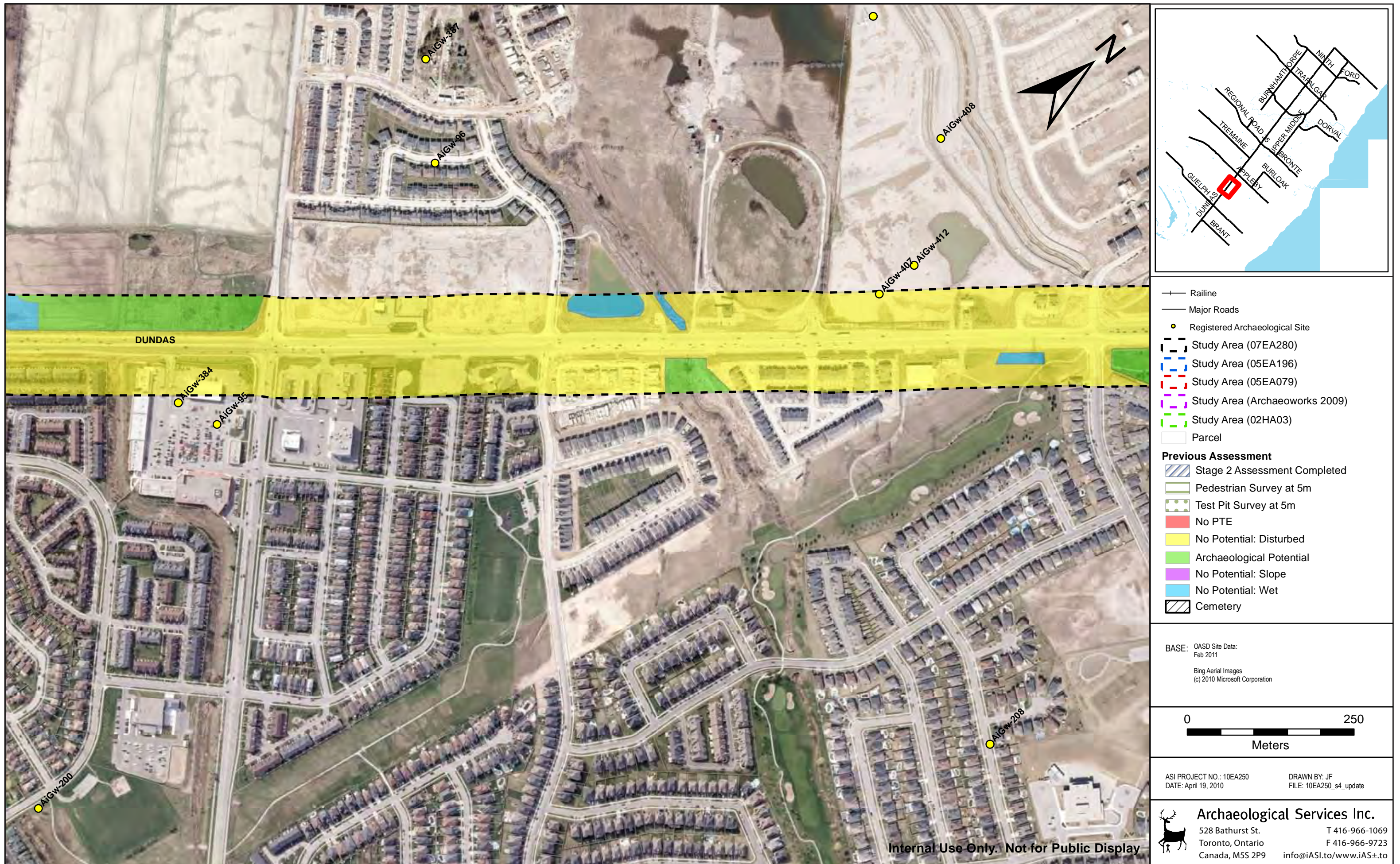


Figure 10: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

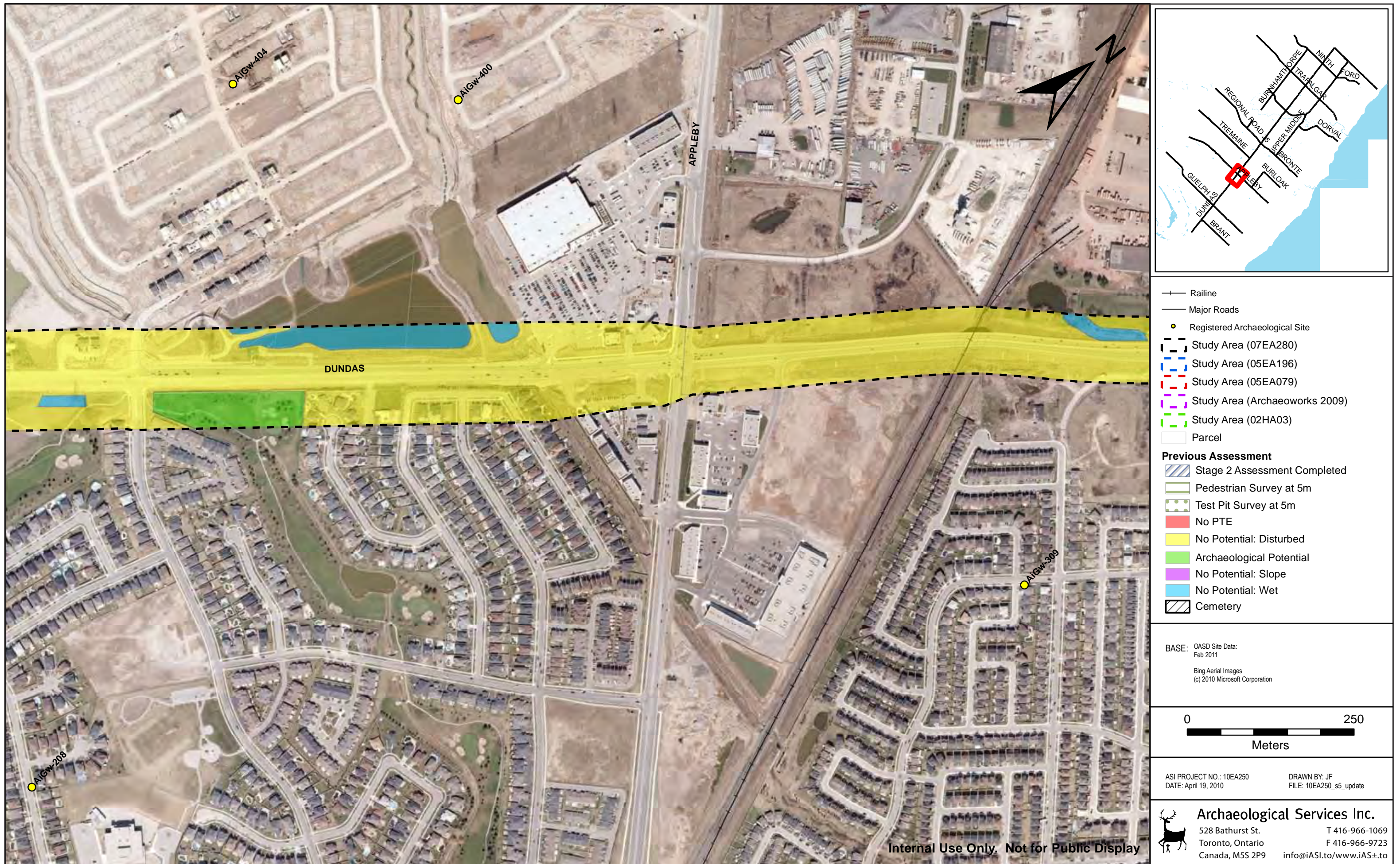
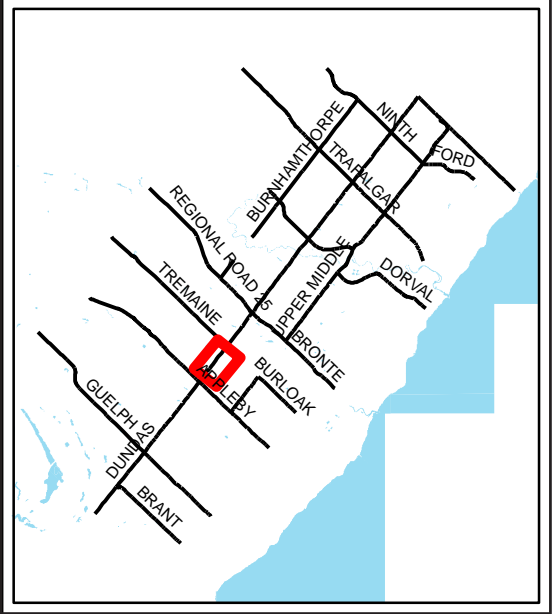
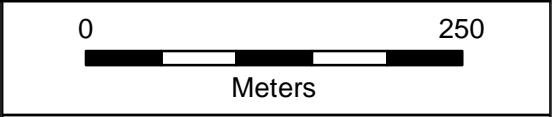


Figure 11: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



- Railline
 - Major Roads
 - Registered Archaeological Site
 - - - Study Area (07EA280)
 - - - Study Area (05EA196)
 - - - Study Area (05EA079)
 - - - Study Area (Archaeoworks 2009)
 - - - Study Area (02HA03)
 - Parcel
- Previous Assessment**
- ▨ Stage 2 Assessment Completed
 - ▨ Pedestrian Survey at 5m
 - ▨ Test Pit Survey at 5m
 - No PTE
 - No Potential: Disturbed
 - Archaeological Potential
 - No Potential: Slope
 - No Potential: Wet
 - ▨ Cemetery

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Figure 12: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

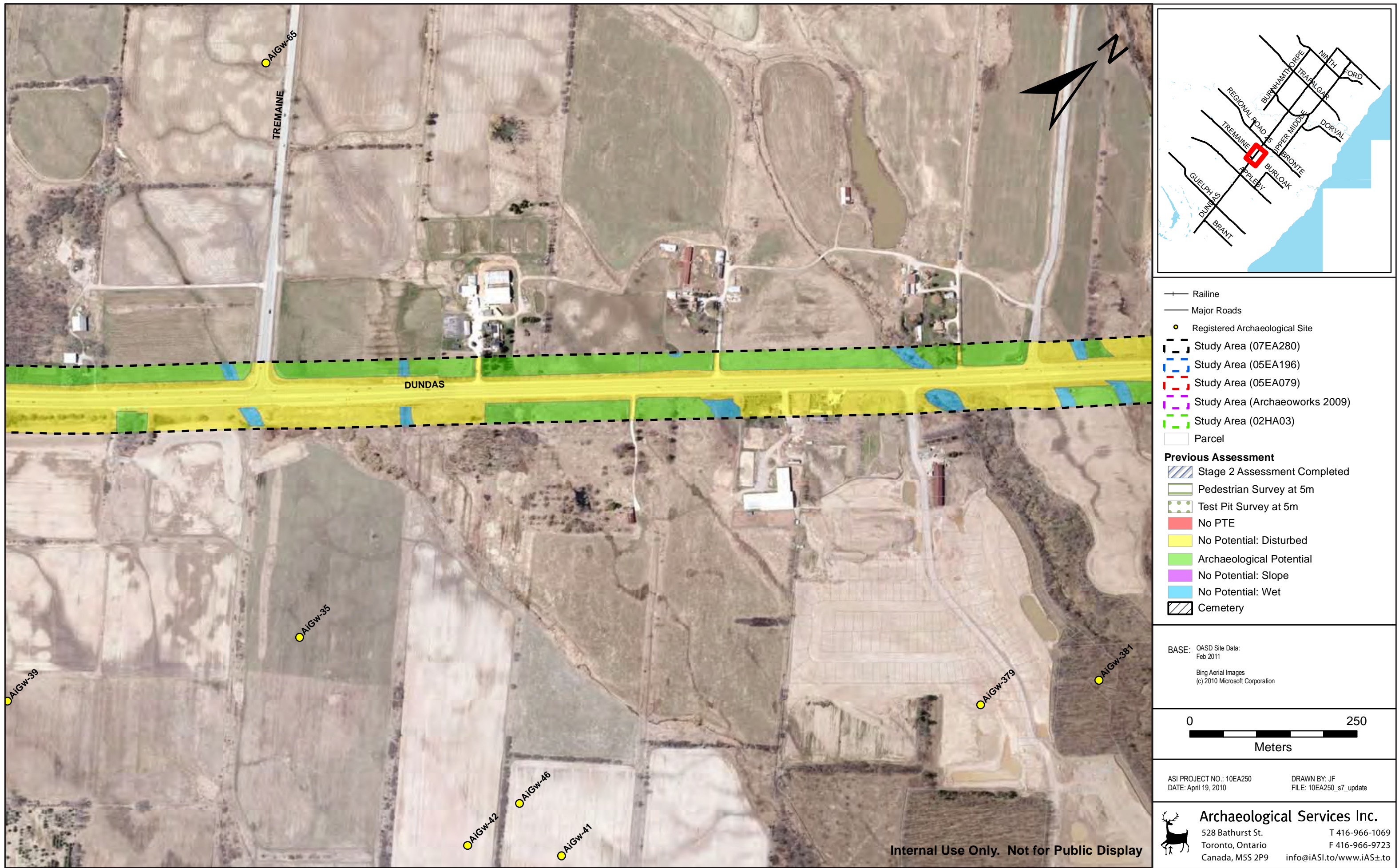
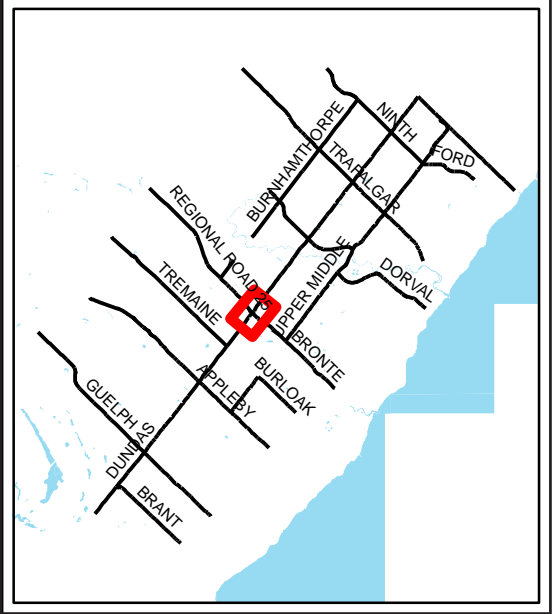
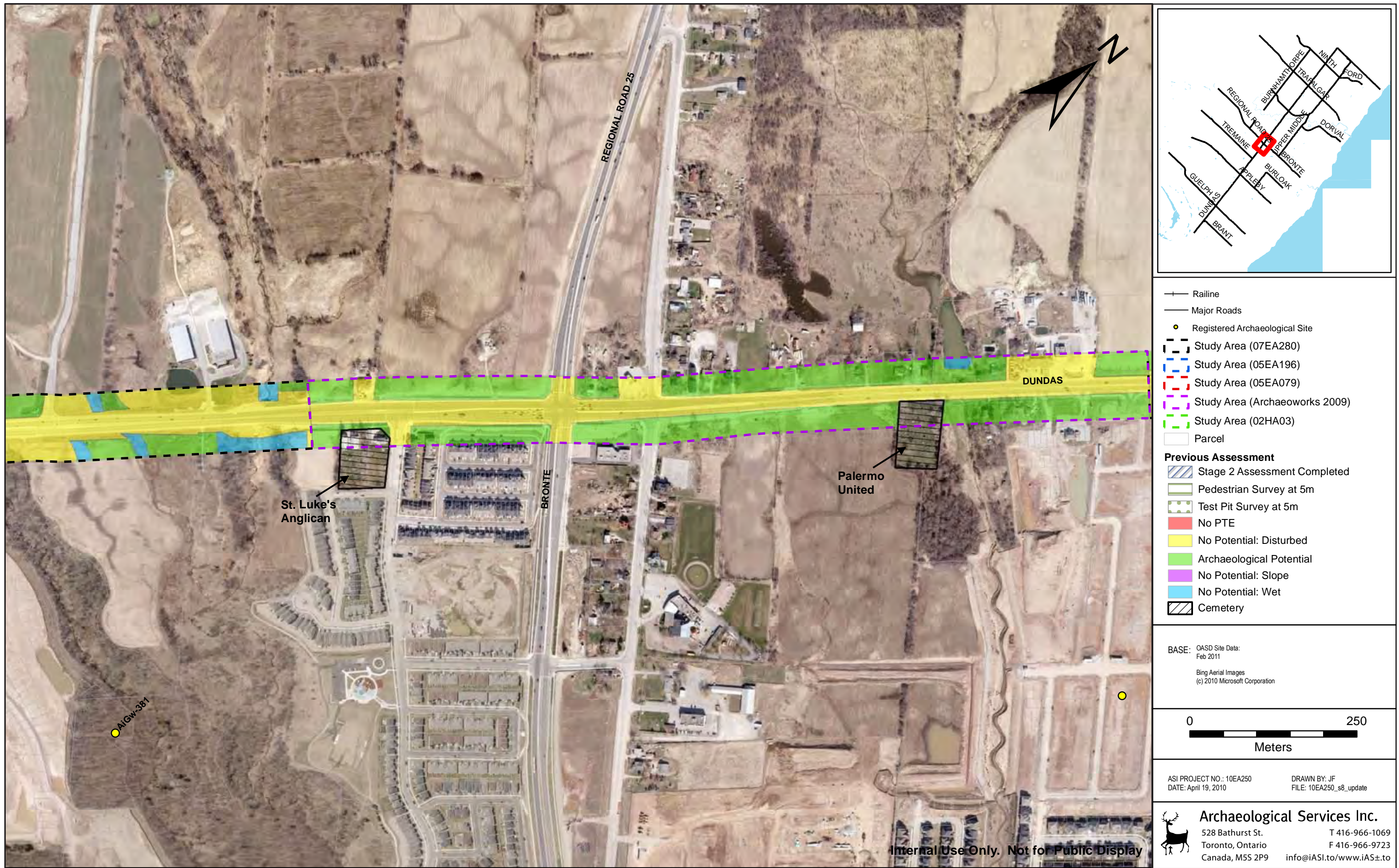
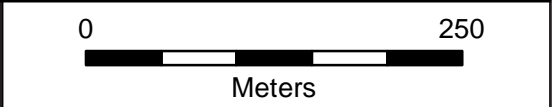


Figure 13: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



- Railline
 - Major Roads
 - Registered Archaeological Site
 - - - Study Area (07EA280)
 - - - Study Area (05EA196)
 - - - Study Area (05EA079)
 - - - Study Area (Archaeoworks 2009)
 - - - Study Area (02HA03)
 - Parcel
- Previous Assessment**
- ▨ Stage 2 Assessment Completed
 - ▨ Pedestrian Survey at 5m
 - ▨ Test Pit Survey at 5m
 - No PTE
 - No Potential: Disturbed
 - Archaeological Potential
 - No Potential: Slope
 - No Potential: Wet
 - ▨ Cemetery

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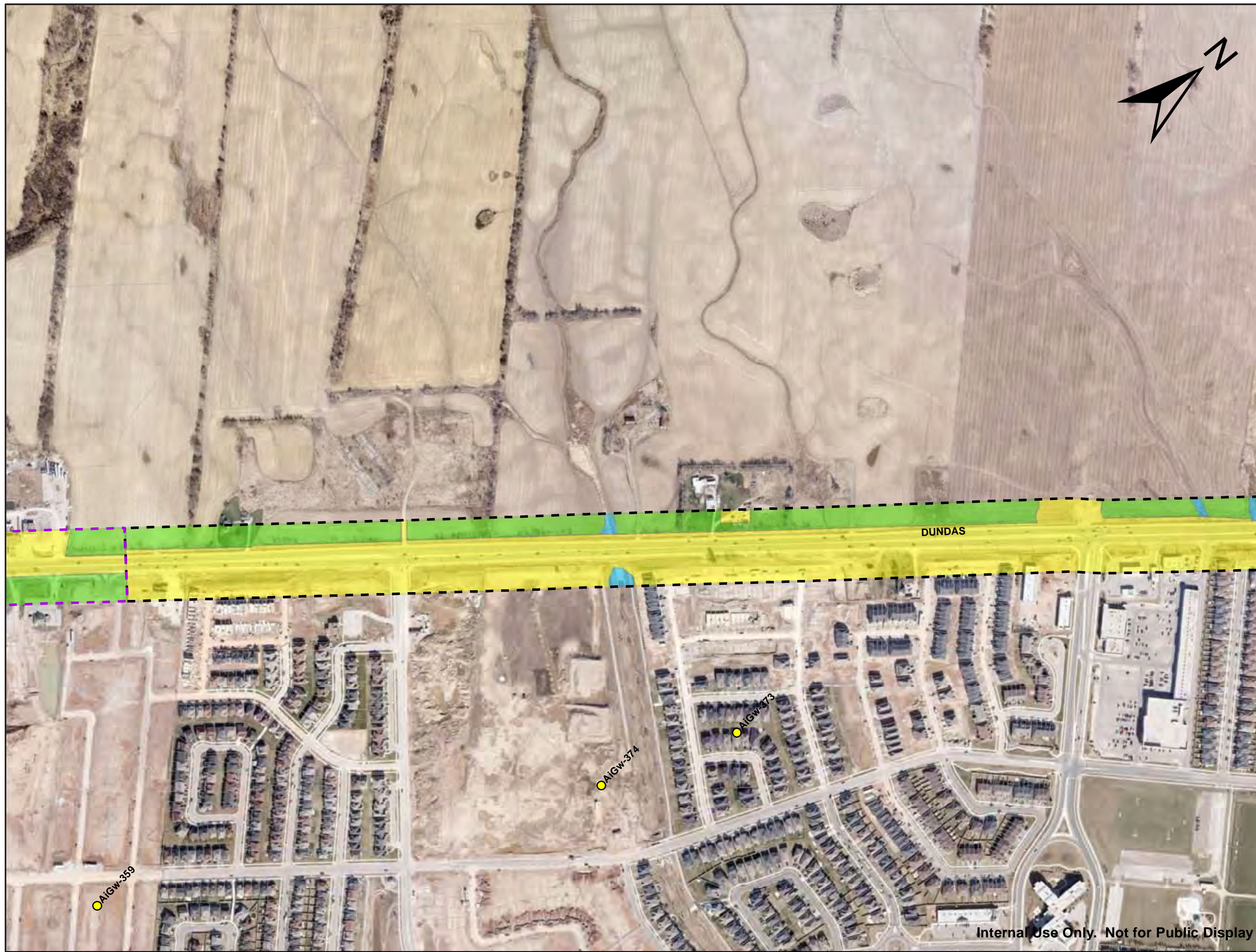


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Figure 14: Dundas Street BRT Planning Study - Results of PRevious Archaeological Assessment



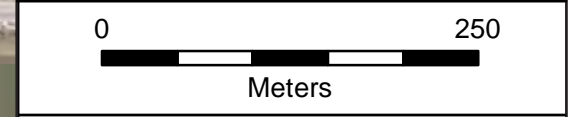
- Railline
- Major Roads
- Registered Archaeological Site
- - - Study Area (07EA280)
- - - Study Area (05EA196)
- - - Study Area (05EA079)
- - - Study Area (Archaeoworks 2009)
- - - Study Area (02HA03)
- Parcel

Previous Assessment

- ▨ Stage 2 Assessment Completed
- ▨ Pedestrian Survey at 5m
- ▨ Test Pit Survey at 5m
- No PTE
- No Potential: Disturbed
- Archaeological Potential
- No Potential: Slope
- No Potential: Wet
- ▨ Cemetery

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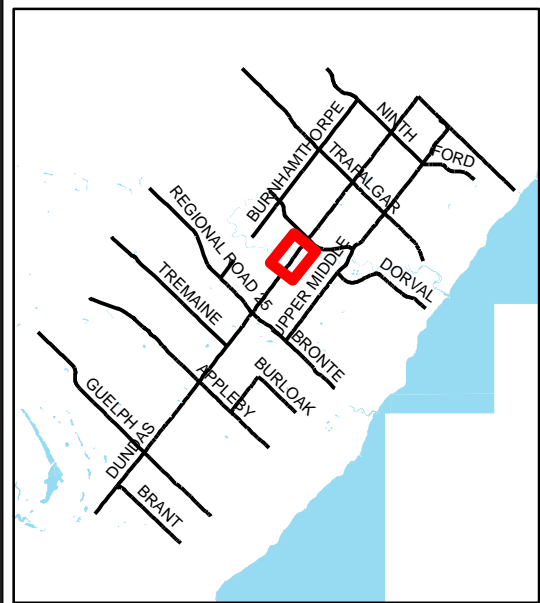
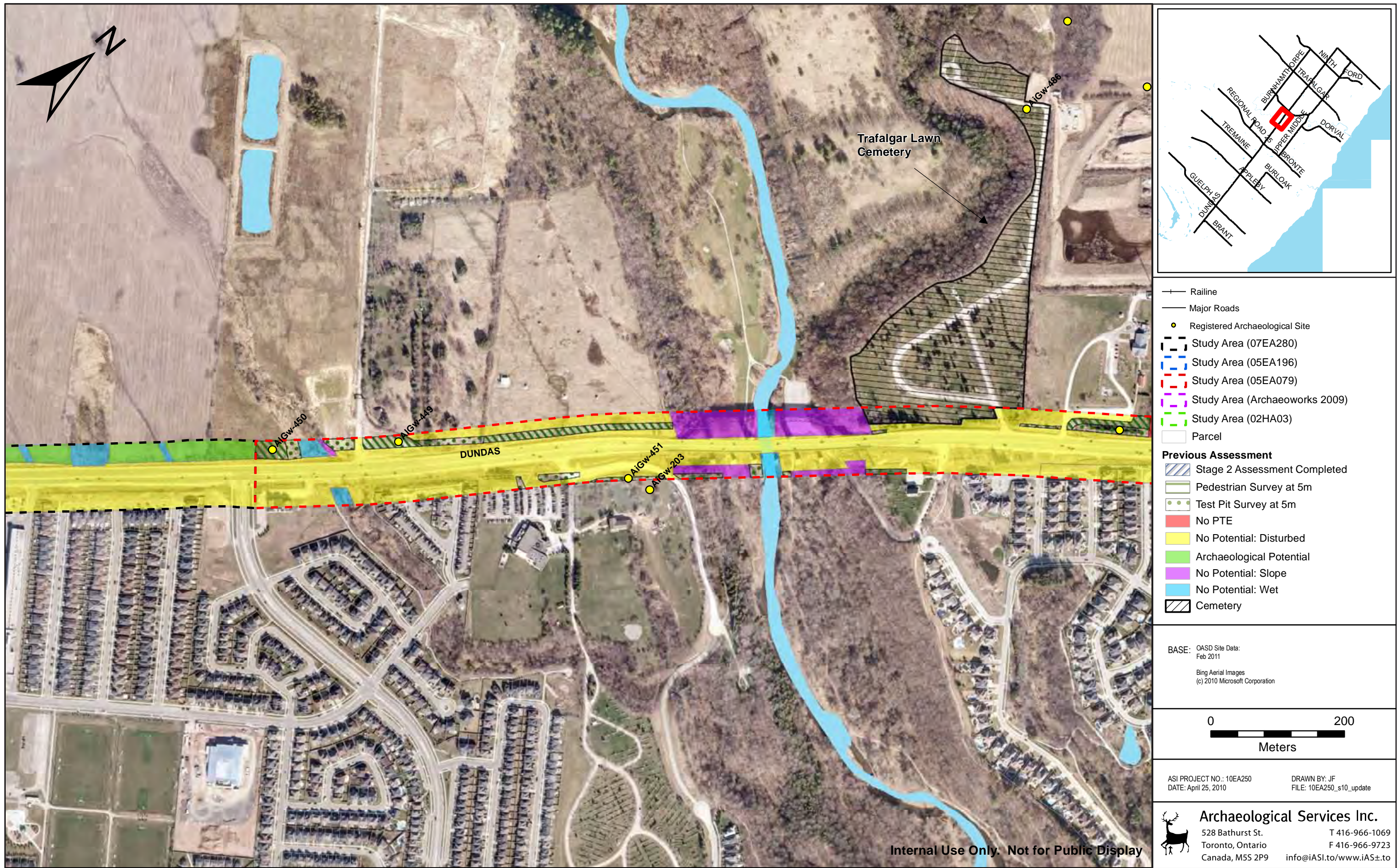
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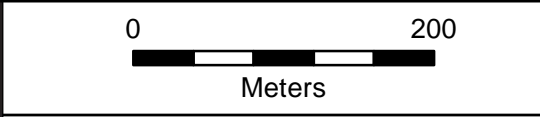
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Figure 15: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



- Railline
 - Major Roads
 - Registered Archaeological Site
 - Study Area (07EA280)
 - Study Area (05EA196)
 - Study Area (05EA079)
 - Study Area (Archaeoworks 2009)
 - Study Area (02HA03)
 - Parcel
- Previous Assessment**
- ▨ Stage 2 Assessment Completed
 - ▨ Pedestrian Survey at 5m
 - ▨ Test Pit Survey at 5m
 - No PTE
 - No Potential: Disturbed
 - Archaeological Potential
 - No Potential: Slope
 - No Potential: Wet
 - ▨ Cemetery

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Figure 16: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

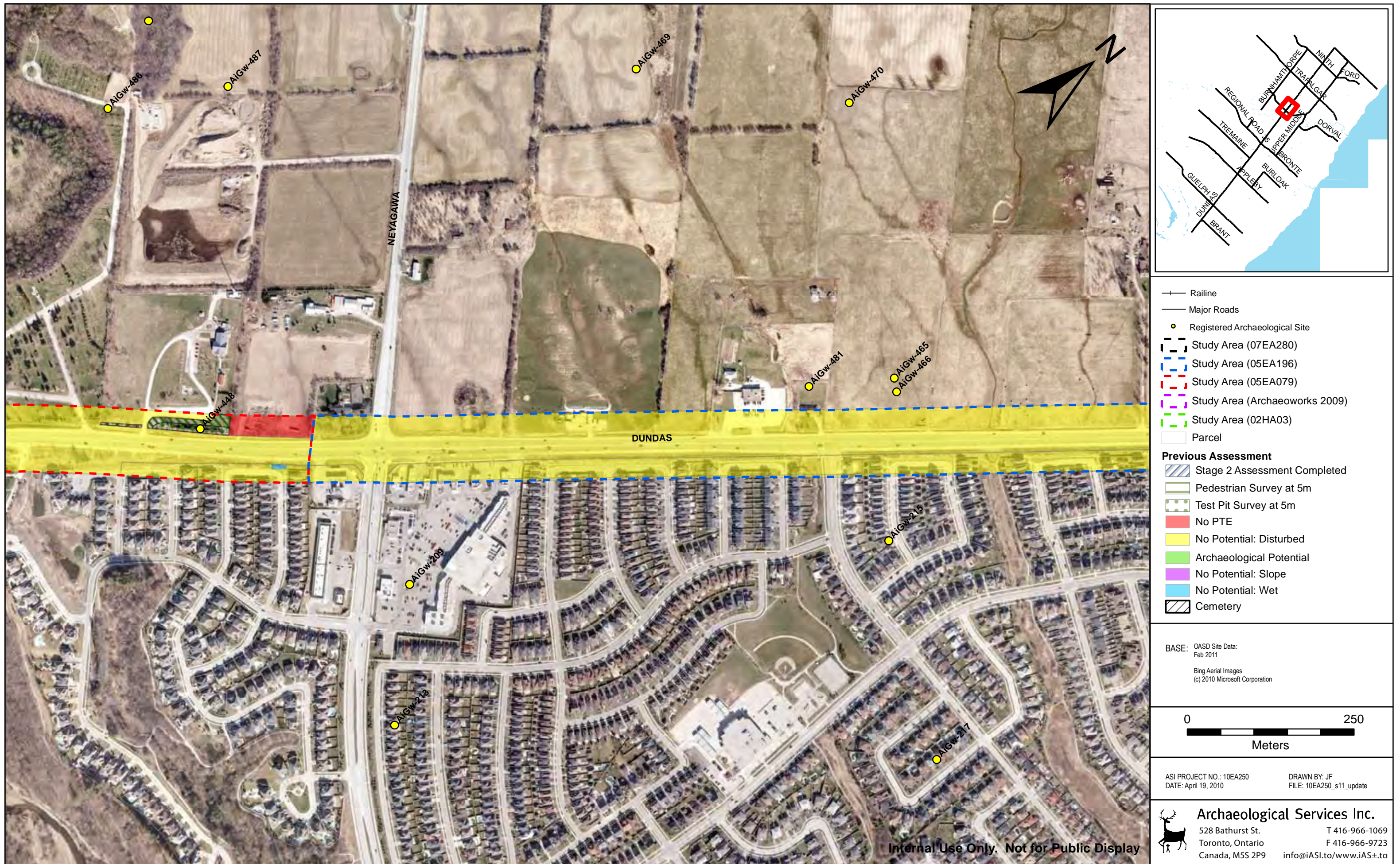
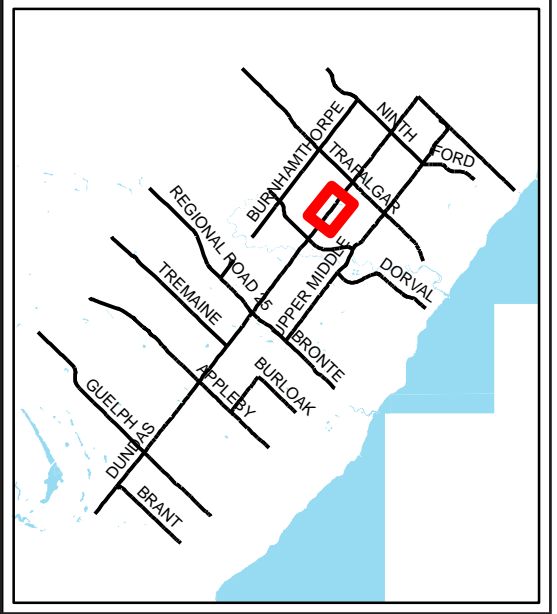
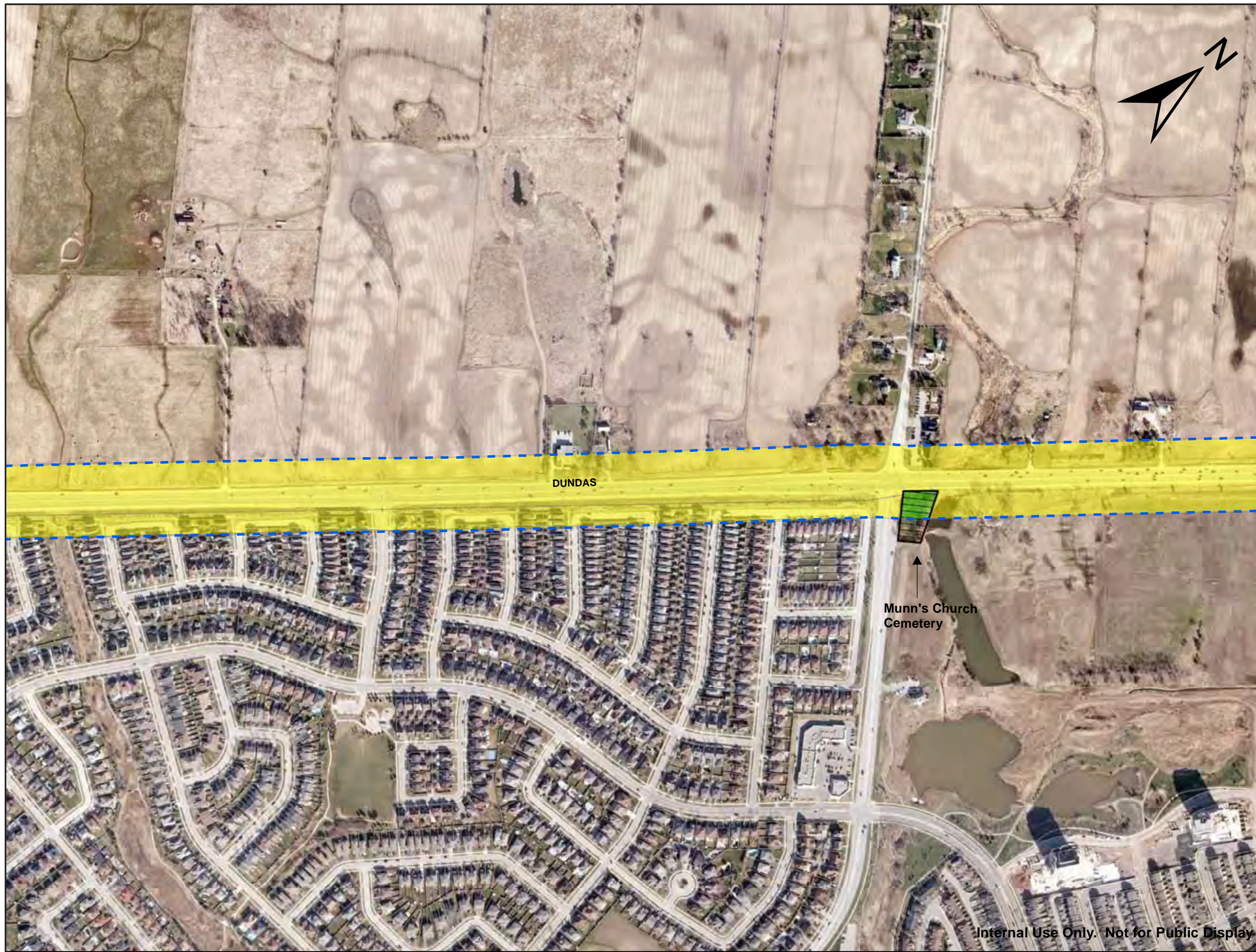
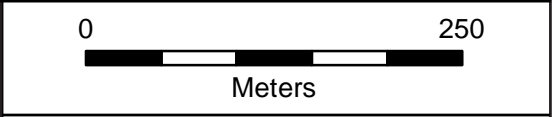


Figure 17: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment



- Railline
 - Major Roads
 - Registered Archaeological Site
 - Study Area (07EA280)
 - Study Area (05EA196)
 - Study Area (05EA079)
 - Study Area (Archaeoworks 2009)
 - Study Area (02HA03)
 - Parcel
- Previous Assessment**
- ▨ Stage 2 Assessment Completed
 - ▨ Pedestrian Survey at 5m
 - ▨ Test Pit Survey at 5m
 - No PTE
 - No Potential: Disturbed
 - Archaeological Potential
 - No Potential: Slope
 - No Potential: Wet
 - ▨ Cemetery

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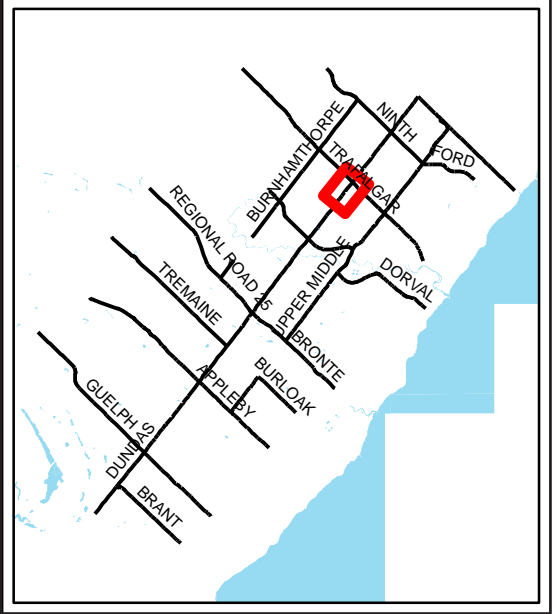
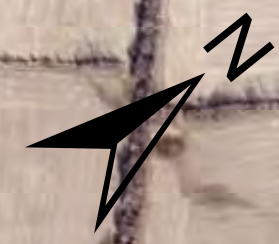
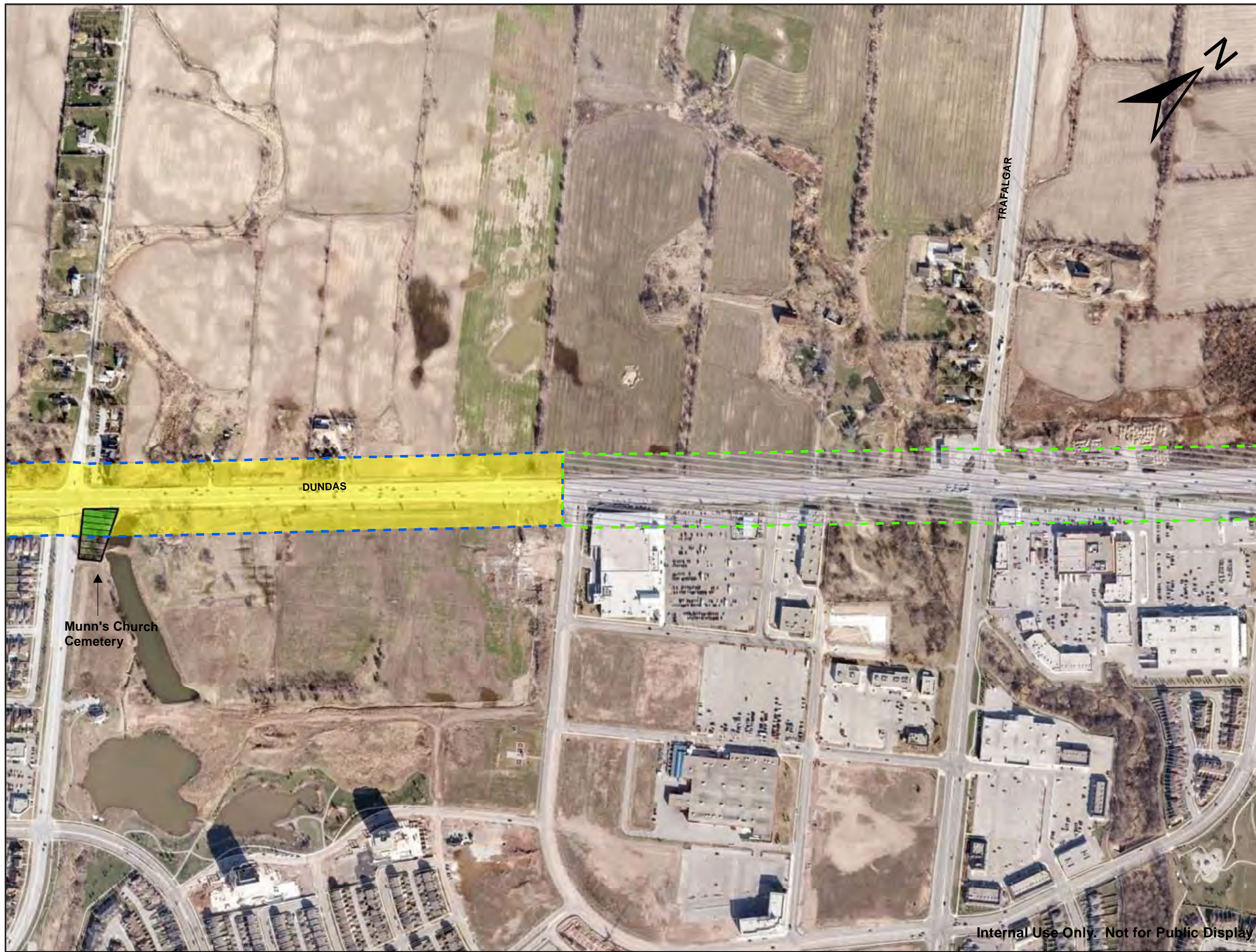


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528 Bathurst St. Toronto, Ontario Canada, M5S 2P9
T 416-966-1069
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info@iASI.to/www.iAS±.to

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Figure 18: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

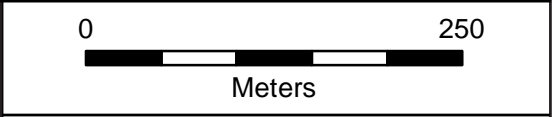


- Railine
- Major Roads
- Registered Archaeological Site
- - - Study Area (07EA280)
- - - Study Area (05EA196)
- - - Study Area (05EA079)
- - - Study Area (Archaeoworks 2009)
- - - Study Area (02HA03)
- Parcel

Previous Assessment

- ▨ Stage 2 Assessment Completed
- ▨ Pedestrian Survey at 5m
- ▨ Test Pit Survey at 5m
- No PTE
- No Potential: Disturbed
- Archaeological Potential
- No Potential: Slope
- No Potential: Wet
- ▨ Cemetery

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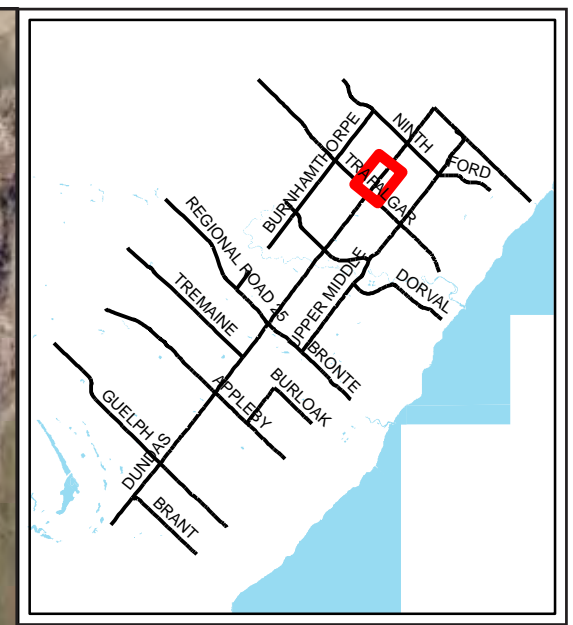


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Figure 19: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

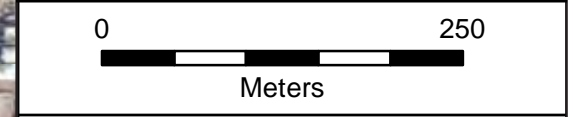


— Railine
 — Major Roads
 ● Registered Archaeological Site
 - - - Study Area (07EA280)
 - - - Study Area (05EA196)
 - - - Study Area (05EA079)
 - - - Study Area (Archaeoworks 2009)
 - - - Study Area (02HA03)
 □ Parcel

Previous Assessment

▨ Stage 2 Assessment Completed
 ▨ Pedestrian Survey at 5m
 ▨ Test Pit Survey at 5m
 ■ No PTE
 ■ No Potential: Disturbed
 ■ Archaeological Potential
 ■ No Potential: Slope
 ■ No Potential: Wet
 ▨ Cemetery

BASE: OASD Site Data:
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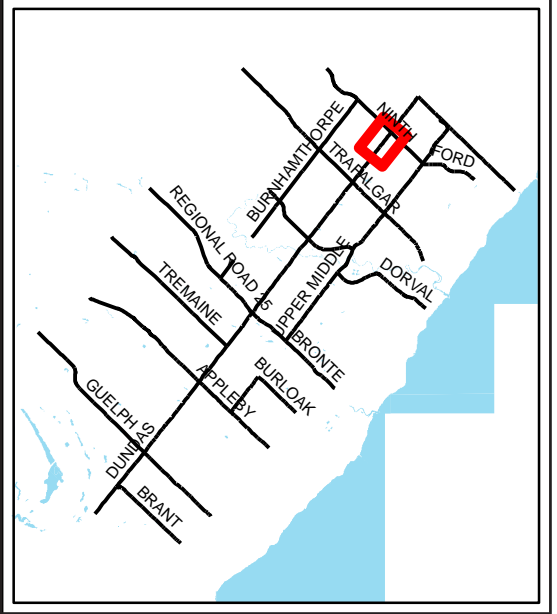
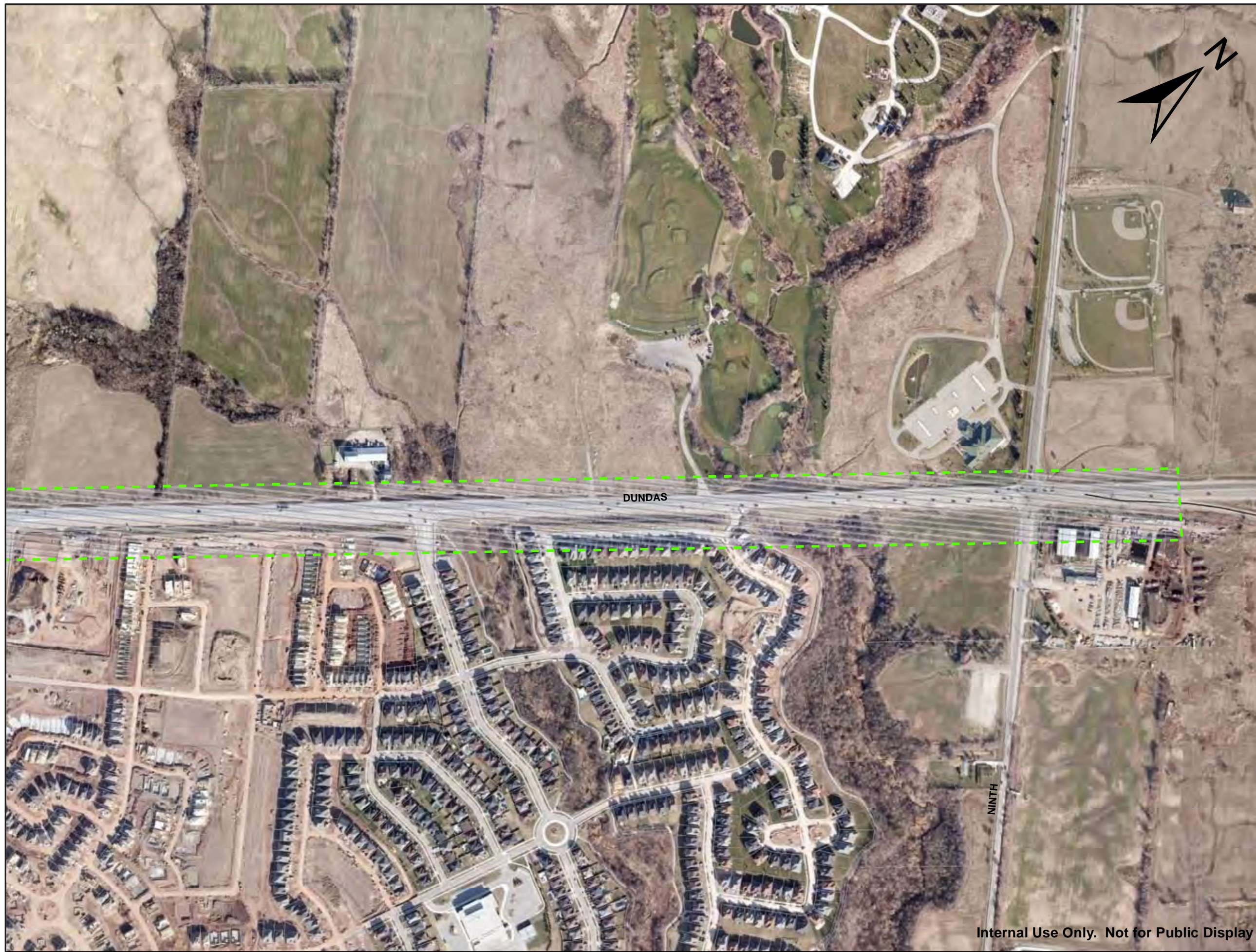


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Figure 20: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

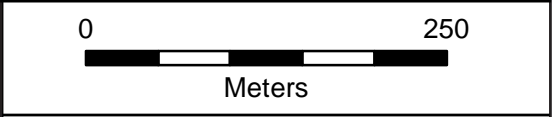


— Railline
 — Major Roads
 ● Registered Archaeological Site
 - - - Study Area (07EA280)
 - - - Study Area (05EA196)
 - - - Study Area (05EA079)
 - - - Study Area (Archaeoworks 2009)
 - - - Study Area (02HA03)
 □ Parcel

Previous Assessment

[Diagonal lines] Stage 2 Assessment Completed
 [Green outline] Pedestrian Survey at 5m
 [Dotted green outline] Test Pit Survey at 5m
 [Red] No PTE
 [Yellow] No Potential: Disturbed
 [Light Green] Archaeological Potential
 [Purple] No Potential: Slope
 [Light Blue] No Potential: Wet
 [Hatched] Cemetery

BASE: OASD Site Data:
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Figure 21: Dundas Street BRT Planning Study - Results of Previous Archaeological Assessment

**Stage 2 Property Assessment and
Stage 3 Cemetery Investigation**

**St. Paul's Presbyterian Church
3318 Dundas Street
Dundas Street Transportation Corridor
from Brant Street to Proudfoot Trail
Class Environmental Assessment
City of Burlington & Town of Oakville, Ontario**

ORIGINAL REPORT

Prepared for:

MMM Group Limited
2655 North Sheridan Way, Suite 300
Mississauga, ON L5K 2P8
Tel: 905-823-8500
Fax: 905-823-8503

Archaeological Licence P128 (Dr. Katherine Hull)
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Archaeological Services Inc.

528 Bathurst St.
Toronto, Ontario
Canada, M5S 2P9

T 416-966-1069
F 416-966-9723
info@iASI.to/www.iASI.to

Stage 2 Property Assessment and Stage 3 Cemetery Investigation

**St. Paul's Presbyterian Church
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Dundas Street Transportation Corridor
from Brant Street to Proudfoot Trail
Class Environmental Assessment
City of Burlington & Town of Oakville, Ontario**

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by MMM Group Limited to conduct a Stage 2 Property Assessment and Stage 3 Cemetery Investigation of lands immediately adjacent to St. Paul's Presbyterian Church and Cemetery as part of the Dundas Street (Regional Road 5) corridor from Brant Street (regional Road 18) to Bronte (regional Road 25), within the City of Burlington and Town of Oakville.

A Stage 1 Archaeological Assessment was previously completed to assess the archaeological potential of the study area for this project. ASI completed this assessment for McCormick Rankin Corporation (MRC), Mississauga, on behalf of Halton Region and the results were summarized in a report submitted to the Ministry of Tourism, Culture and Sport (MTCS). The Stage 1 Archaeological Assessment determined that sections of the Dundas Street Corridor have potential for archaeological resources and 128 archaeological sites have been registered within one kilometre of the study corridor, four of which being located immediately adjacent to Dundas Street. A review of the geography and local nineteenth-century land use of the study corridor also suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites. Some lands within the study area, including St. Paul's Presbyterian Church and Cemetery, were documented to possess potential for archaeological resources and a Stage 2 Archaeological Assessment was recommended prior to any ground-disturbing activities.

The Stage 2 Property Assessment was conducted on September 3, 2014 in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists (S & G)*. The total size of the Project study area is approximately 680 m². Stage 2 assessment was completed through test pit survey at five metre intervals, and no archaeological sites were identified. The Stage



3 investigation of the property involved mechanical topsoil stripping and inspection of the exposed subsoil. No evidence of burials was encountered.

In light of these results, ASI makes the following recommendations:

1. The study area does not require further archaeological assessment;
2. The subject area can be considered free of graves; and,
3. Should the proposed work extend beyond the current study area, then further archaeological assessment should be conducted to determine the archaeological potential of the surrounding lands.



**ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION**

PROJECT PERSONNEL

<i>Senior Project Manager:</i>	Dr. Andrew Riddle, PhD [MTCS licence P347] <i>Senior Archaeologist, Manager EA West Environmental Assessment Division</i>
<i>Project Coordinator:</i>	Sarah Jagelewski, Hon. BA [MTCS licence R405] <i>Staff Archaeologist, Assistant Manager Environmental Assessment Division</i>
<i>Project Director (Licensee):</i>	Dr. Katherine Hull, PhD [MTCS licence P128] <i>Senior Archaeologist, Manager Historical Archaeology Environmental Assessment Division</i>
<i>Field Director:</i>	Jes Lytle, MSc [MTCS licence R387] <i>Staff Archaeologist</i>
<i>Field Archaeologists:</i>	Andrew Clish BES <i>Senior Archaeologist</i>
<i>Report Production:</i>	Greg Pugh, MA <i>Staff Archaeologist</i>
<i>Graphics:</i>	Andrew Clish BES <i>Senior Archaeologist</i>
<i>Report Reviewer:</i>	Andrew Riddle



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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by MMM Group Limited to conduct a Stage 2 Property Assessment and Stage 3 Cemetery Investigation of St. Paul's Presbyterian Church and Cemetery as part of a Class Environmental Assessment (EA) in the City of Burlington. The project includes making transportation improvements along the Dundas Street (Regional Road 5) corridor from Brant Street (regional Road 18) to Bronte (regional Road 25), within the City of Burlington and Town of Oakville (Figure 1).

The widening of Dundas Street in the proximity of St Paul's Presbyterian Church and Cemetery will be contained within the region's current right-of-way (ROW). However, based on observations made during the Stage 1 Assessment, a Stage 2 Property Assessment was undertaken, followed by a Stage 3 Cemetery Investigation to ensure that there are no existing graves within the ROW.

This report summarizes the results of the Stage 1 Archaeological Assessment conducted by ASI (2009a; PIFs P057-477-2008 and P057-545-2009), and presents the results of the Stage 2 Property Assessment and Stage 3 Cemetery Investigation. This assessment was conducted under the project direction of Dr. Katherine Hull (P128) and senior project management of Andrew Riddle (P347), both of ASI, as required by the *Environmental Assessment Act*. All activities carried out during this assessment were completed in accordance with the terms of the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists* (hereafter the "S & G") (Ministry of Tourism and Culture [MTC] 2011), as administered by the Ministry of Tourism, Culture and Sport (MTCS).

Following the S & G, the objectives of this report are:

- To document all archaeological resources in the study area;
- To determine whether the study area contains archaeological resources with cultural heritage value or interest that would require further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

This report addresses these objectives in terms of the Project as follows: Section 1.0 first identifies the development context for the Project, then summarizes the historical and archaeological context represented by the Stage 1 background study and property inspection that was previously conducted; Section 2.0 first outlines the field methods employed to conduct the Stage 2 and Stage 3 fieldwork, then summarizes the survey results from both Stages separately; Section 3.0 documents archaeological resources that were recovered; Section 4.0 provides an analysis on the background research and the fieldwork completed and establishes that the Project area contains archaeological resources with further cultural heritage value or interest; Section 5.0 presents recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the S & G which is administered by the MTCS, such as advice on compliance with legislation, works cited, photo-documentation and mapping.



1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (1990) and regulations made under the Act, and are therefore subject to all associated legislation. This assessment was conducted as part of the Detail Design process for the Dundas Street Project.

Authorization to carry out the activities necessary for the completion of the Stage 2 Property Assessment, including permission to access the affected properties, was granted to ASI by MMM Group Limited on July 30, 2014.

1.2 Historical Context

A Stage 1 Archaeological Assessment for the Dundas Street Transportation Corridor Municipal Class EA was completed by ASI under the project direction of Robert Pihl (ASI 2009; PIFs P057-477-2008 and P057-545-2009). The Stage 1 Archaeological Assessment determined that 83 archaeological sites have been registered within one kilometer of the study corridor, 10 of which are located immediately adjacent. A review of the general physiography and local nineteenth-century land use suggested that the study corridor has potential for the identification of pre-contact Aboriginal and Euro-Canadian historic archaeological sites. Specifically, it determined that St. Paul's Presbyterian Church and Cemetery is designated under the *Ontario Heritage Act*.

The key findings from the Stage 1 report along with background research, both of which include a review of primary and secondary source material, are summarized below. This is intended to provide a contextual overview of the past and present land use, and settlement history of the study area, as per the S & G, Section 7.5.7.

1.2.1 Aboriginal Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier (*ca.* 13,000 BP) (Ferris 2013:13). The earliest populations would have been highly mobile hunter-gatherers occupying extensive ranges (Ellis and Deller 1990: 39-43, 62-63). Between approximately 10,000 BP and 8,000 BP, evidence indicates that populations resided at sites for longer periods and produced new types of crafts. Between approximately 8,000 BP and 4,500 BP, evidence indicates wide-spread exchange networks connecting populations in southern Ontario with those as far away as Lake Superior. Between approximately 4,500 BP and 3,000 BP, evidence exists for established cemeteries (Ellis *et al.* 1990; Ellis *et al.* 2009). This evidence is indicative of increased social organization and increased investment of labour into social infrastructure, and changing concepts of territorialism and cosmology (Brown 1995: 13; Parker Pearson 1999: 141).

Aboriginal land use and settlement between approximately 3,000 BP and 2,500 BP is not well understood. Populations are understood to have continued a semi-permanent occupation of the landscape; seasonal resources, especially spawning fish, continued to be important elements of subsistence. Between approximately 2,500 BP and 1,000 BP, populations had grown into macro-bands. Subsistence methods remained similar to previous periods; maize was first introduced into Southern Ontario was this time, but would have served only as a supplement to people's diets (Birch and Williamson 2013: 13-15; Spence *et al.* 1990: 136, 138, 155, 164).



Iroquoian culture developed from approximately 1,000 BP until its historical description in the mid-sixteenth century AD. Populations occupied sites permanently during this time and progressively became reliant on horticulture for their food supply. However, hunting and gathering still supplemented their diet. Between 1,000 BP until the mid-seventeenth century AD, Iroquoian populations began a process of coalescence, ultimately forming the historical Aboriginal nations described by Europeans in the sixteenth century (Birch and Williamson 2013; Dodd *et al.* 1990: 343; Williamson 1990: 317).

Historical and archaeological evidence indicates that the Niagara Peninsula was occupied in the early sixteenth century by “la nation neutre,” so-called because of their neutral stance in the conflict between the Huron-Wendat and the Five Nations Iroquois. The Neutral Nation were settled village horticulturalists. The study area is situated on the Kitchener settlement cluster (Lennox and Fitzgerald 1990: Figure 13.1; Table 13.1). The Kitchener settlement cluster has documented occupation from the fifteenth century (e.g. Dry Lake site; Horne 1987) until the sixteenth century (e.g. Waterloo site; Horne 1987).

Between 1647 and 1651, the Neutral Nation was dispersed by the Five Nations Iroquois, who subsequently controlled the region. Like the Neutral Nation, the Five Nations Iroquois were agriculturalists who extensively used the region of southern Ontario as a hinterland for the beaver hunt (Konrad 1974). By the mid-late seventeenth century, the Five Nations Iroquois were displaced from southern Ontario by Ojibwa bands migrating into the area from the north, ultimately occupying the Niagara Peninsula by the early eighteenth century AD (Rogers 1978: 761). In 1783, the Haldimand tract was purchased from the Mississaugas and set aside for settlement by Six Nations Iroquois Loyalists forced from New York State following the American War of Independence; settlement occurred the following year. A complex history of land lease and land sale transactions took place between Euro-Canadian settlers and Six Nations Iroquois people. The validity of many of these transactions continues to be the subject of modern debate (Johnston 1964; Lytwyn 2005).

1.2.2 Contact Period Land Use and Settlement

The first record of a European visit to southern Ontario was made in 1615 by Samuel de Champlain, who reported that a group of Iroquoian-speaking people situated between the New York Iroquois and the Huron were at peace and remained “la nation neutre”. In subsequent years the French visited and traded among the Neutral, but the first documented visit was not until 1626, when the Recollet missionary Joseph de la Roche Daillon recorded his visit to the villages of the Attiwandaron, whose name in the Huron language meant “those who speak a slightly different tongue” (the Neutral apparently referred to the Huron by the same term). Like the Huron, Petun, and New York Iroquois, the Neutral people were settled village horticulturalists. The Neutral territory included discrete settlement clusters in the lower Grand River, Fairchild-Big Creek, Upper Twenty Mile Creek, Spencer-Bronte Creek drainages, Milton, Grimsby, Eastern Niagara Escarpment, and Onondaga Escarpment areas.

Between 1647 and 1651, the villages of the Neutral were destroyed by the New York Iroquois, who subsequently settled along strategic trade routes on the north shore of Lake Ontario for a brief period during the late seventeenth century. One French explorer, known to have entered the Burlington Bay area during this period, was Rene-Robert Cavalier de La Salle, who left Montreal with a flotilla of nine canoes and eventually reached the head of Lake Ontario in September of 1669. After landing, de La Salle's group travelled to the Seneca village of Tinaouataoua, the exact location of which is open to speculation (ASI 2004: 13-14; PIFs P057-169 and P057-243-2006), and his explorations in the area may have utilized the Humber Trail (MPP 1986: 42).



During the late seventeenth and early eighteenth centuries, the former Neutral territory came to be occupied by the Mississauga, an Algonquian-speaking southeastern Ojibwa people whose subsistence economy was based on garden farming, as well as hunting, fishing, and gathering wild plants. The Mississauga and other Ojibwa groups began expanding southward from their homelands in the upper Great Lakes in the late seventeenth century, coming into occasional conflict with the New York Iroquois who had established themselves in southern Ontario (although alliances between the two groups were occasionally established as well). The colonial government recognized the Mississauga as the “owners” of the north shore of Lake Ontario and entered into negotiations for additional tracts of land as the need arose to facilitate European settlement (ASI 2004:14).

The Aboriginal occupation in the study corridor undoubtedly overlapped with the influx of Euro-Canadian settlers, although the evidence is largely anecdotal.

1.2.3 Euro-Canadian Land Use and Settlement

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially-significant resources and whose locations are rarely recorded on nineteenth-century maps) are likely to be captured by the basic proximity to the water model outlined in Section 2.2, as these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as Dundas Street, Guelph Line, and Appleby Line, are also considered to have potential for the presence of Euro-Canadian archaeological sites.

The Stage 1 Archaeological Assessment identified the presence of St Paul's Presbyterian Church and Cemetery and noted that it is a property listed on the municipal register and is designated under Part IV of the *Ontario Heritage Act* (By-Law 82-1996). The designation by-law details the legal description of property pertaining to St. Paul's Presbyterian Church and Cemetery and states:

St. Paul's, one of the oldest Presbyterian congregations in Ontario, began in 1816 with services conducted in the barn of Hugh McLaren and the house of Gilbert Bastedo, who in 1822 gave part of his land for the construction of a frame church. The pioneer cemetery dates from 1817. In 1867 a brick church was built at a cost of \$1500.00. It is a very fine example of a simple one-storey front-gabled brick church. Its large Gothic arched windows with interlocking lancet stone mullions, original small panes of coloured pressed-pattern glass, and brick hood mouldings, are exceptional design features. The church is one of the outstanding landmark heritage structures on historic Dundas Street.

1.2.4 Summary

Background research indicates that the general vicinity of the study area has been attractive to human settlement for thousands of years, first by Aboriginal peoples and then by Euro-Canadian settlers. The study area is located in proximity to historic features and a historic transportation route (ASI 2011).



1.3 Archaeological Context

1.3.1 Previous Archaeological Research

According to the Ontario Archaeological Sites Database (OASD; email communication, Robert von Bitter, MCL Data Coordinator, September 2014), 31 archaeological sites have been registered within one kilometre of the study area, and four of these are located on adjacent lands. Three archaeological sites (AiGw-125, AiGw-514 and AiGw-515) are registered within 250 m of St Paul's Presbyterian Church and Cemetery; all of which are isolated Aboriginal findspots (ASI 2011).

Table 1 lists the 31 identified archaeological sites that are located within a 1 km radius of the project area (MTCS 2014).

Table 1: List of Registered Sites within 1 Km of the Study Area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AiGw-124	Tara	Pre-contact Multi component	Campsite	Museum of Indian Archaeology
AiGw-125	80-403-2	Pre-contact	Findspot	Museum of Indian Archaeology
AiGw-126	80-403-5	Pre-contact	Findspot	Museum of Indian Archaeology
AiGw-314	Nextfield	Pre-contact	Lithic scatter	A.M. Archaeological Associates
AiGw-315	Unnamed	Pre-contact	Lithic scatter	A.M. Archaeological Associates
AiGw-316	Unnamed	Pre-contact	Findspot	A.M. Archaeological Associates
AiGw-317	Unnamed	Pre-contact	Lithic scatter	A.M. Archaeological Associates
AiGw-318	Unnamed	Pre-contact	Lithic scatter	A.M. Archaeological Associates
AiGw-511	Unnamed	Pre-contact	Lithic scatter	Fisher Archaeological Consulting
AiGw-512	Unnamed	Pre-contact	Lithic scatter	Fisher Archaeological Consulting
AiGw-383	Shiloh	Pre-contact	Campsite	Kim Slocki
AiGw-384	Alton	Euro-Canadian	Homestead	Archaeological Services Inc
AiGw-510	Birney	Euro-Canadian	Homestead	Fisher Archaeological Consulting
AiGw-513	Unnamed	Pre-contact	Findspot	Fisher Archaeological Consulting
AiGw-514	Unnamed	Late Archaic	Findspot	Fisher Archaeological Consulting
AiGw-515	Unnamed	Late Archaic	Findspot	Fisher Archaeological Consulting
AiGw-516	Unnamed	Pre-contact	Findspot	Fisher Archaeological Consulting
AiGw-517	Unnamed	Pre-contact	Findspot	Fisher Archaeological Consulting
AiGw-518	Unnamed	Pre-contact	Findspot	Fisher Archaeological Consulting
AiGw-95	Walker's Line	Archaic	Findspot	Norman Richardson
AiGx-38	Watson 2	Undetermined	Undetermined	Arthur C Roberts
AiGx-39	Ireland	Pre-contact Multi component	Campsite	Museum of Indian Archaeology
AiGx-63	Unnamed	Pre-contact	Lithic scatter	Museum of Indian Archaeology
AiGx-74	Ganong	Euro-Canadian	Midden	Museum of Indian Archaeology
AiGx-75	Unnamed	Pre-contact	Lithic scatter	Museum of Indian Archaeology
AiGx-76	Unnamed	Pre-contact Multi component	Campsite	Museum of Indian Archaeology
AiGw-174	81-403-53	Pre-contact	Findspot	Museum of Indian Archaeology
AiGw-200	Unnamed	Pre-contact	Findspot	Museum of Indian Archaeology
AiGw-201	Unnamed	Early Woodland	Findspot	Museum of Indian Archaeology
AiGw-301	Bucolic	Middle Archaic	Campsite	A.M. Archaeological Associates
AiGw-313	Unnamed	Late Archaic	Scatter	A.M. Archaeological Associates



1.3.2 Current Land Use and Field Conditions

The Stage 2 study area consists of linear area along Dundas Street (Plates 1-3). The study area comprises a maintained grass strip within the ROW immediately adjacent to the cemetery (Plates 9-10).

1.3.3 Physiography

In addition to the known archaeological sites, the state of the natural environment is an important predictor of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the study area.

Section 1.3.1 of the S & G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location. Bronte Creek, 16 Mile Creek, and numerous tributaries bisect the study corridor.

Section 1.3.1 also lists other geographic characteristics that can indicate archaeological potential, including elevated topography (eskers, drumlins, large knolls, plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, and distinctive land formations that might have been special or spiritual places, 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 (migratory routes, spawning areas), are also considered characteristics that indicate archaeological potential. The Niagara Escarpment is an area rich in resources and has long been exploited by Aboriginal peoples. The study corridor is situated primarily within the till plains of the South Slope physiographic region of southern Ontario. A small portion of the corridor, between Brant Street and Guelph Line, fronts on the Niagara Escarpment. The South Slope spans an area of approximately 2300 square kilometres, extending from the Oak Ridges Moraine south to Lake Ontario, and from the Niagara Escarpment east to the Trent River. The South Slope overlies the limestones of the Verulam and Lindsay Formations, the grey shale of the Georgian Bay Formation, and the red shale of the Queenston Formation. Till soils of this physiographic region are more sandy in the east and clayey in the west (Chapman and Putnam 1984: 172-174). The Niagara Escarpment extends from the Niagara River to the northern tip of the Bruce Peninsula and continuing through the Manitoulin Islands. Vertical cliffs along the brow mostly outline the edge of the dolostone of the Lockport and Amabel Formations, which the slopes below are carved in red shale.

Flanked by landscapes of glacial origin, the rock-hewn topography stands in striking contrast, and its steep-sided valleys are strongly suggestive of non-glacial regions. The area encompassing the study corridor extends from the Dundas Valley northward to the Forks of the Credit. The brow of the escarpment increases in elevation from approximately 250 m to 450 m above sea level over a distance of



80 m; the escarpment is cut by numerous creeks in this section (Chapman and Putman 1984: 114-122). Soils along the study corridor consist of a mix of Oneida clay loam and Jeddo clay loam. Oneida soils are moderately well-drained and generally occur in association with the imperfectly-drained Chinguacousy and poorly-drained Jeddo soils. These soils have developed on fine-textured glacial till. The till is largely composed of ice-ground materials from the underlying Ordovician rock formations (Gillespie and Wicklund n.d.: 46). The Jeddo soils are found below the escarpment in Burlington and Oakville (Gillespie and Wicklund n.d.: 43).

1.3.4 Summary

Background research indicates that lands within the study area boundaries have potential for archaeological resources on account of well-drained sandy soil, spillways, proximity to registered archaeological sites, and proximity to historic transportation routes and historic features.

2.0 FIELD METHODS

The Stage 2 Property Assessment and Stage 3 Cemetery Investigation were conducted by Jessica Lytle (R387) and Andrew Clish (P046) on September 3, 2014, under mostly clear skies with an average temperature of 24 degrees Celsius. A summary of the work entailed in each stage is detailed below.

2.1 Stage 2 Property Assessment

The Stage 2 Property Assessment of St Paul's Church and Cemetery was conducted in accordance with the *Ontario Heritage Act* and the S & G. The portion of the transit corridor that abuts St Paul's Church and Cemetery is approximately 65 m in length and up to 5 m in width. The entire area was subject to a Stage 2 assessment as per the S & G, Section 2.1. The property survey was completed in a single day, with weather and lighting conditions permitting good visibility of land features, as per the S & G, Section 2.1, Standard 3. Representative photographs of all field conditions were taken (Plates 1-5) and the location and direction of each photo is mapped in Figure 3.

The study area was assessed by test-pit survey at five metre intervals in accordance with the procedures outlined in the S & G, Section 2.1.2, Standards 1-9 (Figure 1, Plates 4 and 5). Each test pit was a minimum of 30 cm in diameter and was excavated into the first five centimetres of subsoil, and examined for stratigraphy, cultural features, and evidence of fill. The excavated soil was screened through six-millimetre mesh to facilitate artifact recovery. Afterwards, all test pits were backfilled and their locations were recorded on field maps. Factors that precluded the excavation of test pits (i.e. previous disturbance) were noted, and the areas were mapped and photographed per the S & G, Section 2.1, Standard 6, and Section 7.8.6.

2.2 Stage 3 Cemetery Investigation

The Stage 3 Cemetery Investigation was conducted in accordance with the *Ontario Heritage Act* and the S & G., immediately following the Stage 2 Property Assessment on the same day with the same weather and lighting conditions. Representative photographs of all field conditions were taken (Plates 6-7) and the location and direction of each photo is mapped in Figure 3.



The Stage 3 Cemetery Investigation comprised the machine-excavation of two trenches located adjacent to the marked graveyard (Figure 2, Plates 6 and 7). A small excavator equipped with a smooth bucket was used to remove the topsoil and expose the subsoil to facilitate the identification of graveshafts. Deeper excavation was conducted in order to expose the underlying soil stratigraphy (Plate 8). The first trench, located nearest to the church on the west end of the study area, measured 6 m long by 3 m wide. The second trench measured 45 m long and varied in width from 2 m to 2.5 m. All soil was replaced and returned to original grade upon completion of the investigation.

3.0 RECORD OF FINDS

No cultural resources were identified and no graves were encountered during the Stage 2 Property Assessment and Stage 3 Cemetery Investigation of the study area.

3.1 Documentary and Material Record

The documentation and materials related to this Project 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 MTCS, and any other legitimate interest groups. Table 1 provides an inventory and location of the documentary and material record for the Project.

Table 2: Inventory of Documentary and Material Record

Document/Material	Location	Comments
Written Field Notes, Annotated Field Maps, GPS Logs, etc.	Archaeological Services Inc., 528 Bathurst Street, Toronto, ON M5S 2P9	Field notes hard copy, GPS data (digital) [One file]
Field Photography (Digital)	Archaeological Services Inc., 528 Bathurst Street, Toronto, ON M5S 2P9	Stored on ASI network servers and/or CD-ROM [105 files]
Research/Analysis/Reporting Materials (Various Formats)	Archaeological Services Inc., 528 Bathurst Street, Toronto, ON M5S 2P9	Hard copy and/or digital files stored on ASI network servers and/or CD-ROM

4.0 ANALYSIS AND CONCLUSIONS

4.1 Analysis

Approximately 240 square meters (33%) of the study area, primarily adjacent to Dundas Street, is deemed disturbed from ditch excavation and is considered to have no potential. The remaining 480 square metres (67%) of the study area was deemed to have potential for archaeological resources and was assessed by test pit survey.

The cemetery frontage of St Paul's Church subject to test pit survey was documented to be partially disturbed. Test pit excavation demonstrated intact soil profiles over much of the study area. Topsoil was documented as reddish-brown clay loam, with 20% gravel inclusions, and was recorded as 20-25 cm in

depth. Below this was a reddish-brown silty clay measuring 40 cm in depth. A sterile B-horizon subsoil consisting of a light grey-brown silty clay was encountered throughout the study area. Test pits were on average 80 cm deep (Plate 8). Evidence of disturbance from utility installation was recorded within the machine-excavated trenches (Plate 7).

No archaeological resources or graves were identified (Figure 2).

4.2 Conclusions

A Stage 2 Property Assessment and Stage 3 Cemetery Investigation were conducted for the section of the Dundas Street Corridor Improvements ROW that abuts St Paul's Church and Cemetery. No archaeological resources were identified and no grave shafts were encountered. It is therefore concluded that no archaeological resources with cultural heritage value or interest and no human burials exist within the study area.

5.0 RECOMMENDATIONS

In light of the above results, ASI makes the following recommendations:

1. The study area does not require further archaeological assessment;
2. The study area can be considered free of graves; and,
3. Should the proposed work extend beyond the current study area, then further archaeological assessment must be conducted to determine the archaeological potential of the surrounding lands.

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 Cultural Programs Unit of the MTCS should be immediately notified.



6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

In addition, the following advice on compliance is provided:

- This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 1990, 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 MTCS, a letter will be issued by the Ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological 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 human remains must notify the police or coroner.
- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.



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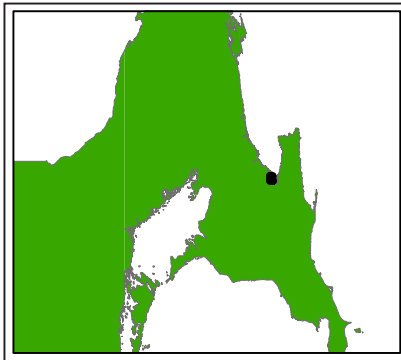
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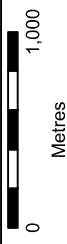
8.0 MAPPING





Study Area

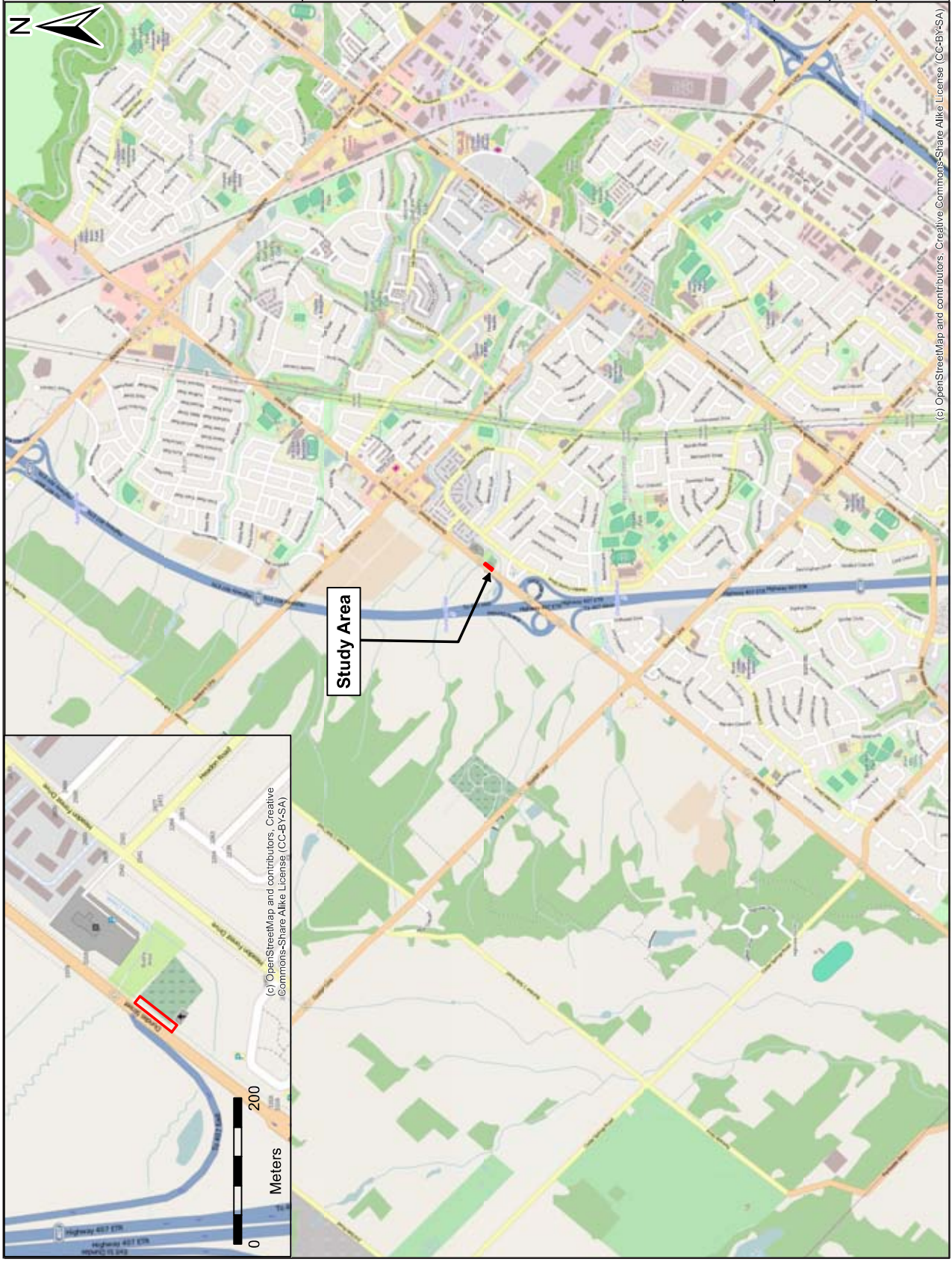
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ASI PROJECT NO.: 14EA-17Z
DATE: 08 Oct 2014



Archaeological Services Inc.
528 Bathurst St.
Toronto, Ontario
Canada, M5S 2P9
T 416-966-1069
F 416-966-9723
info@ASItto/www.ASItto



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Figure 1: Location of Study Area

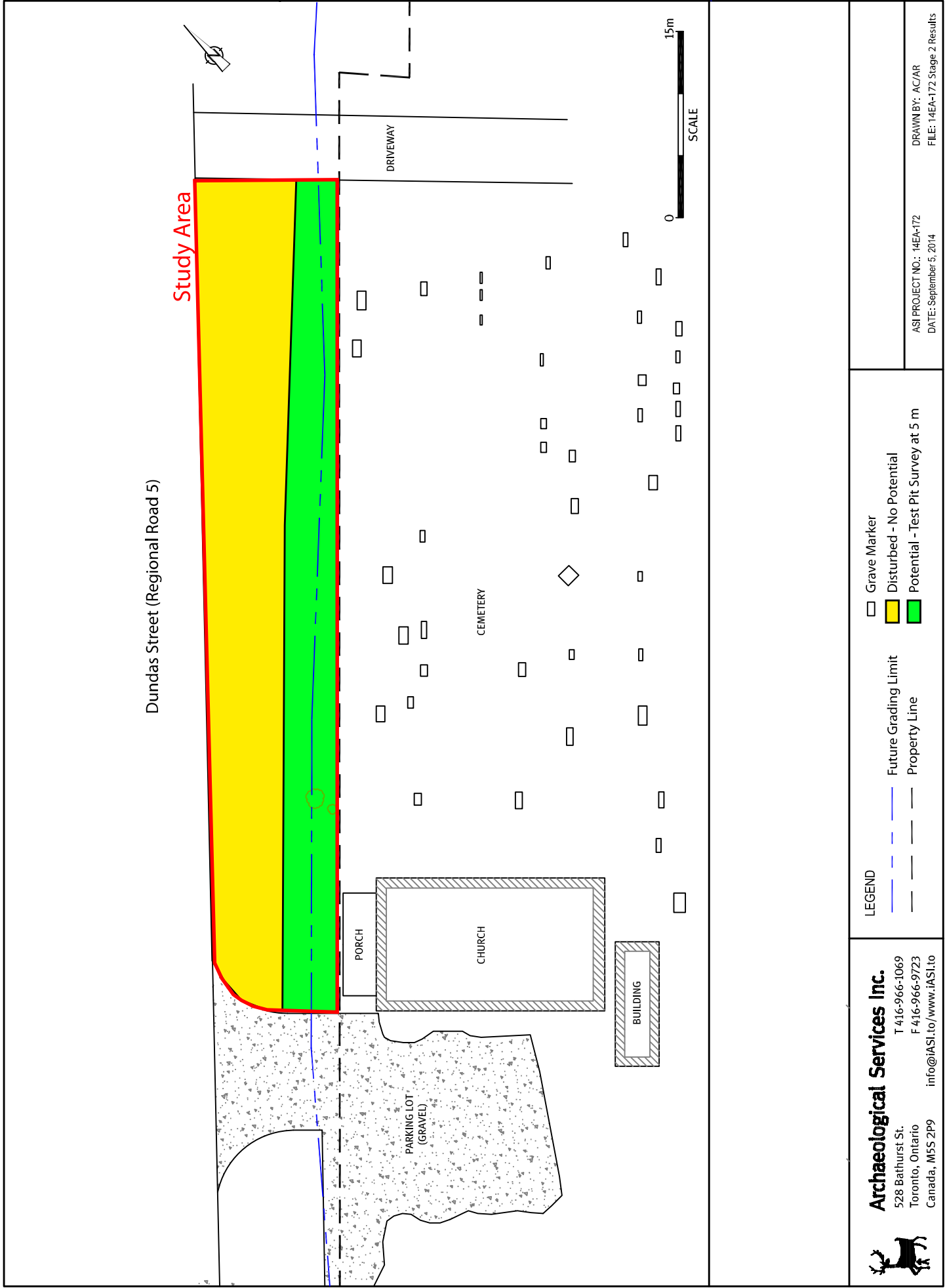
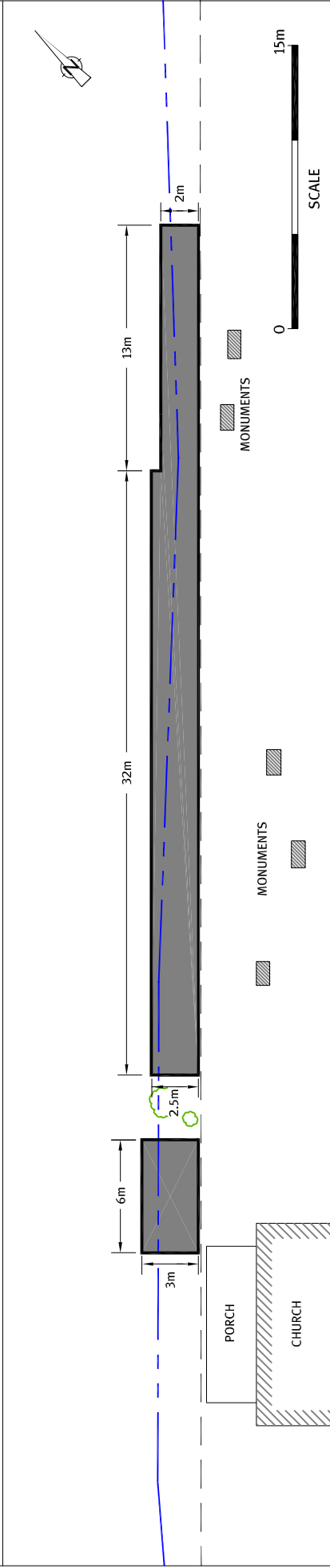
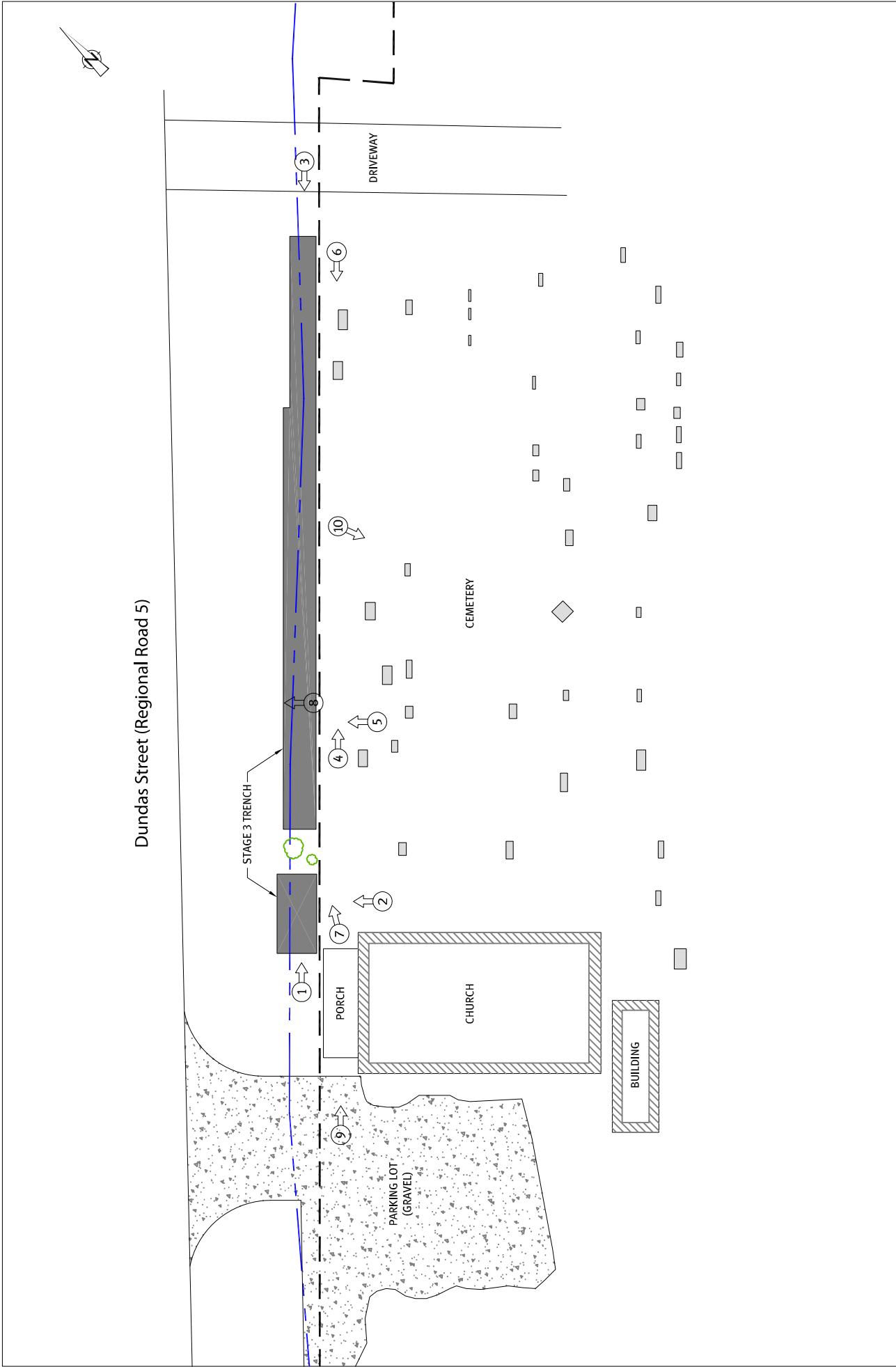


Figure 2: St. Paul's Cemetery Stage 2 Assessment Results



<p>Archaeological Services Inc. 528 Bathurst St. Toronto, Ontario Canada, M5S 2P9 T 416-966-1069 F 416-966-9723 info@iasl.to /www.iasl.to</p>	<p>LEGEND</p> <p>--- Future Grading Limit</p> <p>--- Property Line</p>	<p>ASI PROJECT NO.: 14EA-172</p> <p>DATE: September 5, 2014</p>
		<p>DRAWN BY: A.C.</p> <p>FILE: Stage 3 Trenching Plan</p>

Figure 3: St. Paul's Cemetery Stage 3 Assessment Results



Archaeological Services Inc.
 528 Bathurst St.
 Toronto, Ontario
 Canada, M5S 2P9
 T 416-966-1069
 F 416-966-9723
 info@IASI.to / www.IASI.to

Figure 4: St. Paul's Cemetery Photo Locations

9.0 IMAGES



Plate 1: Cemetery frontage along the southeast side of Dundas Street, view northeast. Area assessed by test pit survey at five metre intervals.



Plate 2: Cemetery frontage along the southeast side of Dundas Street, view northwest. Area assessed by test pit survey at five metre intervals.



Plate 3: Study area showing proximity of grave monuments, view southwest towards St Paul's Church.



Plate 4: Excavating test unit, view north.



Plate 5: Excavating test unit, view northwest.



Plate 6: Machine-excitation of trench, following

excavation of test units, view southwest.



Plate 7: Monitoring of trench excavation following excavation of test pits, looking north. Note evidence of disturbance due to utility installation.



Plate 8: Trench profile showing representative soil stratigraphy.



Plate 9: View northwest of study area, with St Paul's church in the foreground.

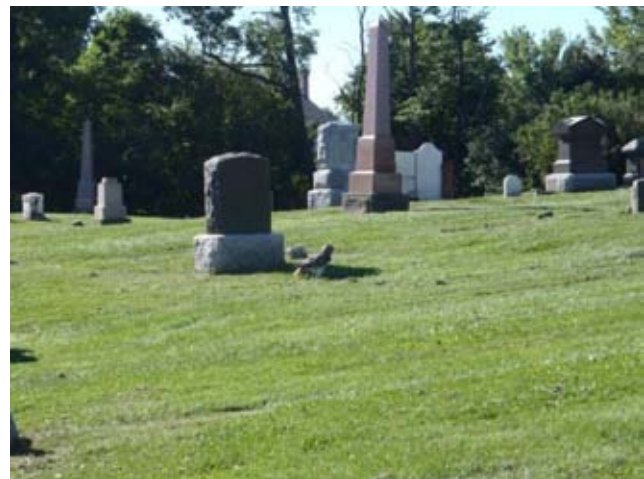


Plate 10: View southeast showing cemetery beyond the study area.