

Stage 2 Archaeological (Property) Assessment
Central Pickering Development Plan
Class Environmental Assessment for Regional Servicing
City of Pickering, Regional Municipality of Durham, Ontario

REVISED REPORT

Submitted to

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Stage 2 Archaeological (Property) Assessment

Central Pickering Development Plan Class Environmental Assessment for Regional Servicing City of Pickering, Regional Municipality of Durham, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by WSP Canada Inc. (formerly GENIVAR Inc.), Markham, to conduct a Stage 2 Archaeological (Property) Assessment for the Central Pickering Development Plan Class Environmental Assessment for Regional Servicing (hereafter “the Project”), in the Regional Municipality of Durham, Ontario. The Project was performed in accordance with the *Environmental Assessment Act* as part of the Detailed Design submission. The design proposes the construction of new roads, widening of a few existing roads, and the installation of water and sanitation mains and pumping stations.

A Stage 1 archaeological assessment (background study and property inspection) of the Project study area was conducted by ASI in 2012, and the results were summarized in a report submitted to the Ministry of Tourism, Culture and Sport (MTCS) in May 2013. The report determined that the Project study area not only had potential for both pre-contact Aboriginal and post-contact historical sites but that 218 archaeological sites had already been identified within the Project study area and vicinity (or within 2 kilometres of its limits); these have been registered with the MTCS.

In total, Project lands encompass 298.0 hectares and include proposed infrastructure for new trunk sewers and forcemains, sanitary pumping stations, watermains, pumping stations, reservoirs, and road alignments, as well as the widening of existing road segments. Much of the Project is situated within lands that have been previously subjected to archaeological assessment, with some of the fieldwork dating back to 1990. To date, over three-quarters of the Project lands have been previously examined and cleared, and this encompasses 237.84 hectares (or 79.7%) of the total.

This report details the Stage 2 archaeological assessment of the remaining 60.16 hectares which include infrastructure sections pertaining to Trunk 1 (and Sub-Trunk 1), Trunk 2 (and Sub-Trunk 2), Trunk 3, Trunk 4 (and Sub-Trunk 4), Forcemains 1-3, Watermains 1-3, 22 Sideline, 26 Sideline, Brock Road, Rossland Road, Taunton Road, Whites Road, and Whitevale Road. All work was conducted in accordance with the *Ontario Heritage Act* and the 2011 *Standards and Guidelines for Consultant Archaeologists (S & G)*.

During the 2011 to 2013 field seasons, Project lands not previously examined were subjected to Stage 2 archaeological assessment as follows: pedestrian survey at 5 m interval (9.81 hectares or 16.3%); test pit survey at 5 m interval (11.16 hectares or 18.6%); or no survey because it was determined that the lands did not have archaeological potential due to previous disturbance, wet or low-lying conditions, or steep slope (34.13 hectares or 56.7%). In total, ASI was responsible for assessing 167 survey units comprising 55.1 hectares (or 91.6% of the total). Two post-contact historical sites were identified, Site ALGs-455 (Brignal site), dating between the 1830s and 1870s, and Site ALGs-467 (Robinson site), dating between the 1820s and 1850s.

Nine survey units, comprising 5.06 hectares (or 8.4% of the remaining Project lands), could not be assessed due to revisions to the Project that were made before the affected lands could be properly prepared, weathered and surveyed by the end of the 2013 field season. They remain to be assessed sometime during the spring of 2014.



As a result of the Stage 2 assessment work completed to date, ASI makes the following general recommendations:

- Stage 2 archaeological assessment should be conducted on the ten outstanding survey units as soon as weather and ground conditions permit in the spring of 2014;
- Sites ALGs-455 (Brignal site) and ALGs-467 (Robinson site) have sufficient cultural heritage value or interest (CHVI) to warrant additional examination. A Stage 3 Archaeological (Site-specific) Assessment should be conducted;
- Fourteen (14) sites that may have further CHVI are located within 50 m of the Project limits. These sites were previously identified by multiple consultants before the implementation of the *S & G* in 2011. The original report recommendations for these sites, therefore, did not define protective or monitoring buffer zones that would now be required under the *S & G*, and it is presently not known if any portion of these sites are within Project survey units that were previously assessed. This will need to be confirmed prior to any disturbance of Project lands adjacent to the following sites: ALGs-1, -183, -184, -193, -198, -199, -304, -305, -334, -340, -341, -344, -412, and -415; and
- If changes to Project lands or temporary workspace requirements include previously unsurveyed lands, these lands should be subjected to a Stage 2 Archaeological (Property) Assessment.



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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by WSP Canada Inc. (formerly GENIVAR Inc.), Markham, to conduct a Stage 2 Archaeological (Property) Assessment as part of the Central Pickering Development Plan Class Environmental Assessment for Regional Servicing (hereafter “the Project”), in the Regional Municipality of Durham, Ontario (Figure 1). The Project study area includes private and provincially-owned developable lands, as well as Natural Heritage System (NHS) lands, and is primarily located within agricultural fields and right-of-ways (ROW).

The infrastructure layout for the Project was originally presented in a document entitled *Central Pickering Development Plan* that was prepared in 2005 by a consultant team for the North Pickering Land Exchange Team (see NPLET 2005: Schedule 4—Transportation Network and Schedule 5—Servicing System), and this makes provisions for trunk and sanitary sewers, sanitary pumping stations, watermains, water pumping stations and reservoirs, as well as new roads and road widening. Modifications to the layout have since been made and are reflected in Figure 3.

All archaeological activities carried out during this assessment were completed in accordance with the *Ontario Heritage Act* and the 2011 *Standards and Guidelines for Consultant Archaeologists (S & G)*, which are enforced by Ministry of Tourism, Culture and Sport (MTCS). The assessment was first conducted under the project direction of Kathryn Bryant (MTCS licence P264) but was transferred to Lisa Merritt (MTCS licence P094), ASI, on May 30, 2012.

In the *S & G, Section 2*, the objectives of a Stage 2 archaeological (property) assessment are listed as follows:

- To document all archaeological resources in the study area;
- To determine whether the study area contains archaeological resources with cultural heritage value or interest (CHVI) 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 1.2 first identifies the development context for the Project, then summarizes the historical and archaeological contexts represented by the Stage 1 background study and property inspection that was conducted by ASI (2013a: PIF#s P264-107-2010 and P094-146-2011); Section 2.0 first outlines the field methods employed to conduct the Stage 2 archaeological fieldwork, then summarizes the survey results; Section 3.0 discusses the findings for the two historical sites that were discovered during the Stage 2 assessment; Section 4.0 establishes that the project study area contains sites with CHVI; Section 5.0 provides recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the *S & G*, such as advice on compliance with legislation, works cited, photo-documentation, mapping and appendices.



1.1 Development Context

This assessment was performed under the Municipal Class Environmental Assessment process as a Schedule B and C Class Environmental Assessment.

Permission to carry out the activities necessary for the completion of the Stage 2 archaeological (property) assessment, including permission to access properties, was initially granted to ASI by WSP Canada Inc. (formerly GENIVAR Inc.) on behalf of the Regional Municipality of Durham on April 9, 2011.

1.2 Historical Context

A detailed account of the pre-contact Aboriginal and post-contact land use history of the Project and vicinity is presented in the Stage 1 background research study (ASI 2013a; PIF #P264-107-2010 and PIF #P094-146-2011). The following summarizes this background research where it is applicable to the current Stage 2 Project study area.

1.2.1 Post-Contact Period

The years immediately following the dispersal of the Huron, the Neutral and their Algonquin allies in the 1640s and 1650s are poorly documented. Migrations, fission and amalgamation of formerly independent groups, and shifting territories further complicate the picture. The continuing effects of European diseases, warfare and periods of starvation through the mid and late seventeenth century contributed to further population reductions among all aboriginal peoples. Those who survived were freely adopted into remaining groups.

During this period, the Five Nations Iroquois established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. One of these was known as Ganestiquiagon, situated near the mouth of the Rouge River. It was primarily a Seneca settlement, but judging from the events of the period, it may have contained peoples from a number of the Iroquois constituencies. The site was established in the late 1660s and was abandoned by 1687. The settlement corresponds to the archaeological site known as Bead Hill (AkGs-5 and 8), located a few kilometres upstream at the forks of the Rouge.

Due, in large part, to increased military pressure from the French upon their homelands south of Lake Ontario, the Iroquois abandoned their north shore frontier settlements by the late 1680s, although they did not relinquish their interest in the resources of the area, as they continued to claim the north shore as part of their traditional hunting territory. The settlement vacuum, however, was immediately filled by the Anishnaubeg, a collective term for the Algonquian-speaking groups of the upper Great Lakes such as the Mississauga, Ojibwa (or Chippewa) and Odawa. At the time of European contact in the early seventeenth century, the Anishnaubeg “homeland” was a vast area extending from the east shore of Georgian Bay, and the north shore of Lake Huron, to the northeast shore of Lake Superior and into the upper peninsula of Michigan. Individual bands were politically autonomous and numbered several hundred people. These groups were highly mobile, with a subsistence economy based on hunting, fishing, gathering of wild plants, and garden farming.



European diseases, warfare and periods of starvation, throughout the mid seventeenth century contributed to population reductions among all the peoples of the Anishnaubeg. Those who survived were freely adopted into remaining groups. 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, although alliances between the two groups were occasionally established as well.

1.2.2 Post-Contact Settlement

The former Township of Pickering, when first laid out in the 1790s, was originally designated as Township 8 although the name was changed shortly thereafter to Edinburgh Township (and then changed a few years later to Pickering Township). The first survey of this township was made in 1791 by Augustus Jones. The first legal settler in Pickering, said to have been William Peak, arrived in 1798 (Armstrong 1985:146). Peak settled along the lakeshore at the mouth of Duffins Creek (Farewell 1907:12). The eastern part of the township was settled by Loyalists, disbanded soldiers, emigrants from the United Kingdom, and a large number of Quakers from both Ireland and the United States (Farewell 1907:13–14). The township population stood at 187 in 1809, at 375 in 1820, at 1,042 in 1828, and at 3,752 in 1842. By 1850 most of the township's settlers were natives of Ireland, with significant numbers also from England and Scotland. In 1871, the township had a population of 7,375 (Mika and Mika 1983:213-214, Beers 1877:ix), and by 1901, the population was at 5,285.

In 1851, Smith (1851:22) notes that Pickering is “one of the best settled townships in the County, and contains a number of fine farms, and has increased rapidly in both population and prosperity, within the last few years.” Maps produced later in the nineteenth century, such as the 1860 Tremaine map and the 1877 J. H. Beers atlas, show the township to be heavily settled, and period census returns show that the township contained a wide variety of industries and small businesses as well as husbandmen engaged in mixed agriculture. The main settlements were located along Duffins Creek where early mills and various industries utilized the available hydraulic power of this watershed. One of the earliest roads constructed across Pickering was the Kingston Road, built by Asa Danforth in 1796 along the south end of the township near the lake. This road was illustrated on several early township maps. The road network in Pickering developed slowly, and by 1850, the De Rottenburg map showed just three major north-south arteries between the Kingston Road and Highway 7.

The village of Kinsale was established on Lot 3 in Concessions 5 and 6 (Pickering Township), just south of the Phase One area. A school was established in the 1850s and a post office in 1915. By 1870, the village had 80 residents including a shoe maker, two carpenters, a wagon maker, a blacksmith, and a merchant/ post master (Conner and Coltson 1869). The village of Greenwood was laid out on part Lots 10 and 11 in Concessions 5 and 6 (Pickering Township). The post office opened in 1852. The first name of the village was Norwood, but it was renamed in honour of miller and distillery owner Frederick Green who settled here in 1843 (Rayburn 1997:144). Green had bought the “Lower Mill” built by Matthew Cockerline in 1840. The first settlers included, among others, the McKittrick, Byers, Sabler, and Adamson families. A number of small businesses and industries were established here and the village contained a Methodist Church. The most famous scion of this community was John Diefenbaker, former prime minister of Canada, who attended Greenwood School as a boy (Mika and Mika 1981:171-172).



1.2.3 Euro-Canadian Land Use

The map of Pickering Township in the 1877 *Illustrated Historical Atlas of the County of Ontario* was reviewed to determine the potential for the presence of nineteenth-century Euro-Canadian archaeological remains within the study area, as it provides a more realistic reflection of the general settlement pattern within the area by the third quarter of the century. The Seaton Lands comprise parts of Lots 18-28 in Concession 3, parts or all of Lots 15-31 in Concession 4, parts or all of Lots 16-34 in Concession 5, and parts or all of Lots 31-35 in Concession 6. The 1877 atlas map shows a densely settled agrarian landscape anchored by the communities of Brougham and Whitevale.

It should be noted 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 atlas

1.2.4 Summary

The Stage 1 archaeological assessment (ASI 2013a) concluded that there is potential for the recovery of historic cultural material within the study area, depending on the degree of previous land disturbance.

1.3 Archaeological Context

1.3.1 Previous Archaeological Assessment

A Stage 1 archaeological assessment of the Project study area was conducted by ASI in 2012. A report summarizing the results, entitled *Stage 1 Archaeological Assessment (Background Study and Property Inspection), Central Pickering Development Plan Regional Servicing Class Environmental Assessment, City of Pickering, Regional Municipality of Durham, Ontario* (ASI 2013a, PIF #P264-107-2010 and #P094-146-2011), was submitted to the MTCS for review in 2013.

Over the years, there have been numerous field-based archaeological assessments within and in the vicinity of the Project study area, and this work has been conducted by a myriad of archaeologists and archaeological consulting firms. Figure 2 locates the various Stage 2 assessment areas, and the following is a list of the 30 reports that are relevant to the archaeological context of the Project study area:

Archaeologist or Archaeological Consulting Firm	Report Reference
AAL (Archaeological Assessments Ltd.)	1995, 2005c, 2005d, 2005e, 2005f, 2005g
AMAA (Andrew Murray Archaeological Associates)	1997
Ambrose, M.	1981
ARA (Archaeological Research Associates)	2005
Archeoworks Inc.	2002
ASI (Archaeological Services Inc.)	1995, 2001b, 2001c, 2007c, 2009, 2012a
M. M. Dillon Ltd.	1995



DRPA (D.R. Poulton & Associates)	1988, 2005a, 2005c 2005d
MPA (Mayer, Poulton & Associates)	2009, 2010
NDAL (New Directions Archaeology Ltd.)	1978
Spittal, D.	1990
TMHCI (Timmins Martelle Heritage Consultants Inc.	2010
URS (URS Canada Inc.)	2009a, 2009b, 2011a, 2011b

The specific location of previous archaeological assessments in relation to the proposed Project infrastructure layout is illustrated in Figures 4 to 78, and associated survey units are listed in Appendix A.

1.3.2 Current Conditions

The Stage 2 property survey assessed approximately 60.0 hectares of land throughout the CPDP including green fields, wooded area, country roads, and paved and serviced roads. The ROW consists of asphalt, gravel shoulders and drainage ditches. Beyond the disturbed ROW, there is a mixture of agricultural fields, both high and low density residential developments, undeveloped mixed forests, built slopes and commercial space. The study area is located within the Duffins Creek watershed and is bisected by West Duffins Creek, Whitevale Creek, Ganatsekiagon Creek, Urfé Creek and Brougham Creek.

1.3.3 Physiography

The settlement history of the central north shore region of Lake Ontario took place within three broad physiographic zones (Chapman and Putnam 1984), which are oriented roughly east-west. The northernmost zone consists of the Oak Ridges Moraine, a massive, irregular feature which in places covers the Ordovician limestones and shales to a depth of over 200 metres. Although the Oak Ridges Moraine forms the drainage divide and is the source for many streams flowing both north and south, the hummocky topography and porous sediments have resulted in very few streams in the centre of the upland. Instead, water percolates down through the sands until reaching an aquitard, which directs flow laterally. Springs issuing from the flanks of the moraine feed streams that have dissected the peripheral slopes.

Sloping southward from the heights of the Oak Ridges Moraine into the Lake Ontario basin is a broad, relatively featureless till plain, named the South Slope. The underlying bedrock of the South Slope is Ordovician in age, comprising grey and black shale with some interbedded limestone (Freeman 1979). The plain narrows to about 10-12 kilometres in width at Pickering and is comprised of a large area of glaciolacustrine clay and silt veneer. These deposits represent the easternmost extension of the Peel Ponds (Hewitt 1969: Map 2124), which are of periglacial deep-water origin. Within Durham, the plain is somewhat drumlinized; the drumlins are scattered, long thin and tend to be oriented directly up slope.

The South Slope plain is truncated along its southern margin by a beach ridge and narrow plain that are remnants of glacial Lake Iroquois. The underlying bedrock of the Iroquois Plain is the same as that of the South Slope (Freeman 1979). Up to 15 metres high, this bluff rises 50 to 60 metres above Lake Ontario. Below the bluff the ancient lake bed forms a narrow lowland. The primary deposit is sand deposited in shallow waters. In the Pickering area, the Iroquois Plain is comparatively broad, measuring about 10



kilometres in width, and the strand line is a significant and well-defined feature in the eastern portion of the core study area.

The regional drainage system is largely shaped by these three general physiographic zones. A series of rivers and creeks that follow roughly parallel southeasterly courses, flow from their headwaters in the Oak Ridges Moraine to Lake Ontario. The major watersheds of concern for the present study are the Rouge River, Petticoat Creek, and the two branches of Duffins Creek. The upper gradients of these systems can be quite steep, and significant dissection of the moraine apron has occurred. On reaching the gently sloping till plain the flow is somewhat reduced, although it remains swift enough to produce entrenchment in deep V-shaped valleys and extensive alluvial deposits. Gentle fluting of the till plain, possibly related to bedrock topography in the south, has produced a pattern of generally parallel drainage.

With the Lake Iroquois strand removed so far from the current lakeshore to the south of the study area, deep-water glaciolacustrine clay and silt deposits and unmodified till are more widely exposed on the plain. Sandy, shallow-water glaciolacustrine sediments are arrayed farther inland, below the Lake Iroquois bluff. The floodplains of the major drainage systems are broad, and wetlands have formed at their flooded mouths.

The linear fabric of watercourses would have provided a permanent system of landmarks to orient travellers. Canoe travel would have been limited to the lower portions of the waterways. These watercourses would also have tended to orient foot travel to a parallel path, as trails would have been directed parallel to the watercourse orientation by virtue of the difficulty of negotiating steep ravines, swampy lowlands, and troublesome water crossings. These systems linked Lake Ontario to the upper Great Lakes through Lake Simcoe. Perhaps the busiest and best documented of these routes was the Toronto Carrying Place trail, which followed the Humber River valley northward over the drainage divide to the headwaters of the West Branch of the Holland River (Austin 1995; Robinson 1965:viii-ix). A related branch of this trail ran from the mouth of the Rouge River northward to the headwaters of Little Rouge and over the drainage divide to the East Branch of the Holland River at Holland Landing (Robinson 1965:53). Farther east, there were two routes northward from Lake Ontario into Rice Lake: a canoe route with many portages from the Bay of Quinte up the Trent River (Frost 1973:77). Finally, between the Rouge Valley Trail and Rice Lake Portage, there was the Scugog Carrying Place, the third major north-south trail axis. Each of these trails leading inland was advantageously routed. The Toronto Carrying Place skirts the west end of the Oak Ridges Moraine, while the Rouge Valley Trail, Rice Lake Portage, and Scugog Carrying Place all take advantage of the only stretches where the moraine narrows to only one or two kilometres. Given the physiographic, hydrographic, and ecological foundations on which these major north-south trails were established, they are likely of great antiquity. While there is certainly a correspondence between each of these travel routes and local Late Woodland settlement distribution, it is reasonable to presume that the residents of these communities simply availed themselves of the same access routes and resources that were of importance to their ancestors. It is also likely that they served, in part to define the precontact territories of communities at the microband, macroband and even tribal levels.

The only lakes within the drainage systems of the study area are small kettles that occur at the stream headwaters on the Oak Ridges Moraine. Wetlands tend to be less common than in many other areas. Where they occur they occupy small depressions or kettles within the moraine or flank the creeks and streams of the major watercourses. Extensive estuarine coastal wetlands occur at the mouths of the Rouge River and Duffins Creek. These have developed as a consequence of on-going isostatic uplift of the Lake Ontario outlet and the resulting transgressive expansion of lake waters around the basin (Anderson and



Lewis 1985) and likely stabilized by the end of the Middle Archaic period, circa 3000 B.C. Despite their distance from the core study area, the resources of the coastal wetlands of Lake Ontario played an important role in the subsistence-settlement systems of populations further inland, as they were highly productive habitats that supported a diversity of plant, animal and fish species.

1.3.4 Registered Archaeological Sites

According to the most recent inventory of registered archaeological sites from the Ontario Archaeological Sites Database (MTCS 2012), a total of 218 archaeological sites are located in or within a 2 km radius of the Project study area. These are listed in Table 1.

Table 1: CPDP Project Study Area--Previously Identified Archaeological Sites within 2 km

Borden	Site Name	Site Type	Temporal Period	Researcher
ALGs-1	Miller	Village	Early Iroquoian	Kenyon 1968; ASI 2000b, 2001a, 2004
ALGs-2	F. Beare	Camp	Undetermined	n/a
ALGs-3	A.Bunker	Camp	Archaic	MacDonald 1992
ALGs-4	F. Barkey	Camp	Middle Woodland	n/a
ALGs-5	Simmons	Precontact	Village	Roberts 1971; Konrad & Ross 1973d; ARA 2005
ALGs-6	--	Camp	Undetermined	Kenyon 1960; Konrad & Ross 1973c, 1973d
ALGs-10	Boys	Village	Early Iroquoian	Ridley 1958, Wright 1966
ALGs-11	Carleton	Camp	Early Iroquoian	Ridley 1958
ALGs-13	Garland Ossuary	Burial/Ossuary	Late Woodland, Iroquoian	Webb 1969; Konrad & Ross 1973d
ALGs-14	Deckers Hill	Camp	Late Woodland	Konrad n/a
ALGs-15	--			Konrad & Ross 1973c and 1973d
ALGs-16				
ALGs-17	Armstrong	Camp	Archaic	Konrad & Ross 1973d
ALGs-18	SHEA	Camp	Terminal Woodland	Konrad & Ross 1973d
ALGs-19	--	Burial	Woodland	Konrad & Ross 1973a and 1973d
ALGs-20	Vaxvick	Findspot	Archaic	Konrad & Ross 1973d; AAL 2005f
ALGs-21	(Stone) Saltbox	Findspot	Precontact	Konrad & Ross 1973b and 1973d
ALGs-22	SIME	Camp	Archaic	Konrad & Ross 1973d
ALGs-24	Gates Burial	Burial	Undetermined	Konrad & Ross 1973
ALGs-25	Gates	Findspot	Precontact	Konrad & Ross 1973d
ALGs-26	--	Burial	Undetermined	Konrad & Ross 1973c and 1973d
ALGs-27	Salgo	Cabin	Middle Iroquoian	Konrad & Ross 1973c and 1973d; AMAA 1997, 1998b; ASI 2013b
ALGs-29	Pearse	Burial	Undetermined	Konrad & Ross 1973d
ALGs-30	Carleton Burial	Burial	Undetermined	Konrad and Ross 1973
ALGs-35	Kerr	Cabin/Camp	Early Iroquoian	Ross 1974; AAL 2005d, 2008b
ALGs-42	Reigate	Camp	Archaic	Dawkins 1976
ALGs-43	Brougham	Undetermined	Undetermined	Dawkins 1976



Borden	Site Name	Site Type	Temporal Period	Researcher
ALGs-45	Wilmer	Camp	Archaic	Dawkins 1976
ALGs-48	Thiele	Undetermined	Undetermined	Dawkins 1976
ALGs-49	Tallon	Undetermined	Undetermined	Dawkins 1976
ALGs-50	Morrow	Undetermined	Undetermined	Dawkins 1976
ALGs-51	Nelles	Undetermined	Undetermined	Dawkins 1976
ALGs-54	Gabriel	Undetermined	Undetermined	Dawkins 1976
ALGs-55	Cumby	Undetermined	Undetermined	Poulton 1976
ALGs-58	McCormick	Camp	Undetermined	Dawkins 1976
ALGs-65	Herceg	Findspot	Undetermined	Poulton 1977
ALGs-71	Hoar	Village	Middle Woodland	Poulton 1977
ALGs-72	Roe	Findspot	Archaic	Poulton 1977
ALGs-73	Peter Webb 2	Village	Early Woodland	Poulton 1977
ALGs-78	Peter Webb 1	Village	Woodland	Poulton 1977; URS 2012
ALGs-82	Hobbs	Findspot	Undetermined	Poulton 1978
ALGs-83	Dubois	Findspot	Undetermined	Poulton 1978
ALGs-101	Delancey	Village	Late Woodland, Early Iroquoian	Spittal 1978; Ambrose 1981
ALGs-102	Bolitho	Village	Late Woodland, Early Iroquoian	Spittal 1978; Ambrose 1981
ALGs-103	Winnifred	Village	Late Woodland, Early Iroquoian	Spittal 1978; Ambrose 1981
ALGs-104	Ginger	Village	Late Woodland, Early Iroquoian	Spittal 1978; M.M. Dillon 1995; DRPA 1998
ALGs-105	Bowden	Camp	Archaic	Spittal 1978; AAL 2005f
ALGs-106	Camp Picada	Isolated Find	Precontact	Spittal 1978
ALGs-107	Mawson	Camp	Woodland	Spittal 1978; ASI 1991
ALGs-108	Ramage	Findspot	Precontact	Spittal 1978
ALGs-109	Willems	Camp	Archaic	Spittal 1978; Ambrose 1981; AAL 2005g
ALGs-115	Runnymede 1	Findspot	Euro-Canadian	YNAS 1991a
ALGs-116	Runnymede 2	Findspot	Precontact	YNAS 1991a
ALGs-117	Runnymede 3	Findspot	Precontact/Euro-Canadian	YNAS 1991a
ALGs-118	Runnymede 4	Findspot	Precontact	YNAS 1991a
ALGs-119	Runnymede 5	Findspot	Precontact	YNAS 1991a
ALGs-120	Runnymede 6	Findspot	Precontact	YNAS 1991a
ALGs-121	Runnymede 7	Findspot	Late Palaeoindian	YNAS 1991a
ALGs-122	Runnymede 8	Findspot	Late Archaic	YNAS 1991a
ALGs-123	Runnymede 9	Findspot	Precontact	YNAS 1991a
ALGs-124	Runnymede 10	Findspot	Precontact	YNAS 1991a
ALGs-125	Runnymede 11	Findspot	Precontact	YNAS 1991a
ALGs-126	Runnymede 12	Findspot	Precontact	YNAS 1991a
ALGs-127	Runnymede 13	Findspot	Precontact	YNAS 1991a
ALGs-128	Runnymede 14	Findspot	Precontact	YNAS 1991a
ALGs-129	Runnymede 15	Findspot	Precontact	YNAS 1991a
ALGs-130	Boddy 1	Findspot	Precontact	YNAS 1991c
ALGs-131	Boddy 2	Findspot	Precontact	YNAS 1991c
ALGs-132	Boddy 3	Findspot	Precontact	YNAS 1991c



Borden	Site Name	Site Type	Temporal Period	Researcher
ALGs-133	Boddy 4	Findspot	Precontact	YNAS 1991c
ALGs-134	Boddy 5	Findspot	Precontact	YNAS 1991c
ALGs-135	Boddy 6	Findspot	Precontact	YNAS 1991c
ALGs-136	Boddy 7	Findspot	Precontact	YNAS 1991c
ALGs-137	Boddy 8	Findspot	Precontact	YNAS 1991c
ALGs-138	Boddy 9	Findspot	Precontact	YNAS 1991c
ALGs-139	Mo 1	Findspot	Precontact	YNAS 1991b
ALGs-140	Mo 2	Findspot	Precontact	YNAS 1991b
ALGs-141	Hollinger	Findspot	Late Archaic	MacDonald 1992
ALGs-143	Ashbridge	Village	Middle-Late Woodland, Early Iroquoian	Dillon 1995; DRPA 1998
ALGs-152	Wise-Whaley	Homestead	Euro-Canadian	ASI 1995
ALGs-175	Sideline	Camp	Middle Iroquoian	AMAA 1997 and 1998a
ALGs-176	Cobb	Camp	Precontact	AMAA 1997
ALGs-177	--	Findspot	Late Paleo-Indian	AMAA 1997
ALGs-179	--	Findspot	Late Paleo-Indian	AMAA 1997
ALGs-180	Soya	Findspot	Precontact	AMAA 1997
ALGs-181	Historic #1	Homestead	Euro-Canadian	DRPA 1998; AAL 2005b
ALGs-182	Historic #2	Homestead	Euro-Canadian	DRPA 1998
ALGs-183	Historic #3	Homestead	Euro-Canadian	DRPA 1998; AAL 2005a
ALGs-184	Historic #4	Homestead	Euro-Canadian	DRPA 1998; AAL 2005a
ALGs-185	Historic #5	Homestead	Euro-Canadian	DRPA 1998; AAL 2005b
ALGs-186	Historic #6	Homestead	Euro-Canadian	DRPA 1998; AAL 2000a; ASI 2009a
ALGs-187	Bogey	Findspot	Precontact	DRPA 1998; AAL 2005b
ALGs-188	Sydney	Camp	Precontact	DRPA 1998
ALGs-189	Grouse	Camp	Precontact	DRPA 1998; AAL 2005b
ALGs-190	Kujo	Camp	Late Woodland, Early Iroquoian	DRPA 1998; AAL 2005a; ASI 2007b
ALGs-191	Cinnamon Girl	Cabin	Late Woodland, Early Iroquoian	DRPA 1998; AAL 2005a
ALGs-192	Hidden Clearing	Camp	Precontact	DRPA 1998; AAL 2005b
ALGs-193	Old Shed	Camp	Precontact	DRPA 1998
ALGs-194	Anniversary	Cabin	Late Woodland, Early Iroquoian	DRPA 1998
ALGs-195	Lorne White	Cabin	Early Iroquoian	DRPA 1998; AAL 2005b
ALGs-196	Megan	Camp	Undetermined Precontact	DRPA 1998
ALGs-197	Patrick	Camp	Undetermined Precontact	DRPA 1998
ALGs-198	Eastwood	Camp	Late Woodland, Early Iroquoian	DRPA 1998; AAL 2005a
ALGs-199	McLachlin (outside)	Hamlet	Late Woodland, Early Iroquoian	DRPA 1998;
ALGs-200	Isolated Find #6	Findspot	Early Woodland	DRPA 1998
ALGs-201	Isolated Find #18	Findspot	Late Archaic	DRPA 1998
ALGs-202	Little Clish	Findspot	Late Woodland	DRPA 1998; AAL 2005a; ASI 2007b
ALGs-203	Little Fisher	Findspot	Late Woodland, Early Iroquoian	DRPA 1998; AAL 2005a; ASI 2007b
ALGs-204	Kearsley	Camp	Paleo-Indian	DRPA 1998; AAL 2005a
ALGs-228	Brougham	Homestead	Euro-Canadian	ASI 2001a



Borden	Site Name	Site Type	Temporal Period	Researcher
ALGs-232	Valley Ross	Undetermined	Undetermined	ASI 2004
ALGs-235	Bentley House	Homestead	Euro-Canadian	ASI 2001b
ALGs-282	W & WH Major	Homestead, camp	Euro-Canadian, Iroquoian	DRPA 2005c
ALGs-283	Fairway	Homestead	Euro-Canadian	AAL 2005b
ALGs-287	Spruce Ridge	Cabin	Middle Iroquoian	AAL 2005c
ALGs-288	Isaac Young	Homestead	Euro-Canadian	AAL 2005c
ALGs-289	William Turner	Homestead	Euro-Canadian	AAL 2005c
ALGs-290	Whitevale Road	Homestead	Euro-Canadian	AAL 2005c
ALGs-291	Little Whitevale Road	Homestead	Euro-Canadian	AAL 2005c
ALGs-292	Major	Homestead	Euro-Canadian	AAL 2005c, 2009a
ALGs-293	Turner	Homestead	Euro-Canadian	AAL 2005c
ALGs-294	Wills	Findspot	Late Archaic	AAL 2005c
ALGs-295	Witter	Homestead, camp	Euro-Canadian, Iroquoian	AAL 2005c, 2008b
ALGs-296	Newey	Findspot	Iroquoian	AAL 2005c, 2008a
ALGs-297	Spittal	Findspot	Precontact	AAL 2005c
ALGs-298	Beckett	Findspot	Precontact	AAL 2005c
ALGs-299	Hunter	Findspot	Middle Archaic	AAL 2005c
ALGs-300	Hunter II	Findspot	Middle Archaic	AAL 2005c
ALGs-301	Hunter III	Findspot	Iroquoian	AAL 2005c
ALGs-302	Miindaamiin	Village	Middle Iroquoian	AAL 2005e, URS 2011c
ALGs-303	Brock Ridge	Homestead	Euro-Canadian	AAL 2005e
ALGs-304	Churchill	Homestead	Euro-Canadian	AAL 2005e
ALGs-305	Martin	Findspot	Iroquoian	AAL 2005e
ALGs-306	Martin II	Findspot	Iroquoian	AAL 2005e
ALGs-307	Martin III	Findspot	Iroquoian	AAL 2005e
ALGs-308	Kitigan	Cabin	Early Iroquoian	AAL 2005g
ALGs-309	Covent	Findspot	Iroquoian	AAL 2005g
ALGs-310	Small Pond	Findspot	Iroquoian	AAL 2005g
ALGs-319	Spruce Ridge II	Cabin	Middle Iroquoian	AAL 2005g
ALGs-320	Spruce Ridge III	Findspot	Iroquoian	AAL 2005g
ALGs-321	Spruce Ridge IV	Camp	Iroquoian	AAL 2005c
ALGs-323	Marquis	Findspot	Late Paleo-Indian	AAL 2005c
ALGs-324	Marquis II	Findspot	Early Archaic	AAL 2005c
ALGs-325	Marquis III	Findspot	Late Archaic	AAL 2005c
ALGs-326	Marquis IV	Findspot	Late Archaic	AAL 2005c
ALGs-327	Marquis V	Findspot	Iroquoian	AAL 2005c
ALGs-328	Hoover	Camp	Precontact	AAL 2005d
ALGs-329	Wonowin	Village	Middle Iroquoian	AAL 2005d; ASI 2011b
ALGs-330	Second Last	Findspot	Late Archaic	AAL 2005c
ALGs-331	Donald	Findspot	Middle-Late Iroquoian	AAL 2005d
ALGs-332	Subtelny	Camp	Precontact	AAL 2005g
ALGs-333	Skidmore	Camp	Precontact	AAL 2005g, 2009b
ALGs-334	Little Lowdown	Camp	Middle Iroquoian	AAL 2005g
ALGs-335	Lowdown	Cabin	Middle-Late Iroquoian	AAL 2005g
ALGs-336	Stephenson	Homestead	Euro-Canadian	AAL 2005e



Borden	Site Name	Site Type	Temporal Period	Researcher
ALGs-337	Gidaaki	Cabin	Early Iroquoian	AAL 2005e
ALGs-338	Last	Findspot	Iroquoian	AAL 2005c
ALGs-339	Gerry	Camp	Precontact	AAL 2005g
ALGs-340	Frederick Smith	Homestead	Euro-Canadian	AAL 2005g
ALGs-341	Sebastien (Gimiwaan)	Village	Middle Iroquoian	AAL 2005d; ASI 2011a
ALGs-343	Cara	Camp	Early-Middle Iroquoian	AAL 2005e
ALGs-344	Ellicott I	Homestead	Euro-Canadian	AAL 2005e
ALGs-345	Ellicott II	Homestead	Euro-Canadian	AAL 2005e
ALGs-359	Varly I	Findspot	Precontact	ASI 2006
ALGs-360	Varly II	Findspot	Precontact	ASI 2006
ALGs-361	Varly III	Scatter	Precontact	ASI 2006
ALGs-363	Desson	Findspot	Middle Archaic	AAL 2005g
ALGs-364	--	n/a	Middle Archaic	TRCA 2003
ALGs-366	--	Camp	Precontact	NDAL 2010
ALGs-367	--	Camp	Precontact	NDAL 2010
ALGs-368	Carl R. Murphy	Village	Late Woodland	NDAL 2010; ASI 2012b
ALGs-369	ALGs-369 P1-P2	Findspot	Undetermined Precontact	ASI 2009b
ALGs 372	ALGs-372 P3	Findspot	Undetermined Precontact	ASI 2009b
ALGs-412	H2	Scatter	Euro-Canadian	ASI 2012a
ALGs-413	H3	Homestead	Euro-Canadian	ASI-2012a
ALGs-414	H4	Scatter	Euro-Canadian	ASI 2012a
ALGs-415	H6	Scatter	Euro-Canadian	ASI-2012a
ALGs-416	H7	Scatter	Euro-Canadian	ASI 2012a
ALGs-417	H8	Scatter	Euro-Canadian	ASI 2012a
ALGs-418	P1	Findspot	Precontact	ASI 2012a
ALGs-429	--	Scatter	Euro-Canadian	URS 2009c
ALGs-439	Clark's Hollow	Homestead	Euro-Canadian	TRCA 2009
ALGs-442	Palmer	n/a	Euro-Canadian	TRCA 2011
ALGs-448	P2	Findspot	Middle Archaic	ASI 2012a
ALGs-455	Brignal	Homestead	Euro-Canadian	This Report
ALGs-467	Robinson	Homestead	Euro-Canadian	This Report
ALGt-5	Anthony	Burial	Undetermined	Stothers 1968; Konrad & Ross 1973d
ALGt-7	Reesor	Camp	Late Woodland, Iroquoian	Konrad & Ross 1973d; Kapches 1978; MPPA 1988
ALGt-13	Ken Reesor I	Campsite	Archaic	Konrad 1972
ALGt-14	Deckers Hill	Campsite	Late Woodland	Konard (n/a)
ALGt-28	Wilson Park	Village	Late Iroquoian	DRPA 2005a, 2005b, 2006; ASI 2013c
ALGt-29	Ansell	Camp	Aceramic	AMAA 1997
ALGt-30 (ALGs-2) (ALGs-4)	Petticoat Creek (same as F. Beare) (same as F. Barkey)	Camp	Woodland, Late Iroquoian	Konrad & Ross 1973b, 1973c, 1973d; MPA 1990
ALGt-31	Whitevale	Camp	Aceramic	Konrad & Ross 1973d
ALGt-32	White	Camp	Woodland	Konrad (n/a)



Borden	Site Name	Site Type	Temporal Period	Researcher
ALGt-55	Pennock	Burial	Undetermined	Konrad & Ross 1973
ALGt-59	Brown	Findspot	Aceramic	Konrad & Ross 1973
ALGt-62	Pennock II	Camp	Aceramic	Konrad & Ross 1973
ALGt-64	Smitham	Camp	Aceramic	Konrad & Ross 1973
ALGt-65	Gostick	Village	Late Woodland	Dawkins 1976
ALGt-70	Jarvis	Camp	Archaic	Dawkins 1976
ALGt-71	McCabe	Camp	Archaic	Dawkins 1976
ALGt-77	Swann	Findspot	Undetermined	Dawkins 1976
ALGt-92	Junker	Camp	Undetermined	Dawkins 1976
ALGt-94	Cheam	Findspot	Archaic	Dawkins 1976
ALGt-98	Balfour	Camp	Undetermined	Poulton 1977
ALGt-102	Calagouri	Findspot	Undetermined	Poulton 1977
ALGt-185	Sisco	Findspot	Precontact	MPPA 1987
ALGt-191	Mark Reesor	Camp	Iroquoian	MPA 1990
ALGt-192	Eva Reesor	Lithic Scatter	Archaic	MPA 1990
ALGt-198	--	Homestead	Euro-Canadian	MHCI 1993
ALGt-205	Pike II	Findspot	Precontact	MHCI 1993
ALGt-206	Pike I	Camp	Undetermined Precontact	MHCI 1993
ALGt-246	Fyfe	Lithic scatter	Undetermined Precontact	AMAA 1997
ALGt-589	H1	Homestead	Euro-Canadian	ASI 2012a

Table 2 identifies 26 archaeological sites from the previous inventory (Table 1) that are either located within the Project limits, or in the immediate vicinity (within 50 m), in accordance with the *S & G, Section 7.5.8, Standard 4*. In addition to the two sites discussed in this report that were discovered within Project limits, there are fourteen other sites where a portion of their 20 m protective buffers may extend into the Project limits, in accordance with the *S & G, Section 7.8.5, Standard 1.e.i*. Table 2 also notes the status of any outstanding recommendations for these sites regarding further assessment, mitigation and/or protective measures. The archaeological sites with further CHVI within 50 m of the Project limits are illustrated in Figure 3 in this report and in Figures 8-10 in the Supplementary Documentation.

Table 2: Registered Archaeological Sites within Immediate Vicinity (or 50 m) of the CPDP Project Limits

Borden #	Site Name	20 m Site Buffer inside Project	Stage 3 Status	Further Work
ALGs-1	Miller	X	Complete	Stage 4 incomplete; site requires protective measures
ALGs-21	(Stone) Saltbox		Could not be relocated	No further work
ALGs-105	Bowden		Complete	No further work
ALGs-106	Camp Picada		N/A	No further work
ALGs-183	Historic #3		Complete	Stage 4 mitigation required
ALGs-184	Historic #4	X	Complete	Stage 4 mitigation required
ALGs-186	Historic #6	X	Complete	No further work
ALGs-192	Hidden Clearing	X	Complete	No further work
ALGs-193	Old Shed	X		Stage 3 recommended
ALGs-198	Eastwood		Complete	Stage 4 mitigation required
ALGs-199	McLachlin		Incomplete	Additional Stage 3 required
ALGs-228	Brougham	X	Complete	No further work



Table 2: Registered Archaeological Sites within Immediate Vicinity (or 50 m) of the CPDP Project Limits

Borden #	Site Name	20 m Site Buffer		Stage 3 Status	Further Work
		inside Project			
ALGs-296	Newey	X		Complete	No further work
ALGs-298	Beckett			Complete	No further work
ALGs-304	Churchill	X		Complete	Stage 4 mitigation required
ALGs-305	Martin			Complete	Stage 4 mitigation required
ALGs-330	Second Last	X		N/A	No further work
ALGs-334	Little Lowdown			Complete	Stage 4 mitigation required
ALGs-340	Frederick Smith	X		Complete	Stage 4 mitigation required
ALGs-341	Sebastien			Complete	Site preserved; archaeological site monitoring required
ALGs-344	Ellicott	X		Complete	Stage 4 mitigation required
ALGs-412	H2	X			Stage 3 recommended
ALGs-415	H6				Stage 3 recommended
ALGs-455	Brignal	X			Stage 3 recommended
ALGs-467	Robinson	X			Stage 3 recommended
ALGt-185	Sisco	X		Complete	No further work

1.3.5 Summary

A review of the archaeological context for the Project indicates that there is potential for the recovery of pre-contact Aboriginal and post contact historical remains within Project lands depending on the degree of previous land disturbance.

1.3.6 Stage 2 Archaeological Assessment

The Stage 2 property survey was conducted by Kathryn Bryant, ASI (MTCS licence P264) between June 24 and November 23, 2011. Fieldwork continued in 2012 under the direction of Shawn Bayes, ASI (MTCS licence R356) on May 25, 28 and 29, 2012 and Bruce Welsh (ASI, MTCS licence P047) from November 7 to December 20, 2012. In 2013, Thanos Webb (ASI, MTCS licence R400) commenced fieldwork on April 26, followed by more work supervised by Bruce Welsh on May 7, 9, and 29, and then again by Thanos Webb on June 21 and July 5 2013. The Stage 2 property survey strictly focused on Project lands within the Stage 1 study area determined to have archaeological potential during the Stage 1 property inspection (ASI 2013a).

2.0 FIELD METHODS

This section describes the field methods used to complete the remaining Stage 2 archaeological assessment of the Project lands and provides a summary of the overall results. To facilitate the management of the fieldwork and results, Project lands were divided into a series of infrastructure types, e.g., watermain, forcemain, etc. that reflect the current Project layouts as depicted in Figure 3. Each infrastructure type was divided into individual components, e.g., Watermain 1, Watermain 2, etc., and then further sub-divided into the various survey units (using lower case letter designations) that would require Stage 2 assessment; these are organized as follows along with the associated figure numbers:

- Trunk 1 (Figure 4): Survey Units T1a (Figure 5) and T1b-e (Figure 6);
- Trunk 2 (Figure 7): Survey Units T2a (Figure 8); T2b-e (Figure 9) and T2g-l (Figure 10);
- Trunk 3 (Figure 11): Survey Units T3a (Figure 12), T3b-l (Figure 13), T3k-p (Figure 14) and T3q-s (Figure 15);
- Trunk 4 (Figure 16): Survey Units T4a-b (Figure 17), T4c-f (Figure 18) and T4f-i (Figure 19)
- Sub-Trunk 1 (Figure 20): Survey Units ST1b-e (Figure 21);
- Sub-Trunk 2 (Figure 22): Survey Units ST2a-e (Figure 23) and ST2a (Figure 24);
- Sub-Trunk 4 (Figure 25): Survey Unit ST4a (Figure 26)
- Forcemain 1 (Figure 27): Survey Units FM1a-d (Figure 28);
- Forcemain 2 (Figure 29): Survey Units FM2a-b (Figure 30);
- Forcemain 3 (Figure 31): Survey Units FM3a-c (Figure 32);
- Watermain 1 (Figure 33): Survey Units WM1a (Figure 34) WM1b-d (Figure 35) and WM1e (Figure 36);
- Watermain 2 (Figure 37): Survey Units WM2a (Figure 38), WM2b-d (Figure 39), WM2e-i (Figure 40) and WM2i (Figure 41);
- Watermain 3 (Figure 42): Survey Units WM3a-g (Figure 43), WM3h-m (Figure 44) and WM3n-p (Figure 45);
- 22 Sideline (Figure 46): Survey Units 22 Sideline b-e (Figure 47) and 22 Sideline e-g (Figure 48);
- 26 Sideline (Figure 49): Survey Units 26 Sideline a (Figure 50), 26 Sideline b-d (Figure 51), 26 Sideline e-h (Figure 52) and 26 Sideline i (Figure 53);
- Brock Road (Figure 54): Survey Units Brock a (Figure 55), Brock b (Figure 56), Brock b-d (Figure 57), Brock d-h (Figure 58) h-k (Figure 59), Brock l-o (Figure 60) and Brock p-u (Figure 61);
- Rossland Road (Figure 62): Survey Units Rossland b-c (Figure 63) and Rossland d-g (Figure 64);
- Taunton Road (Figure 65): Survey Units Taunton a-d (Figure 66), Taunton f (Figure 67), Taunton g-l (Figure 68), Taunton j (Figure 69) and Taunton j-k (Figure 70);
- Whites Road (Figure 71): Survey Units a-d (Figure 72); and
- Whitevale Road (Figure 73): Survey Units Whitevale a-b (Figure 74), Whitevale c-d (Figure 75), Whitevale d-f (Figure 76), Whitevale g-k (Figure 77) and Whitevale m-q (Figure 78).

During the three-year period it took to conduct the Stage 2 assessment of the Project, the design of several infrastructure sections changed due to evolving Project requirements, and this process resulted in numerous survey units that were subjected to Stage 2 assessment but which ultimately did not form part of the final Project design. The location and assessment results of these survey units have been mapped (see Section 8.0 Mapping) and photo-documented as necessary (see Section 9.0 Images), in accordance with the S & G, Section 7.8.6., Standard 1 and Section 7.8.7, Standard 1.

Field assessments were undertaken when permissions to enter (PTE) were obtained and when ground conditions were suitable, in accordance with the S & G. Unless directed to the contrary, PTE was



coordinated by WSP Canada Inc., but each land owner or tenant was contacted by ASI Field Directors prior to accessing the property and initiating fieldwork.

A significant portion of the overall Project lands are under active cultivation. Pursuant to the *S & G, Section 2.1.1*, the assessment of lands with open visibility, e.g. cultivated fields, must be accomplished by Pedestrian survey at 5 m interval. This involves systematically walking the property, mapping and collecting artifacts found on the ground surface. Survey transects are spaced at maximum intervals of 5 m. When archaeological resources are found, survey transects are decreased to one metre intervals over a 20 m radius around the find to determine whether it is an isolated find or part of a larger scatter. All formal artifact types and diagnostic categories are collected, while leaving enough in place to relocate the site if necessary. Stage 2 Pedestrian survey at 5 m interval is conducted on lands with acceptable survey conditions, specifically, ground surface visibility of 80% or better. Where vegetation or crop residue reduce ground visibility to less than 80%, survey intervals are reduced to 2 m or 2.5 m to achieve minimum coverage equivalent to 80% or better visibility, in accordance with the *S & G, Section 2.1, Guideline 2*.

Where normal agricultural practices and ground preparation were not sufficient to insure acceptable ground conditions as discussed above, contract ploughing was used to insure adequate ground surface visibility. The fields were ploughed deeply enough to provide total topsoil exposure, but not deeper than previous ploughing. All ploughed lands were allowed to thoroughly weather prior to Pedestrian survey at 5 m interval.

A minority of the Project lands have closed surface visibility, consisting of scrub fields or fence rows that cannot be ploughed or woodlots, and these were assessed by shovel Test pit survey at 5 m interval, in accordance with the *S & G, Section 2.1.2*. Where survey units were very small or very narrow (10 m or less) portions of active agricultural fields, Test pit survey at 5 m interval was also conducted, unless ground surface conditions were suitable for Pedestrian survey at 5 m interval (*S & G, Section 2.1.2, Standard 1.f*). Test pit survey at 5 m interval involves the hand excavation of 30 cm diameter test pits through the topsoil and into the first 5 cm of subsoil, and the screening of all test pit fills through 6 mm mesh to facilitate artifact recovery. All undisturbed areas, whether within 300 m of any feature of archaeological potential or more distant, were test pitted at five metre intervals. Test pits were excavated to within 1 m of built structures or until test pits showed evidence of recent ground disturbance. Test pits were examined for stratigraphy, cultural features, or evidence of fill. Artifacts were recovered by test pit, and a minimum of eight additional test pits and one or more one metre test units were excavated to define site boundaries, per *S & G, Section 2.1.3, Standard 1 (Option A)*. All test pits were backfilled and their location recorded on field maps.

One metre square test units were excavated as needed as part of an intensified testing strategy to maximize recovery of sparse artifacts, as well as to document the presence and extent of buried artifacts, cultural features and stratigraphy. Test unit excavation was conducted per *S & G Section 3.2.2*.

Field documentation includes notes about survey methods and assessment results, mapping of results, and representative digital photography of field conditions (per the *S & G, Section 2.1, Standard 6, Section 3.2, Standard 4* and *Section 7.8.6*) for each assessed survey unit and archaeological find. Orthographic mapping was prepared and served as the base map for notation of field results and photo locations. The mapping also facilitated identification of survey unit location and boundaries. Pertinent survey data for each assessed survey unit are summarized in Appendix A and include whether or not it was previously assessed, the survey date, ground conditions at the time of survey, and survey method.



Where factors such as steep slope, permanently wet areas, and/or extensive and deep ROW disturbance¹ were noted within the survey unit which resulted in a determination of no potential for archaeological resources, then systematic survey was not conducted and the assessment results were mapped and documented with field notes and representative photos, as required, in accordance with the *S & G (Section 2.1, Standard 6; Section 3.2, Standard 4; and Section 7.8.6)*. Where necessary, areas of disturbance were confirmed by excavating test pits at 10 m or judgmental intervals.

Representative field photos documenting the Stage 2 assessment of the Project lands are provided for most of the survey units (Section 9.0 Images) and listed in Appendix A. The photo number, location and orientation are also illustrated on the Project mapping (Section 8.0 Mapping: Figures 4 to 78).

All fieldwork was conducted when weather and lighting conditions permitted good visibility of land features, and these are noted for each survey unit in Appendix A.

GPS readings (NAD83) were used to geo-reference the location of identified sites. One central reading was taken for small archaeological sites (less than 10 m by 10 m), and five or more readings were taken for larger sites. The GPS coordinates are presented in the Supplementary Documentation, Section 3. A Garmin Oregon 450 GPS unit was used by all field teams and provided 3-9 m accuracy for all readings. Any conditions that could have affected accuracy of the readings were noted. Additional GPS readings of fixed reference points for each site were taken where possible.

Appendix A summarizes the Stage 2 assessment results for each Project survey unit in terms of the following:

- assessment status: survey units previously assessed (highlighted in green), survey units assessed during the 2011-2013 field seasons (highlighted in yellow), and survey units still requiring Stage 2 assessment (highlighted in orange);
- archaeologist and report date for previously assessed survey; and
- information on the current assessment—assessment results, survey date, relevant figure and images illustrating the survey work, weather conditions during the survey, and recommendations for further work, if necessary.

It should be noted that for each survey unit, the various assessment activities that were conducted have been noted. For example, parts of Survey Unit T2c were subjected to test pit survey but, in addition, other parts could not be assessed because they were determined to have no potential due to low and wet conditions or excessive slope.

¹ Typically, a ROW can be divided into two areas: the disturbed ROW, and ROW lands beyond the disturbed ROW. The typically disturbed ROW extends outwards from either side of the centerline of the traveled lanes, and it includes the traveled lanes and shoulders and extends to the toe of the fill slope, the top of the cut slope, or the outside edge of the drainage ditch, whichever is furthest from the centerline. Subsurface disturbance within these lands may be considered deep and extensive, thereby negating any archaeological potential for such lands.

ROW construction disturbance may be found to extend beyond the typical disturbed ROW area, and this generally includes additional grading, cutting and filling, additional drainage ditching, watercourse alteration or channelization, servicing, removals, intensive landscaping, and heavy construction traffic. Areas beyond the typically disturbed ROW generally require archaeological assessment in order to determine archaeological potential relative to the type or scale of disturbances that may have occurred in these zones.



Section 8.0 Mapping contains the mapped results of all survey units that were assessed by ASI during the 2011-2013 field seasons. Each figure, e.g. Figure 5 for Trunk 1 (T1-a), identifies the relevant infrastructure section and survey unit(s), illustrates the assessment results (e.g., assessed by test pit survey, assessed as no potential due to disturbance, etc.) and provides the location and orientation of all images that document the assessment activities. Due to the complex and overlapping nature of the types of infrastructure required for this Project, some figures may depict the assessment results for several different components. In an effort to clarify the photo-documentation of these components, only the images that apply to the featured infrastructure section and survey units will be shown. Those that are not relevant will be blocked out, c.f., Figure 5, Photos 13, 14 and 215.

Section 9.0 Images contains the available photo-documentation of the assessment results for each survey unit. The photos for each infrastructure section are organized as separate plates that are each associated with the figure that illustrates its assessment results, e.g., Plate 1 for Figure 5, Plate 2 for Figure 6, Plate 3 for Figure 8, etc. If photos are available for survey units that are associated with the featured infrastructure section but not part of the current Project design, then the photo caption text is italicized.

Project lands requiring Stage 2 archaeological assessment total 298.53 hectares and comprise 167 separate survey units (note, however, that this does not include the survey units that were previously assessed but do not form part of the current Project); most of these lands (237.84 hectares, or 79.8%) have been previously assessed. Of the remaining lands (which comprise 60.16 hectares), most (55.10 hectares, or 91.6%) was assessed during the 2011-2013 field seasons. Table 3 summarizes the Stage 2 assessment coverage for the Project lands.

Table 3: Summary of Stage 2 Property Assessment Coverage

Project Lands	Coverage			
	Ha	Ha	Ha	%
Previously Assessed Lands			237.84	79.8
Lands Requiring Assessment			60.16	20.2
Test pit survey at 5 m interval		9.81		
Pedestrian survey at 5 m interval		11.16		
Not Assessed		34.13		
No potential—wet	4.31			
No potential—sloped	7.68			
No potential—disturbed	22.14			
Lands Requiring Assessment		5.06		
Total			298.00	100.0

During the course of the assessment, archaeological resources were identified, and these are further discussed in Section 3.



3.0 RECORD OF FINDS

3.1 Archaeological Sites

During the course of the Stage 2 property assessment two post-contact historical sites were discovered: Sites AIGs-455 (Brignal site) and Site AIGs-467 (Robinson site). Both have been registered with the MTCS, in accordance with the *S & G, Section 7.12, Standard 1 of section 7.12.*

3.1.1 Site AIGs-455 (Brignal Site)

General Site location: The site is located on a landscaped lawn on the north side of 5 Concession Road (Lot 16, Concession 5) east of Brock Road. For detailed location information including GPS coordinates and detailed mapping (see Supplementary Documentation, Figure 2 and Section 3.0).

Topography: The site was found on a raised, landscaped area adjacent to 5 Concession Road and 16 Sideline.

Soil Type: Medium brown clayey loam topsoil overlying yellow brown clayey subsoil.

Features of Archaeological Potential: Historical evidence showing the site has been occupied since the mid 19th century and may represent the remains of a homestead.

Site Type: Historical Euro-Canadian.

Field Conditions: Flat, landscaped lawn.

Site Size (approximate): 5 m x 5 m.

Assessment Method: Test pit survey at 5 m interval at 2.5 m intervals. Once historic artifacts were discovered in Test Pit 1 (TP 1), thirteen more test pits were dug to subsoil at a distance of 2.5 metres from TP 1. Of the 14 test pits excavated, four were positive (TP 1, 2, 3, and 4). A one metre test unit was then excavated over the location of TP 1 (Supplementary Documentation, Figure 3 and Section 2.0: Plate 1).

Density & Distribution: Six artifacts were found in four of 15 test pits. The one metre test unit yielded 40 artifacts.

Content Summary: 35 ceramics, 4 faunal remains, 2 metal artifacts and 5 glass (see catalogue below).

Sample Collected: 46 artifacts were collected (100%)

Sample Description: The sample includes a variety of mid to late nineteenth century domestic and architectural pieces, as well as faunal material. One artifact exhibits evidence of thermal alteration. The small sample of architectural material includes several pieces of window glass as well as a machine-cut nail and a wire nail. The bulk of the sample (83%) is white ceramic tableware of which 74% are refined white earthenware (RWE). Only one quarter of the RWE bears a recognizable decorative motif: two pieces with Late Palette painting, one with blue transfer-printing and three with brown transfer-printing (Plate 207).



Table 4: Artifact Catalogue for AIGs-455 (Brignal)

Cat	Qty	TP/TU	Class	Type	Material	Ware	Motif	Form	Comments	
F1	2	TU	1	Mammal	Indeterminate					
F2	2	TU	1	Mammal	Indeterminate					
H1	1	TP	1	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Flatware	
H2	1	TP	2	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Flatware	heavily exfoliated
H3	2	TP	3	Kitchen/Food	Tableware	Ceramic	RWE	Transfer print-general	Unidentifiable	stippled brown floral transfer motif, exfoliated on other side
H4	1	TP	3	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Flatware	heavily exfoliated
H5	1	TP	4	Kitchen/Food	Teaware	Ceramic	RWE	Hand-painted - late palette	Teas	floral motif on exterior
H6	1	TU	1	Kitchen/Food	Teaware	Ceramic	RWE	Hand-painted - general	Teas	blue line along rim edge, partially exfoliated
H7	1	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Transfer print-general	Holloware	geometric motif on exterior, interior exfoliated
H8	1	TU	1	Kitchen/Food	Tableware	Ceramic	Unidentifiable	Unidentified	Unidentifiable	completely exfoliated white ceramic fragment
H9	1	TU	1	Kitchen/Food	Teaware	Ceramic	RWE	Hand-painted - late palette	Teas	lightly thermally altered, leaf motif on one side
H10	8	TU	1	Kitchen/Food	Tableware	Ceramic	Unidentifiable	Unidentified	Flatware	
H11	13	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Flatware	partially exfoliated
H12	2	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Holloware	
H13	2	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Unidentified	Flatware	upper surface exfoliated, partial flatware base fragments
H14	5	TU	1	Architectural	Window Glass	Glass				
H15	1	TU	1	Architectural	Nail - Machine Cut	Metal - Ferrous				
H16	1	TU	1	Architectural	Nail - Wire	Metal - Ferrous				



3.1.2 Site ALGs-467 (Robinson site)

General Site location: The site is located in a woodlot on the south side of Whitevale Road. For detailed location information including GPS coordinates and detailed mapping (Supplementary Documentation, Figure 4 and Section 3.0).

Topography: The site was found in a wood lot south of Whitevale Road.

Soil Type: Light brown clayey loam topsoil overlying yellow brown clayey subsoil.

Features of Archaeological Potential: Historical evidence showing the site has been occupied since the mid-19th century and may represent remains of a homestead.

Site Type: Historical Euro-Canadian.

Field Conditions: Flat, wood lot.

Site Size (approximate): 20 m x 15 m.

Assessment Method: Test pit survey at 5 m interval at 5 m. Once artifacts were located in TP 1, more intensive 2.5 m Test pit survey at 5 m interval was conducted and 26 more test pits were excavated and ten contained artifacts. with a test unit dug over TP1. A one metre test unit was then excavated over the location of TP 1 (Supplementary Documentation, Figure 5 and Section 2.0: Plate 2).

Density & Distribution: 26 artifacts were found in 10 test pits. The one metre test unit yielded 51 artifacts.

Content Summary: 30 ceramics, 27 glass, 10 metal, 6 faunal, 3 brick and a smoking pipe (see catalogue below).

Sample Collected: 77 artifacts were collected (100%)

Sample Description: The sample comprises a variety of artifact classes as well as faunal material. The architectural pieces (48% of sample) are mainly window glass but also include brick, machine-cut nails and one hand-wrought nail. Kitchen and food related pieces (38%) are mainly white ceramic table and teaware, but also include three pieces of coarse red/buff earthenware kitchenware and one Jackfield piece of unidentified form (Plate 208: H35). Almost three quarters of the whiteware is RWE, with decoration including factory slipt, sponging, transfer-printing, and blue scalloped edgeware (Plate 208: H30 and H34). The remaining identifiable whiteware pieces include undecorated pearlware and creamware (Plate 208: H33, H38 and H39). Other artifact classes represented by few pieces include tools/equipment (a screw), personal items (smoking pipe), and indeterminate class (unidentified ferrous pieces). Several pieces have been thermally altered.



Table 5: Artifact Catalogue for AIGs-467 (Robinson)

Cat	Qty	TP/TU	Class	Type	Material	Ware	Motif	Form	Comments	
F1	1	TP	5	Mammal	Medium					
F2	1	TP	5	Mammal	Medium					
F3	1	TP	8	Mammal	Medium					
F4	3	TU	1	Mammal	Medium					
H1	1	TP	1	Architectural	Window Glass	Glass			colourless	
H2	1	TP	1	Architectural	Nail - Hand-Wrought	Metal - Ferrous				
H3	1	TP	1	Indeterminate	Unidentified	Metal - Ferrous			rounded curved metal piece with rectangular opening	
H4	1	TP	1	Architectural	Nail - Machine Cut	Metal - Ferrous				
H5	1	TP	2	Kitchen/Food	Tableware	Ceramic	RWE	Transfer print	Holloware	very little glaze, mostly exfoliated on both sides
H6	1	TP	3	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Flatware	
H7	1	TP	3	Architectural	Window Glass	Glass			light aqua	
H8	1	TP	6	Architectural	Nail - Machine Cut	Metal - Ferrous				
H9	1	TP	7	Kitchen/Food	Kitchenware	Ceramic	Red earthenware - coarse	Glazed	Holloware	glossy red-brown glaze, exfoliated on one side
H10	1	TP	7	Architectural	Window Glass	Glass			colourless	
H11	1	TP	7	Tools/Equipment	Screw	Metal - Ferrous				
H12	1	TP	8	Architectural	Window Glass	Glass			colourless	
H13	1	TP	9	Kitchen/Food	Tableware	Ceramic	Ironstone	Undecorated	Unidentifiable	
H14	1	TP	9	Architectural	Window Glass	Glass			colourless	
H15	2	TP	9	Architectural	Window Glass	Glass			light aqua	
H37	2	TP	9	Architectural	Brick	Clay			yellow tan brick fragments	
H16	1	TP	9	Architectural	Brick	Clay			red brick	
H17	1	TP	10	Architectural	Window Glass	Glass			solarized	
H18	1	TP	10	Architectural	Window Glass	Glass			light aqua	
H19	1	TP	11	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Holloware	
H20	1	TP	11	Kitchen/Food	Kitchenware	Ceramic	Red earthenware - coarse	Glazed	Holloware	
H21	13	TU	1	Architectural	Window Glass	Glass			solarized	
H22	5	TU	1	Architectural	Window Glass	Glass			light aqua	
H23	1	TU	1	Personal Artifacts	Smoking Pipe	White Ball Clay			undecorated fragment	
H24	1	TU	1	Architectural	Nail - Machine Cut	Metal - Ferrous				
H25	3	TU	1	Architectural	Nail - Machine Cut	Metal - Ferrous				
H26	1	TU	1	Indeterminate	Unidentified	Metal - Ferrous			curved cylinder, unsymmetrical, could	



Table 5: Artifact Catalogue for AIGs-467 (Robinson)

Cat	Qty	TP/TU	Class	Type	Material	Ware	Motif	Form	Comments	
									be a handle	
H27	1	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Transfer print	Holloware	stippled geometric pattern
H28	1	TU	1	Kitchen/Food	Kitchenware	Ceramic	Red earthenware - coarse	Glazed	Holloware	exfoliated on one side, red brown glaze, single lipped rim
H29	2	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Factory-made slip - general	Unidentifiable	pieces are very small and exfoliated on one side, may be cable or cat's eye factory slip
H30	2	TU	1	Kitchen/Food	Teaware	Ceramic	RWE	Spongeware	Holloware	exfoliated on one side, densely sponged with light blue glaze, possible carinated shoulder
H31	1	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Unidentified	Unidentifiable	small piece exfoliated on one side, has three fine blue lines that could be handpainted or transferware
H32	8	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Undecorated	Unidentifiable	
H33	1	TU	1	Kitchen/Food	Tableware	Ceramic	Pearlware	Undecorated	Flatware	double folded foot ring
H34	1	TU	1	Kitchen/Food	Tableware	Ceramic	RWE	Edgeware - scalloped	Flatware	exfoliated on upper surfacet
H35	1	TU	1	Kitchen/Food	Unidentified	Ceramic	Jackfield	Glazed	Holloware	
H36	1	TU	1	Kitchen/Food	Kitchenware	Ceramic	Buff earthenware	Glazed	Holloware	one side exfoliated
H38	3	TU	1	Kitchen/Food	Tableware	Ceramic	Creamware	Undecorated	Unidentifiable	
H39	2	TU	1	Kitchen/Food	Tableware	Ceramic	Pearlware	Undecorated	Unidentifiable	

3.2 Documentary and Material Record

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

Table 4 provides an inventory and location of the documentary and material record for the project in accordance with the *S & G, Sections 6.7 and 7.8.2.3.*

The documentation and materials related to this project will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to 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, Culture and Sport and any other legitimate interest groups.

Table 6: Inventory of Documentary and Material Record

Project:	Stage 2 Archaeological Assessment, Central Pickering Development Plan Regional Servicing Class EA	
ASI File:	10EA-192	MTCS PIF: P094-147-2011
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) [25 files]
Field Photography (Digital)	Archaeological Services Inc., 528 Bathurst Street, Toronto, ON M5S 2P9	Stored on ASI network servers and/or CD-ROM [740 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 [30 files]
Artifacts	Archaeological Services Inc., 528 Bathurst Street, Toronto, ON M5S 2P9	ALGs-455 (Brignal site): 1 plastic bag (10cmx30cm) ALGs-467 (Robinson site): 1 plastic bag (10cmx30cm)

4.0 ANALYSIS AND CONCLUSIONS

4.1 Analysis of Stage 2 Property Survey Results

Stage 2 archaeological assessments have now been completed on 292.94 hectares of Project lands, or 98.3% of the 298.0 hectares required for the Project. To date, fieldwork has been completed on 410 survey units for the various infrastructure sections, and this includes 177 from previous assessment work (see Appendix A: green highlighted areas), and 233 during the 2011 to 2013 field seasons (Appendix A: yellow highlighted areas). Of the assessment lands covered by this report, comprising 60.16 hectares, Pedestrian survey at 5 m interval was completed on 9.81 hectares (or 18.6% of the total), Test pit survey at 5 m interval was conducted on 9.81 hectares (16.3%), and 34.13 hectares had no archaeological potential due to previous disturbance, wet conditions or severe slope, and these lands were not assessed (56.7%). Only 5.06 hectares (or 8.4% of the 60.16 hectares that required assessment) remain to be examined, and these comprise nine survey units (see Appendix A: orange highlighted areas); this work should be completed in the spring of 2014.

During the survey work completed over the 2011 to 2013 field seasons, two post contact historical sites were identified, and these are further discussed in the following sections.

4.1.1 Site ALGs-455 (Brignal site)

During the course of field survey, one historical Site ALGs-455 (Brignal site) was documented on the southwest portion of Lot 16, Concession 5, Pickering Township. In order to place it within the context of nineteenth-century land use, research was conducted at the Archives of Ontario.

According to the Abstract Index to Deed Titles, the Crown Patent for Lot 16, comprised of 200 acres, was granted to John Ryckhart in 1830. Ryckhart immediately sold the lot to George Sisley, who began to divide up the lot. Benjamin Hurd purchased 150 acres and resold them to Samuel Berkley. Berkley also started to subdivide this property, and in 1836, he sold 24 acres to Samuel Wallingford. It is within this



parcel, in the southwest corner of the lot, that the archaeological site is located. In 1837, only one entry was made for Lot 16, Concession 5 in Walton's *Home District Commercial Directory*, and that was for Samuel Bentley (Walton 1837:118). In 1846, *Brown's Home District Directory* listed "Nathaniel Sarls" (Brown 1846:63) with that address. Thus, it would appear that the property was occupied by a series of tenants during the period that the land was cleared of timber and put into agricultural production.

The agricultural portion of the 1851 census is missing for the portion of Pickering Township in which this lot is located, so it is not possible to characterize land use at mid-century [AO, Microfilm of 1851 Census Rolls, Pickering Township, reel C-11742]. Wallingford retained the property until 1852, when he sold it to James Coutts. Coutts sold it to James Palmer in 1855, who in turn sold this part to Thomas Brignal in 1862. Brignal then sold this part to Isaac Buckrin in 1876 [AO, Abstract Index to Deed Titles, Pickering Township, reel GSU 179189].

The 1877 *Historical Atlas* map of Pickering Township illustrates a residence in the northwest corner of the property of "T. Brignal." (see Supplementary Documentation, Figure 1) This location, however, does not overlap with the archaeological site.

Site AIGs-455 (Brignal site) contains ceramics and machine-cut nails would have been available between the 1830s and the 1860s; the recovered wire nail, however, would not have been available until after ca. 1890. It is probable, therefore that the site dates between 1830-1870 and is probably associated with the occupation of the original log cabin. Site AIGs-455 (Brignal site) therefore meets the criteria for further archaeological assessment in accordance with the *S & G, Section 2.2, Standard 1.c.*

4.1.2 Site AIGs-467 (Robinson site)

According to the Abstract Index to Deed Titles, the Crown Patent for Lot 22, comprised of 200 acres, was granted to Peter Robinson in 1803. John Stotts is then listed as selling the north half (100 acres) to Thomas Scriply in 1836. William Proudfoot then sold the northwest quarter (50 acres) to Andrew Smart in 1843. Smart then sold this part to Samuel Herrick in 1849. Samuel Herrick then sold the northwest quarter to Charles Herrick in 1867, who in turn sold this part to J. Wilson in 1872 [AO, Abstract Index to Deed Titles, Pickering Township, reel GSU 179188].

In order to confirm who may have occupied the property, commercial directories were consulted with respect to the address of Lot 22, Concession 4, Pickering Township. Two men were listed with that address in the 1837 directory: "John Stotts" and "John O'Gilvie" (Walton 1837:122, 124). Given that Stotts retained the south half after the sale of the north half in 1836, it is probable that O'Gilvie was the resident on the north half in 1837. The 1846 directory confirmed that Andrew Smart resided on Lot 22 after he purchased the northwest quarter in 1843 (Brown 1846:63). The 1850 directory confirmed that Samuel Herrick resided on Lot 22 after he purchased the northwest quarter in 1849 (Rowell 1850).

Three farmers were enumerated for Lot 22 in the 1871 census, including "Elizah Wilson," who would purchase the property a year later. The personal portion of the census indicated that he was a 41 year-old Ontario-born tenant farmer who lived with his wife and three children. The family farmed 50 improved acres. The crops included wheat, barley, oats, peas, potatoes, turnips, hay, grapes, and apples, while the livestock consisted of horses, cows, sheep, and pigs. The family did not own a house [AO, Microfilm of 1871 Census Rolls, Pickering Township, reel C-9973]. The historical atlas of Ontario County illustrates a



structure in the approximate location of the Site AIGs-467 (Robinson site) documented on the northwest quarter of Lot 22 (see also Supplementary Documentation, Figure 1).

Site AIGs-467 (Robinson site) contains ceramics and machine-cut nails that would all have been available between the 1820s and the 1850s. Site AIGs-467 (Robinson site) therefore meets the criteria for further archaeological assessment in accordance with the *S & G, Section 2.2, Standard 1.c.*

4.2 Conclusions

To date, a total of 292.94 hectares, representing 98.3% of lands required for the Project, have been subjected to Stage 2 archaeological assessments, and no further archaeological assessment is required.

A small portion of Project lands, representing 5.06 hectares, has not yet been surveyed. These lands comprise ten infrastructure section survey units and still require Stage 2 archaeological assessment.

Two post contact historical sites were discovered by ASI during the 2011-2013 field season, and it has been determined that they both meet the criteria for further Stage 3 Site-specific Assessment, in accordance with the *S & G, Section 2.2, Standard 1.c.*

5.0 RECOMMENDATIONS

In light of these results, Archaeological Services Inc. makes the following recommendations:

1. Stage 2 Archaeological (Property) Assessment must be undertaken on nine survey units that are within the proposed Project infrastructure lands but have not yet been subject to archaeological survey; these survey units include the following:

Infrastructure Section (Survey Unit)	Figure	Infrastructure Section (Survey Unit)	Figure
Trunk 2 (T2-e)	9	26 Sideline (26 Sideline-i)	53
Trunk 3 (T3-i)	13		
Trunk 3 (T3-l)	14	Taunton Road (Taunton-j)	69
Watermain 1 (WM1-c)	35	Whitevale Road (Whitevale-a)	74
22 Sideline (22 Sideline f)	48	Whitevale Road (Whitevale-q) Bethal Burial Ground	78

2. Two archaeological sites, Site AIGs-455 (Brignal site) and Site AIGs-467 (Robinson site) were documented during the Stage 2 fieldwork. If these sites are to be located within the proposed Project infrastructure limits, then a Stage 3 Archaeological (Site-specific) Assessment is recommended for both sites because they meet the criteria for further assessment based on the MTCS's 2011 *Standards and Guidelines for Consultant Archaeologists (S & G), Section 2.2, Standard 1.c.* A Stage 3 assessment must be conducted according to the criteria for small post-



contact archaeological sites *where it is not yet evident* that the level of cultural heritage value or interest (CHVI) will result in a recommendation to proceed to Stage 4. The Stage 3 assessment for these sites include:

- Test unit (1 m square unit) hand excavation at 5 m intervals across the site plus an additional 20% of focused sampling. Based on the size of the study area, ASI estimates that Site AIGs-455 (Brignal site) will require the excavation of ten units and Site AIGs-467 (Robinson site) will require 20 test units.
3. Fourteen (14) sites that may have further CHVI are located within 50 m of the Project limits (Figure 3 and Supplementary Documentation, Figures 8-10). These sites were previously identified by multiple consultants before the implementation of the S & G in 2011. The original report recommendations for these sites, therefore, did not define protective or monitoring buffer zones that would now be required under the S & G, and it is presently not known if any portion of these sites are within Project survey units that were previously assessed. This will need to be confirmed prior to the disturbance of Project lands adjacent to the following sites:

Archaeological Site		Location per Infrastructure Survey Unit
Borden #	Site Name	
AIGs-1	Miller	Rossland D
AIGs-183	Historic #3	Taunton G and 26 Sideline H
AIGs-184	Historic #4	Taunton I and WM2-i
AIGs-193	Old Shed	Brock G
AIGs-198	Eastwood	T3-q
AIGs-199	McLachlin	Rossland C and T3-s
AIGs-304	Churchill	T4-b
AIGs-305	Martin	T4-c
AIGs-334	Little Lowdown	FM3-a
AIGs-340	Frederick Smith	ST1-c and Wm3-f
AIGs-341	Sebastian	Whitevale k
AIGs-344	Ellicott I	ST4-a and Whitevale P/ WM-o
AIGs-412	H2	WM-d and 22 Sideline G
AIGs-415	H6	Taunton H and WM2-i

4. If the lands adjacent to the Bethel Church Burial Ground, Woodruff Cemetery, Lamoreaux Cemetery are to be impacted by the Project, then a Stage 3 Cemetery Investigation should be conducted in advance of construction to confirm the boundary of the cemetery and presence or absence of burials in the ROW lands. A Gradall will remove the topsoil in order that a licensed archaeologist can examine the exposed surfaces for grave shafts; and
5. Should changes to the Project design or temporary workspace requirements result in the inclusion of previously unassessed lands, these lands should be subject to a Stage 2 Archaeological (Property) Assessment; and



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, Culture and Sport 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 Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed 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 Cemeteries Act, R.S.O 1990 c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002. c.33 (2011) require that any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, 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.
- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.



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2010 Stage 1 & 2 Archaeological Assessment of the Proposed Interchange at Highway 407 ETR and the Realigned Sideline 22, Part of Lot 22, Concession 5, Geographic Township of Pickering, City of Pickering, Durham Region (Agreement 2008-E-0030 Assignment No.13). Report on file MTCS, Toronto.
- TRCA (Toronto and Region Conservation Authority)
2003 Rouge Park, 2003 Archaeological Inventory of the Little Rouge ORC Corridor of the Rouge River Watershed. Report on file MTCS, Toronto.

2009 Archaeological Assessment of TRCA Property in the Town of Markham (Stage 1 and 2), Toronto Transit Commission Bus Loop, Lot 1, Concession VIII, Town of Markham, York Region (RP-10-001). Report on file MTCS, Toronto.

2011 Archaeological Assessment (Stage 2 and 3) in the City of Pickering, Durham Region, York Durham Southeast Collector Trunk Sewer Shaft 1, Lot 20, Concession II, Historic Pickering Township, ON County (DCW-11-001). Report on file MTCS, Toronto.
- URS Canada Inc.
2009a Stage 1 & 2 Archaeological Assessment: Lamoreaux Pioneer Cemetery, Part of Lot 19, Concession IV, Township of Pickering, Cultural Heritage Assessment and Management Plan, City of Pickering. Report on file MTCS, Toronto.

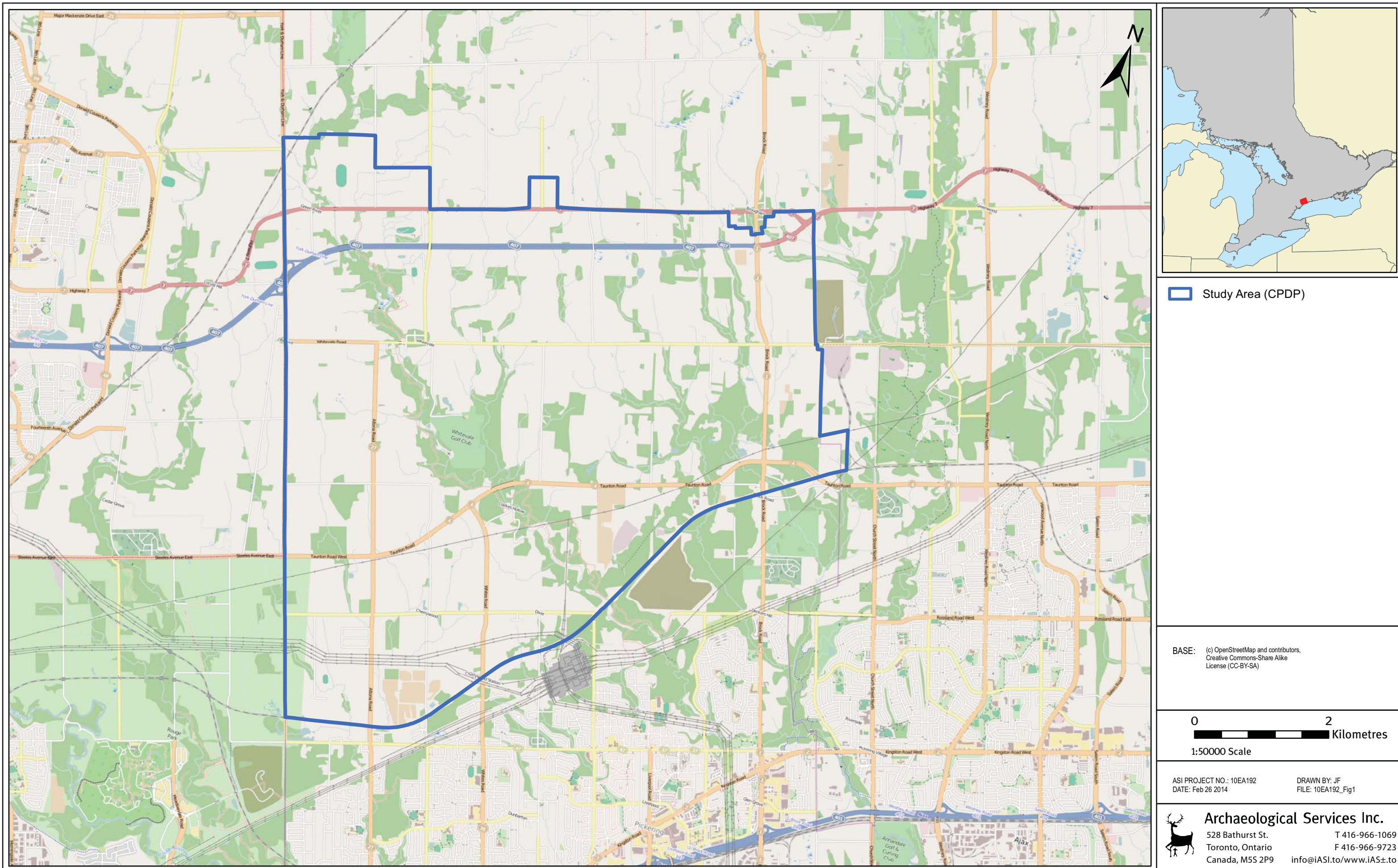


- 2009b Stage 1 & 2 Archaeological Assessment: Smith-Hastings Pioneer Cemetery, Part of Lot 20, Concession V, Township of Pickering, Cultural Heritage Assessment and Management Plan, City of Pickering. Report on file MTCS, Toronto.
- 2009c Stage 2 Archaeological Assessment for the 407 East Individual Environmental Assessment, Regional Municipality of Durham, Ontario, 2009 Results. Report on file MTCS.
- 2011a Stage 2 Archaeological Assessment, Part of Lot 16, Concession 5, in the City of Pickering, Regional Municipality of Durham. Report on file MTCS, Toronto.
- 2011b Stage 2 Archaeological Assessment, Part of Lots 17 & 18, Concession VI, City of Pickering (Formerly Township of Pickering) Regional Municipality of Durham. Report on file MTCS, Toronto.
- 2011c Stage 3 Archaeological Assessment of the Miindaamiin Site, Part of Lots 16 & 17, Concession V, Geographic Township of Pickering, Ontario. Report on file MTCS, Toronto.
- 2012 Stage 3 Archaeological Assessment, the Peter Webb 1 Site (AlGs-78), Part of Lot 17, Concession VI, City of Pickering (Formerly Township of Pickering) Regional Municipality of Durham. Report on file MTCS, Toronto.
- Walton, G.
1837 *The City of Toronto and Home District Commercial Directory for 1837.* Dalton and Coates, Toronto.
- Webb, J.
1969 The Garland Ossuary. University of Toronto, Anthropology Masters Thesis.
- Wright, J. V
1966 The Ontario Iroquois Tradition. National Museum of Canada Bulletin, 210.
- YNAS (York North Archaeological Services Inc.
1991a An Archaeological Assessment of Lands Proposed for Development by the Runnymede Development Corporation Ltd. in Lot 15, Concession 2, Town of Ajax, Regional Municipality of Durham (18T-89005)
- 1991b An Archaeological Investigation of Duffins Mill Subdivision, Part of Lot 16 and 17, Concession 2, Ajax, Regional Municipality of Durham (18T-88013). Report on file MTCS, Toronto.
- 1991c An Archaeological Survey of the Proposed Site of Valley Brook Subdivision, Part of Lots 15 & 16, Concession 2, Town of Ajax, Regional Municipality of Durham (18T-88069). Report on file MTCS, Toronto.



8.0 MAPPING





 Study Area (CPDP)

BASE: (c) OpenStreetMap and contributors,
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0  2
Kilometres
1:50000 Scale

ASI PROJECT NO.: 10EA192
DATE: Feb 26 2014

DRAWN BY: JF
FILE: 10EA192_Fig1



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Figure 1: Central Pickering Development Plan - Study Area (1:50,000 scale)

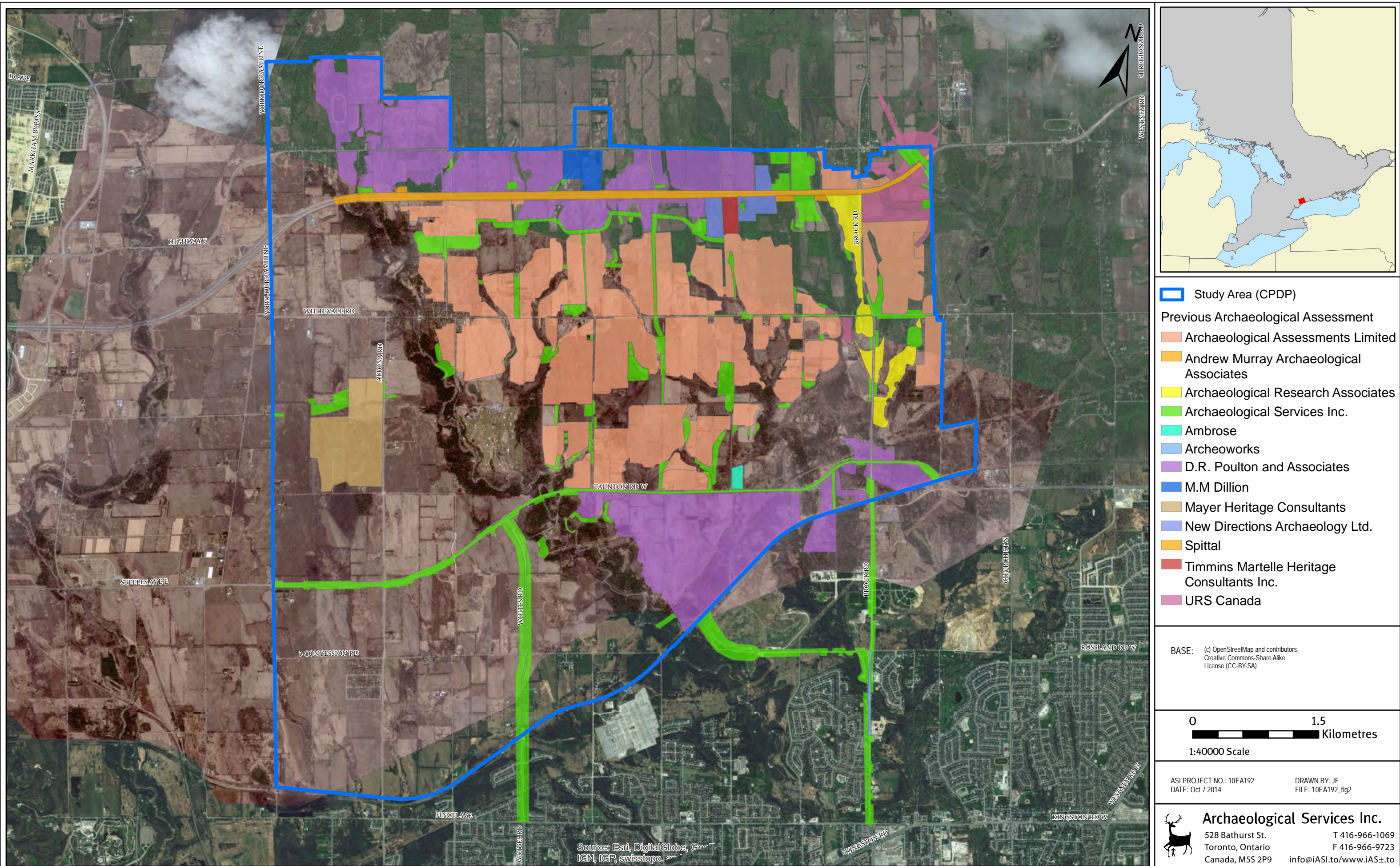


Figure 2: Central Pickering Development Plan – Previous Archaeological Assessment

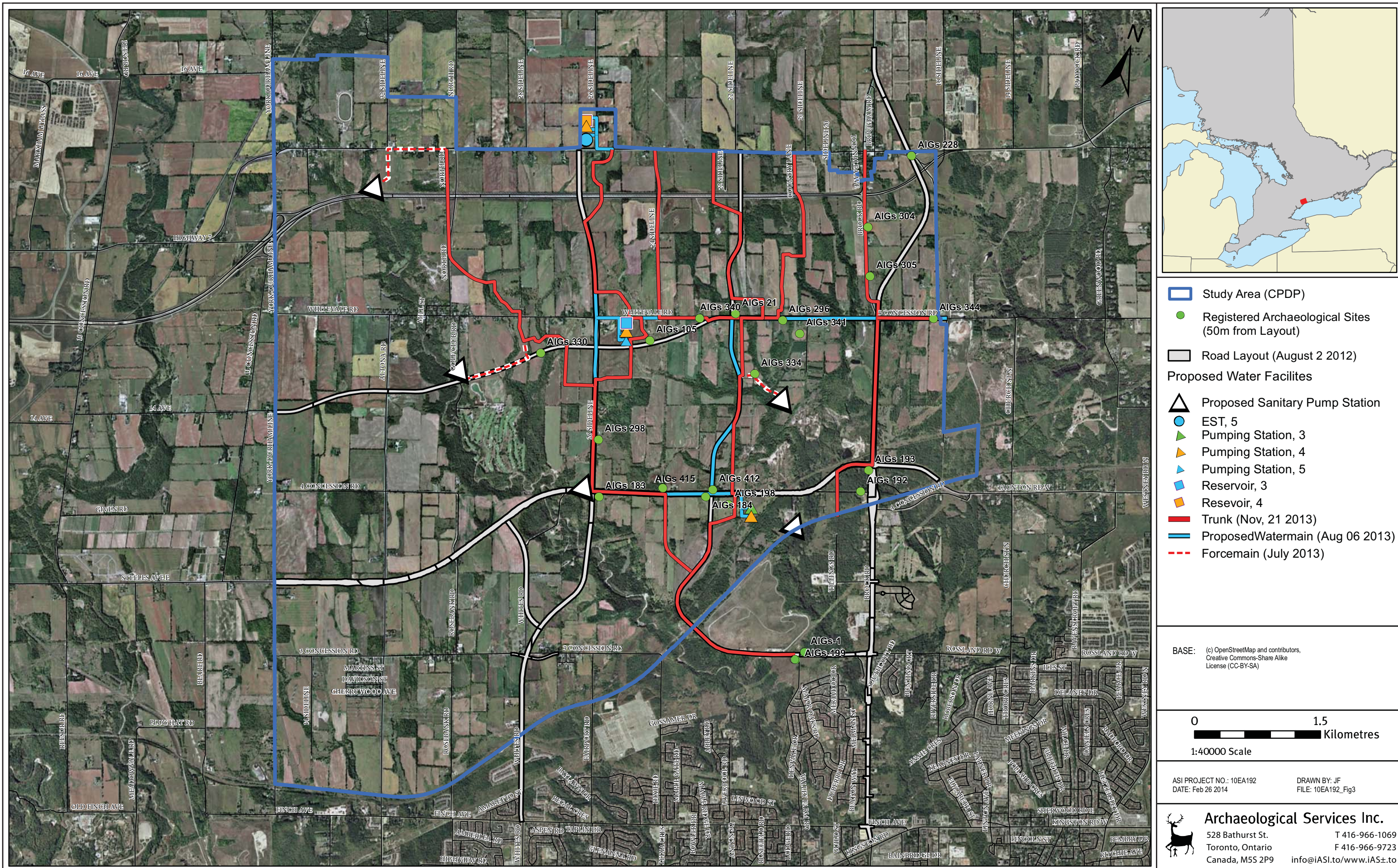
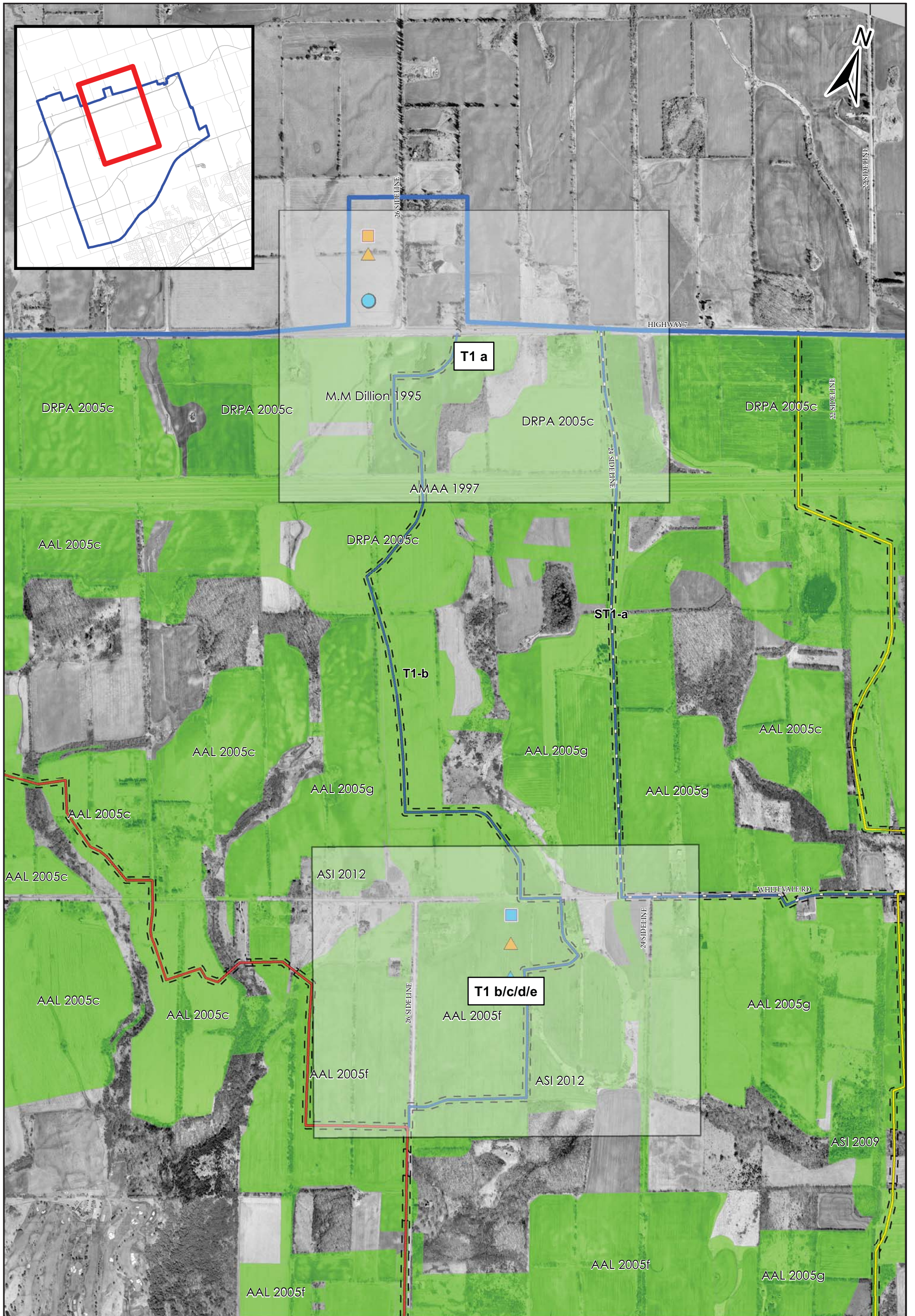
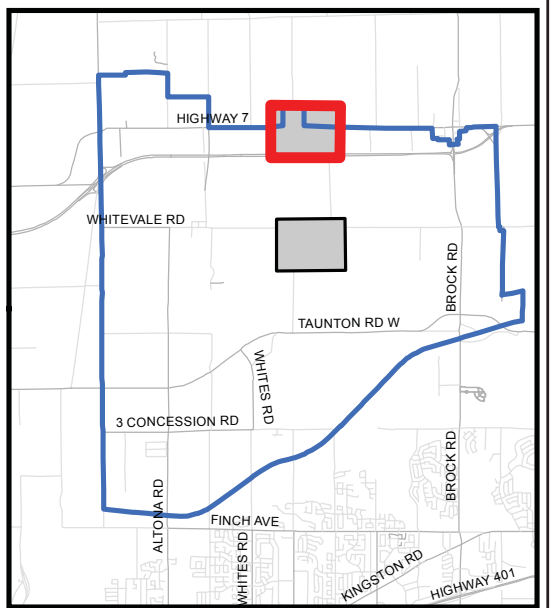


Figure 3: Central Pickering Development Plan - Project Layout and Location of Previously Registered Archaeological Sites within 50 m with further CHVI



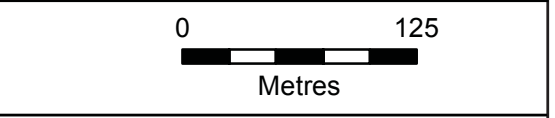
<p>Map Sheet and Study Area</p> <p>Previously Assessed Area</p> <p>Study Area</p>	<p>Pumping Station, 4</p> <p>Pumping Station, 5</p> <p>Reservoir, 3</p> <p>Reservoir, 4</p>	<p>Proposed Sanitary Pump Station</p> <p>EST, 5</p> <p>Pumping Station, 3</p>	<p>Proposed Trunk (Nov, 21 2013)</p> <p>Trunk 1</p> <p>Sub Trunk 1</p> <p>Trunk 2</p> <p>Sub Trunk 2</p> <p>Trunk 3</p> <p>Trunk 4</p> <p>Sub Trunk 4</p> <p>Trunk Corridor</p>
<p>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</p>	<p>BASE: Layout 2013-11-21 pickering_50_2005_crop.sid</p>	<p>0 500 Metres</p>	<p>ASI PROJECT NO.: 10EA192 DATE: Feb 26 2014</p> <p>BY: JF FILE: Fig04_10EA192_trunk1_key</p>

Figure 4: Central Pickering Development Plan —Key Map Trunk 1



- Study Area
- Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov. 21 2013)
- Trunk Corridor (25m)
- Trunk 1
- Proposed Water Facilities August 2013**
- Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- Reservoir, 3
- Reservoir, 4
- Stage 2 Assessment**
- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

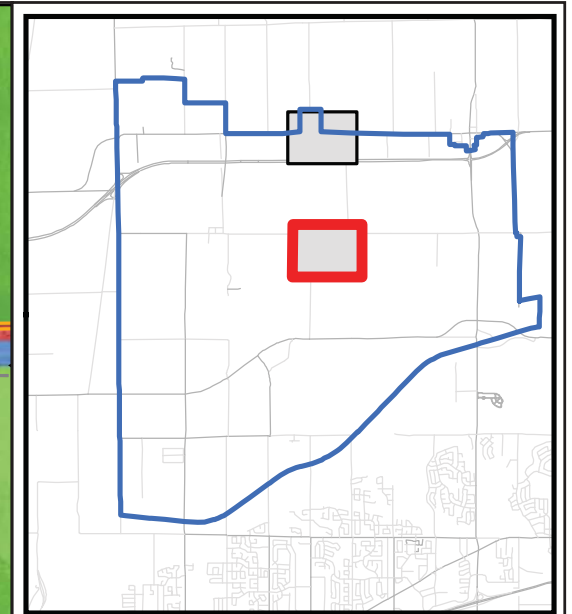
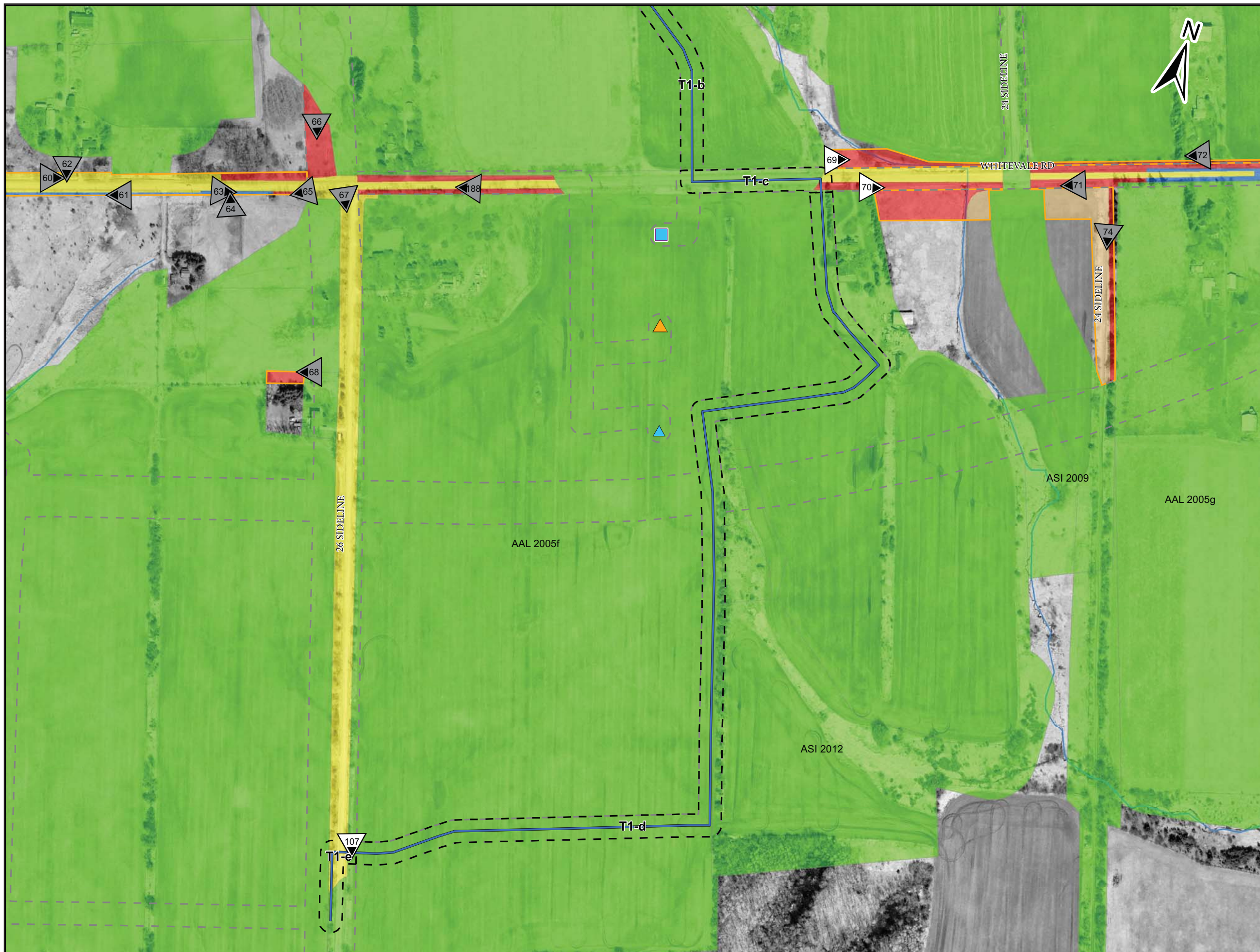
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DATE: May 05 2014 FILE: Fig5_results_Trunk1_a

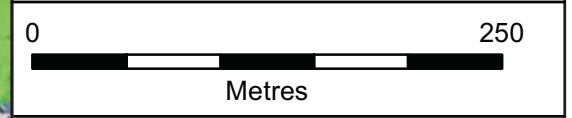
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Figure 5: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 1(T1-a)



- Study Area
- Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov, 21 2013)
- Trunk 1
- Trunk 1 Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- Reservoir, 3
- Reservoir, 4
- Stage 2 Assessment
- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

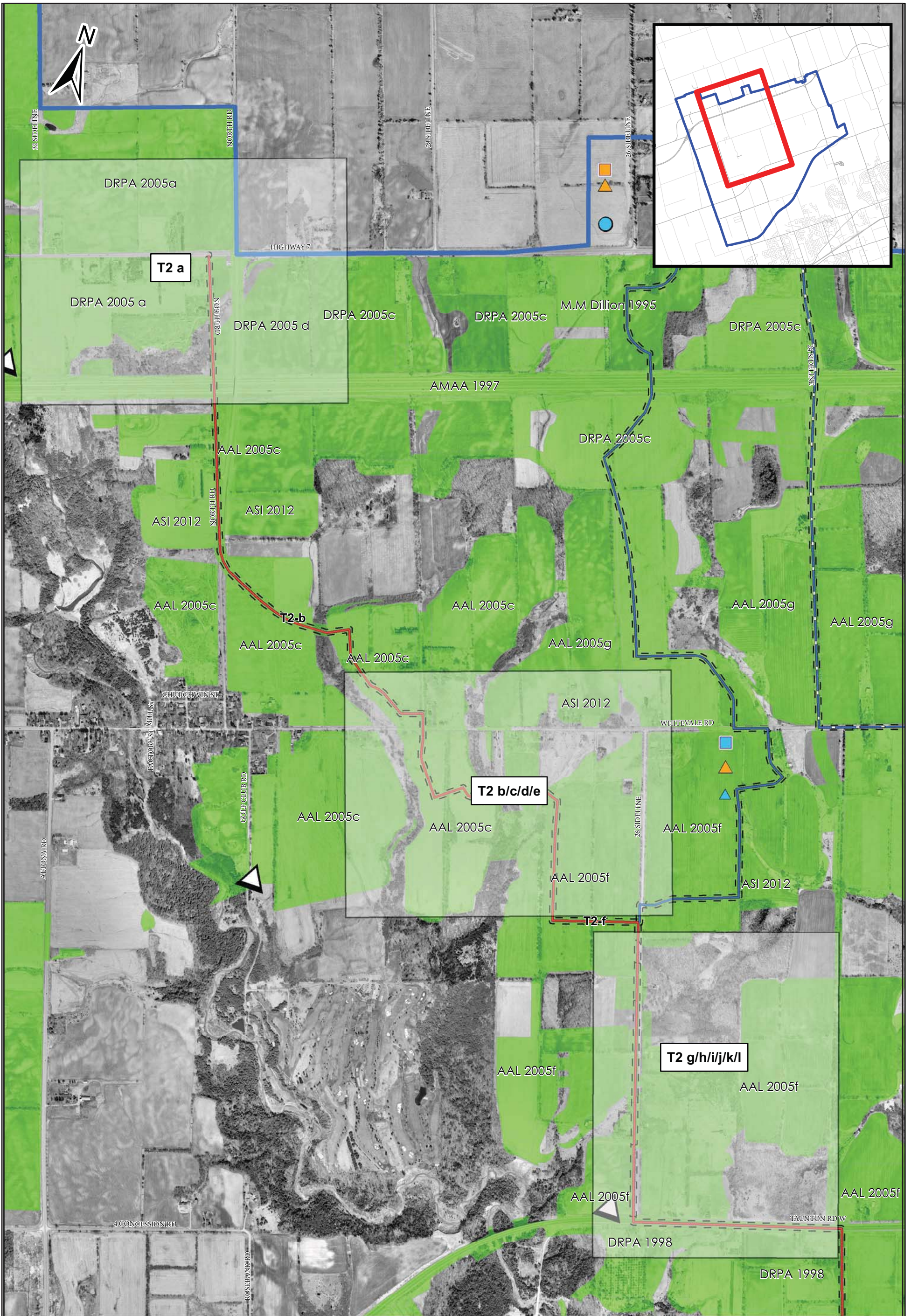
BASE: Layout August 2 2012
pickering_50_2005_crop.sid



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DATE: Feb 4 2014 FILE: Fig6_results_Trunk1_bcode

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Figure 6: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 1(T1-b/c/d/e)



Map Sheet and Study Area	Pumping Station, 4	Proposed Sanitary Pump Station	Proposed Trunk (Nov, 21 2013)
Previously Assessed Area	Pumping Station, 5	EST, 5	Trunk 1
Study Area	Reservoir, 3	Pumping Station, 3	Sub Trunk 1
	Reservoir, 4		Trunk 2
			Sub Trunk 2
			Sub Trunk 4
			Trunk 3
			Trunk 4
			Trunk Corridor

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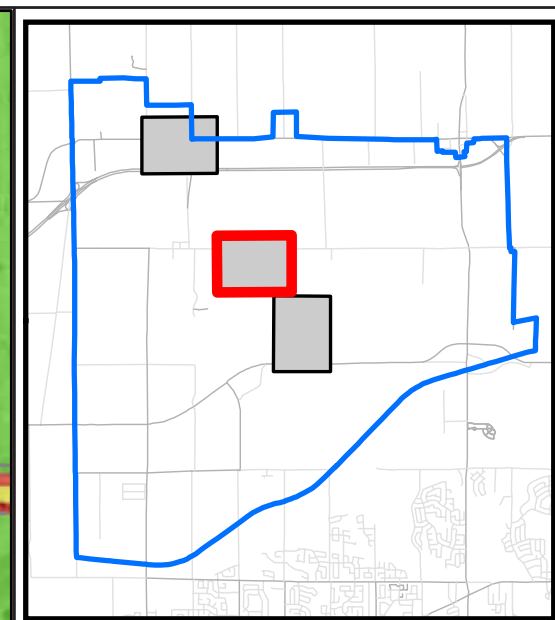
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ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig07_10EA192_trunk2_key

Figure 7: Central Pickering Development Plan –Key Map Trunk 2

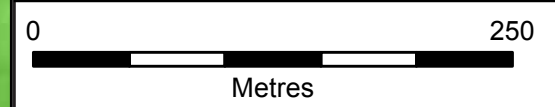


Figure 8: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 2 (T2-a)



- ▭ Study Area
- ▭ Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov, 21 2013)**
- ▬ Trunk 2
- Trunk Corridor (25m)
- Proposed Water Facilities August 2013**
- ▲ Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- ▭ Reservoir, 3
- ▭ Reservoir, 4
- Stage 2 Assessment**
- ▲ Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

BASE: Layout August 2 2012
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DATE: Sept 17 2014 FILE: Fig9_results_Trunk2_bode

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Figure 9: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 2 (T2-b/c/d/e)

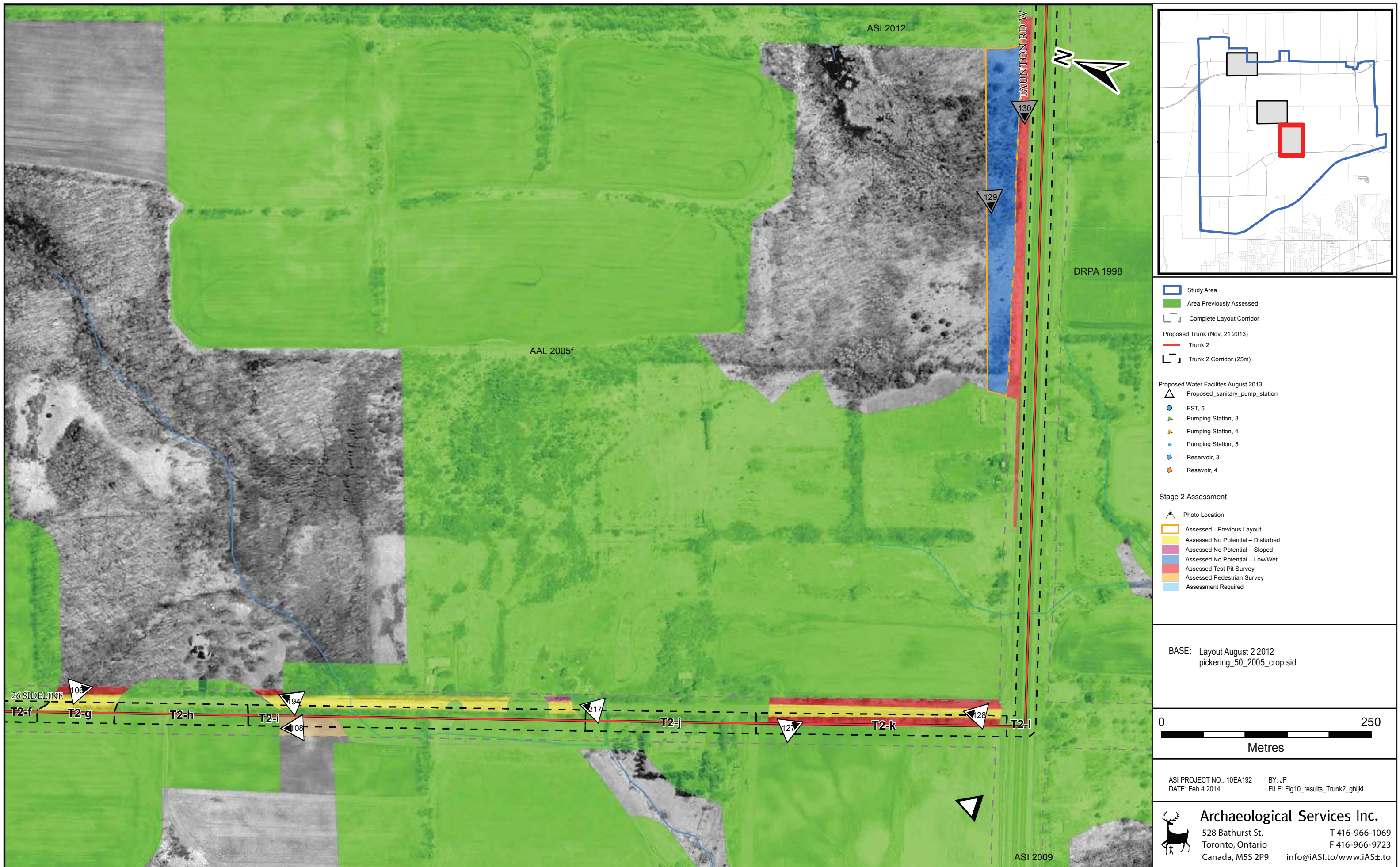
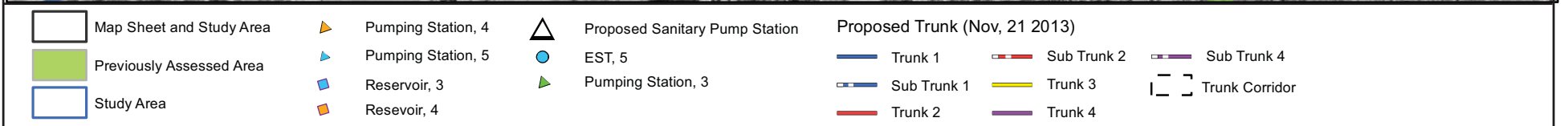
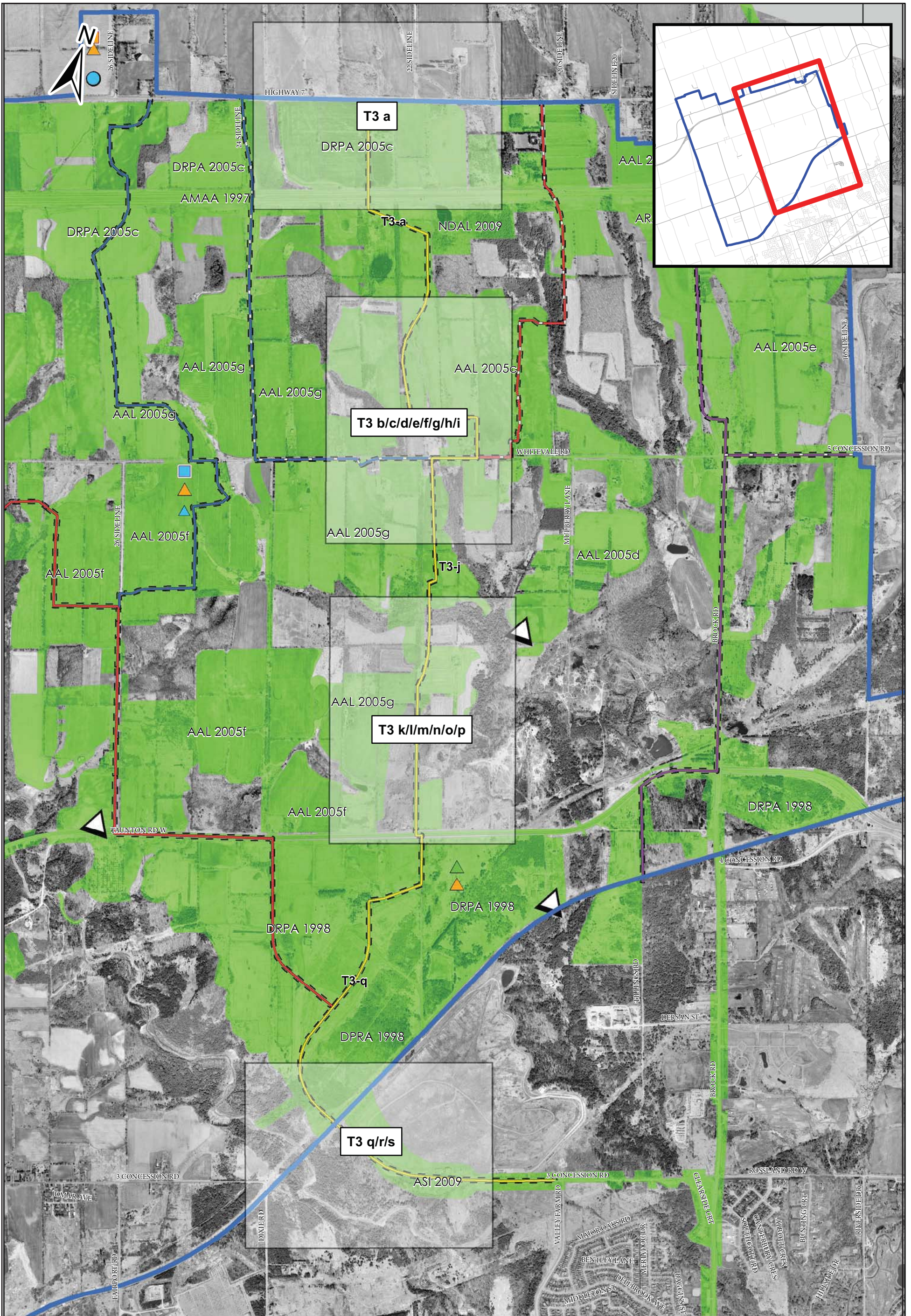


Figure 10: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 2 (T2 g/h/i/j/k/l)



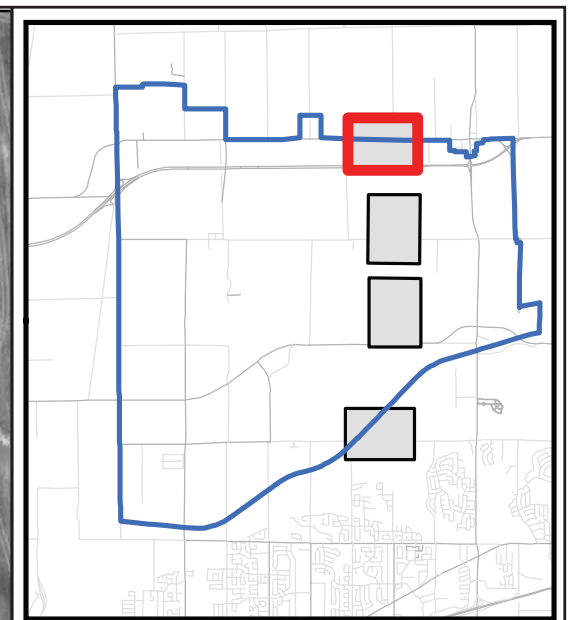
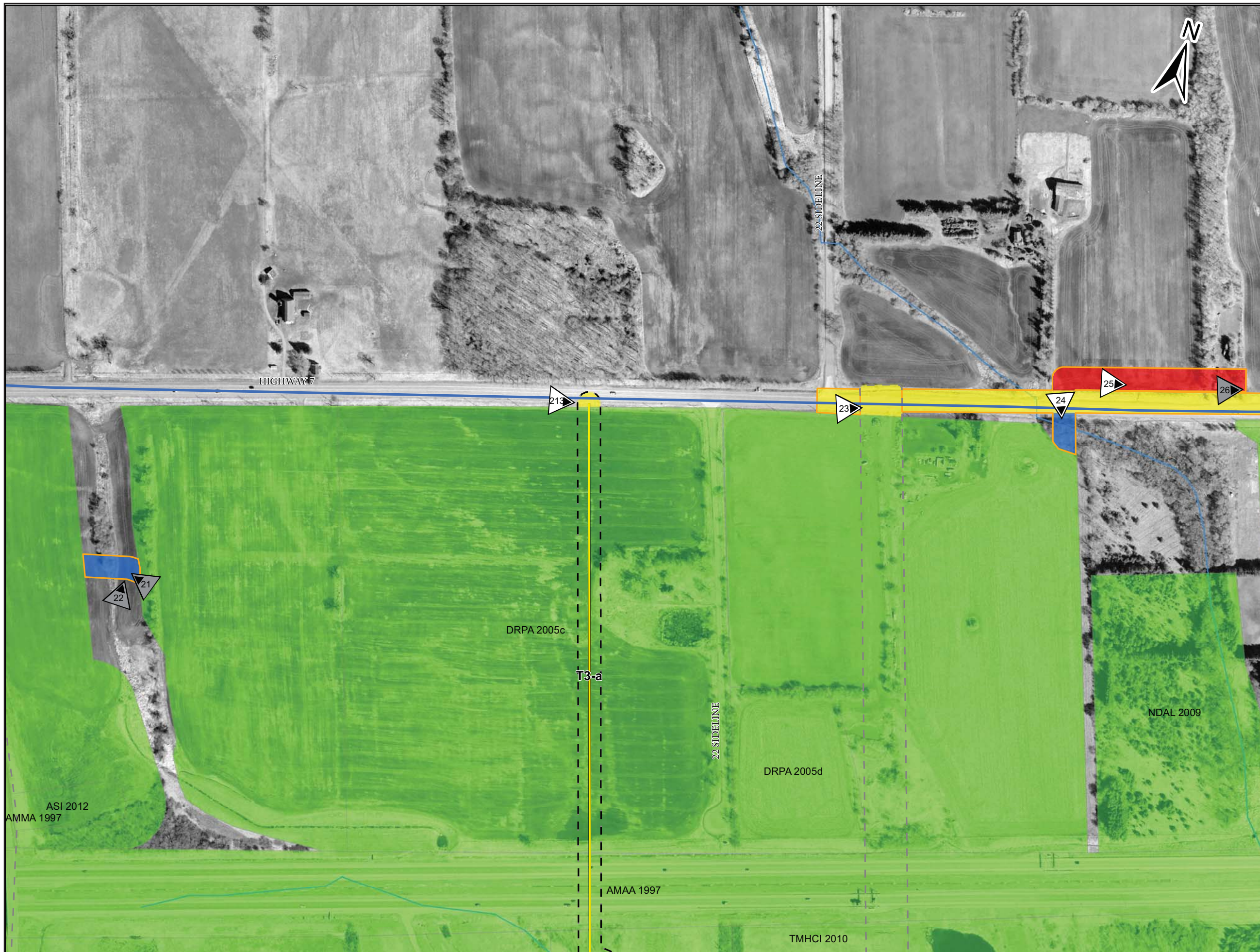
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BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

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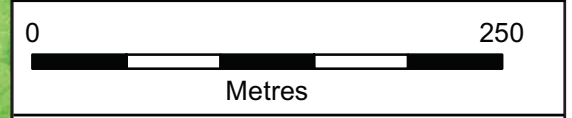
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Figure 11: Central Pickering Development Plan —Key Map Trunk 3



- Study Area
- Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov, 21 2013)**
- Trunk 3
- Trunk 3 Corridor (25m)
- Proposed Water Facilities August 2013**
- Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- ◆ Reservoir, 3
- ◆ Reservoir, 4
- Stage 2 Assessment**
- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

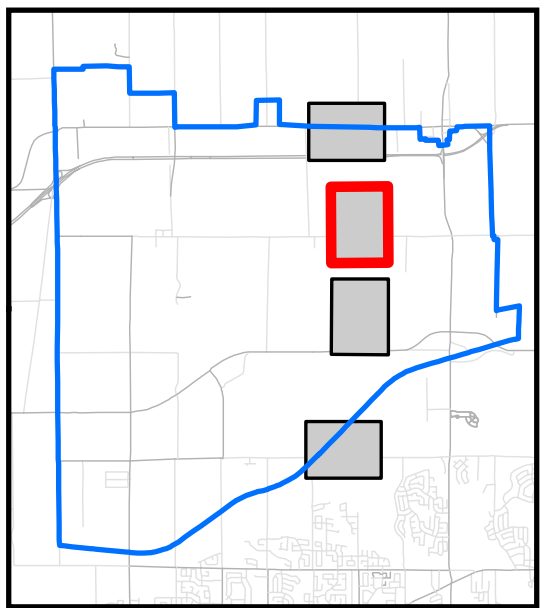
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DATE: March 26 2014 FILE: fig12_results_trunk3_a

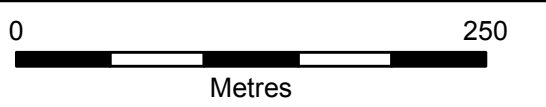
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Figure 12: Central Pickering Development Plan - Stage 2 Assessment Results (T3-a)



- ▭ Study Area
- ▭ Area Previously Assessed
- Complete Layout Corridor
- ▬ Proposed Trunk (Nov, 21 2013)
- Trunk Corridor (25m)
- ▲ Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
- ▲ EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- ▭ Reservoir, 3
- ▭ Reservoir, 4
- ▲ Stage 2 Assessment
- ▲ Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



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DATE: Sept 18 2014 FILE: Fig13_results_Trunk3_bcdefghi

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Figure 13: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 3 (T3-b/c/d/e/f/g/h/i)

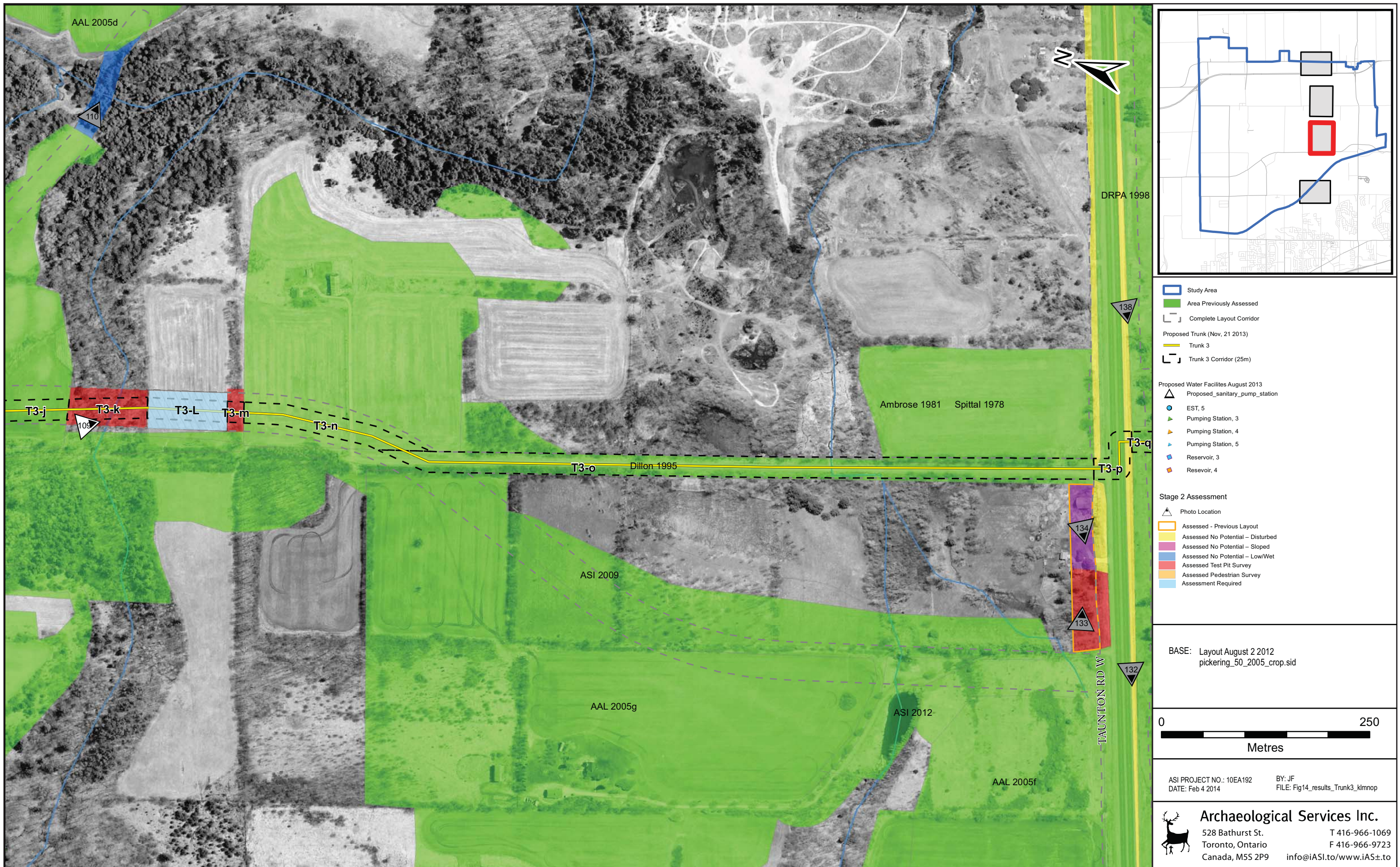
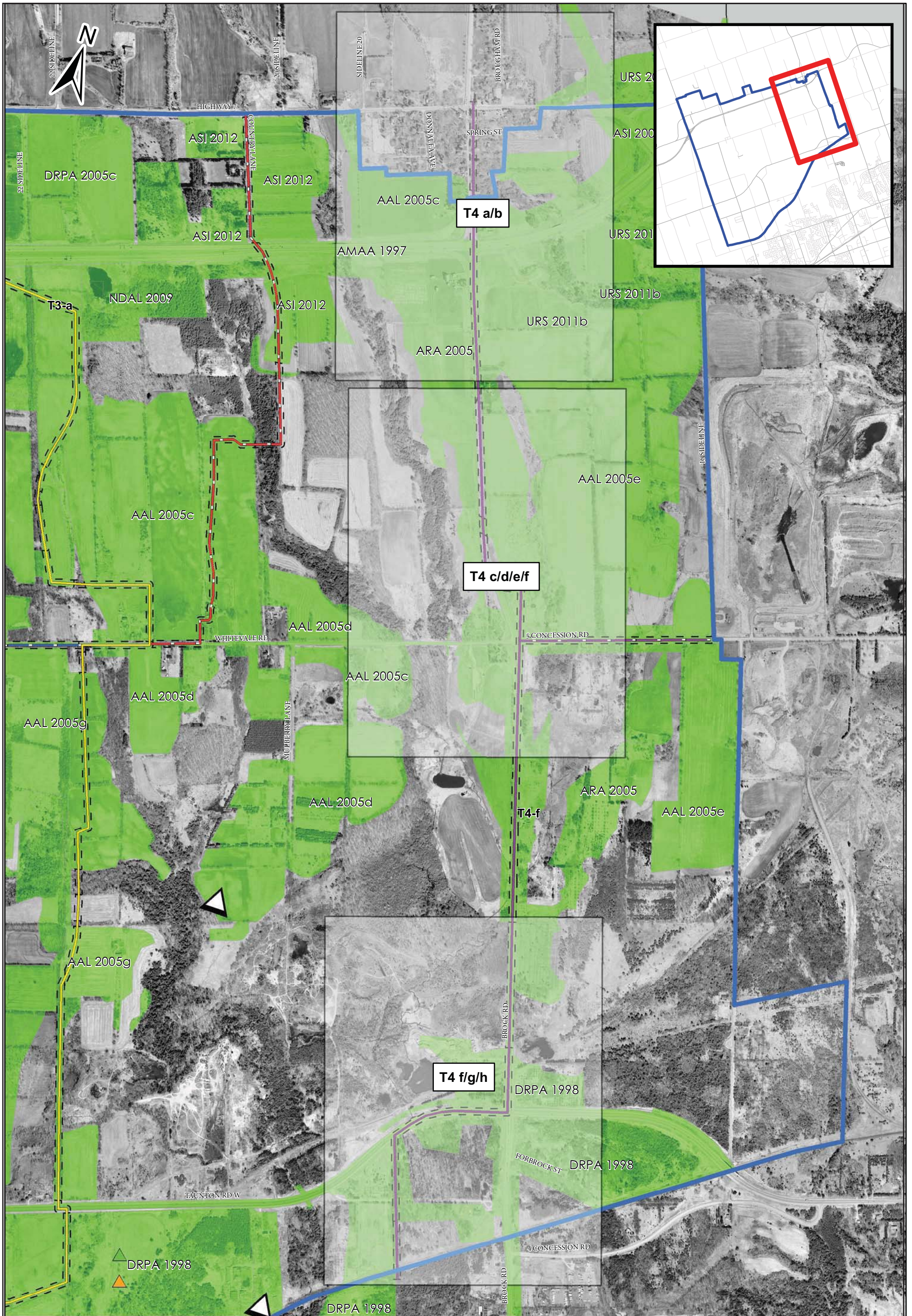


Figure 14: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 3 (T3-k/l/m/n/o/p)



Figure 15: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 3 (T3-q/r/s)



Map Sheet and Study Area	Pumping Station, 4	Proposed Sanitary Pump Station	Proposed Trunk (Nov, 21 2013)		
Previously Assessed Area	Pumping Station, 5	EST, 5	Trunk 1	Sub Trunk 2	Sub Trunk 4
Study Area	Reservoir, 3	Pumping Station, 3	Sub Trunk 1	Trunk 3	Trunk Corridor
	Reservoir, 4		Trunk 2	Trunk 4	

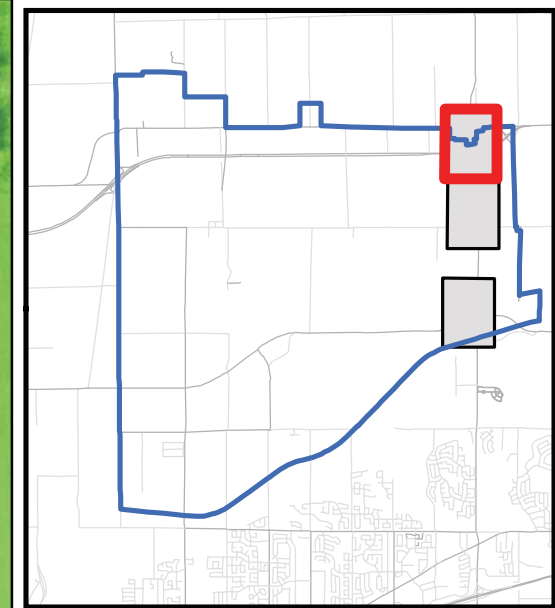
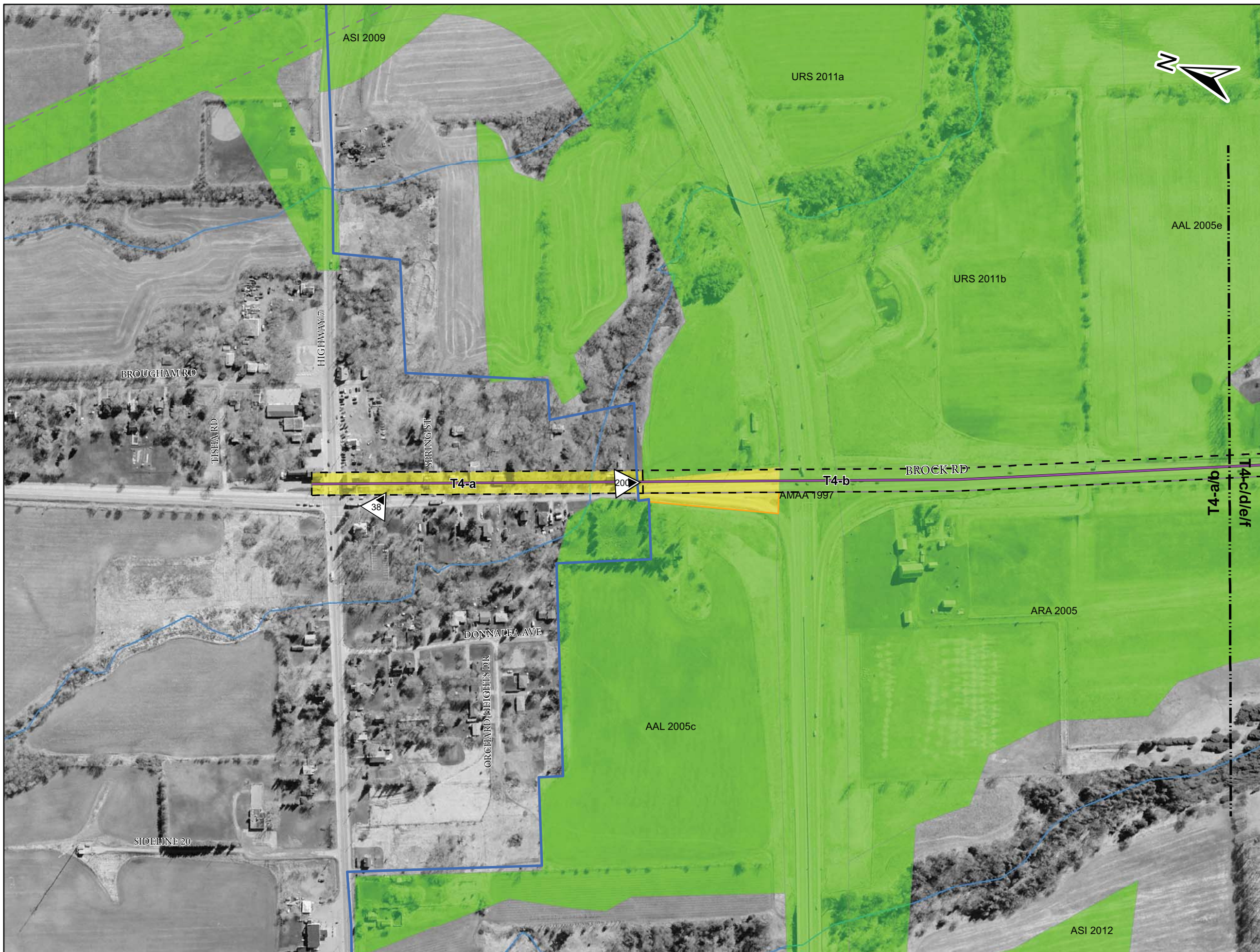
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BASE: Layout 2013-11-21
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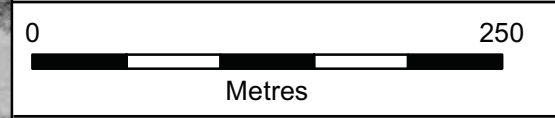
ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig16_10EA192_trunk4_key

Figure 16: Central Pickering Development Plan –Key Map Trunk 4



- Study Area
- Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov, 21 2013)
- Trunk 4
- Trunk 4 Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- Reservoir, 3
- Reservoir, 4
- Stage 2 Assessment
- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



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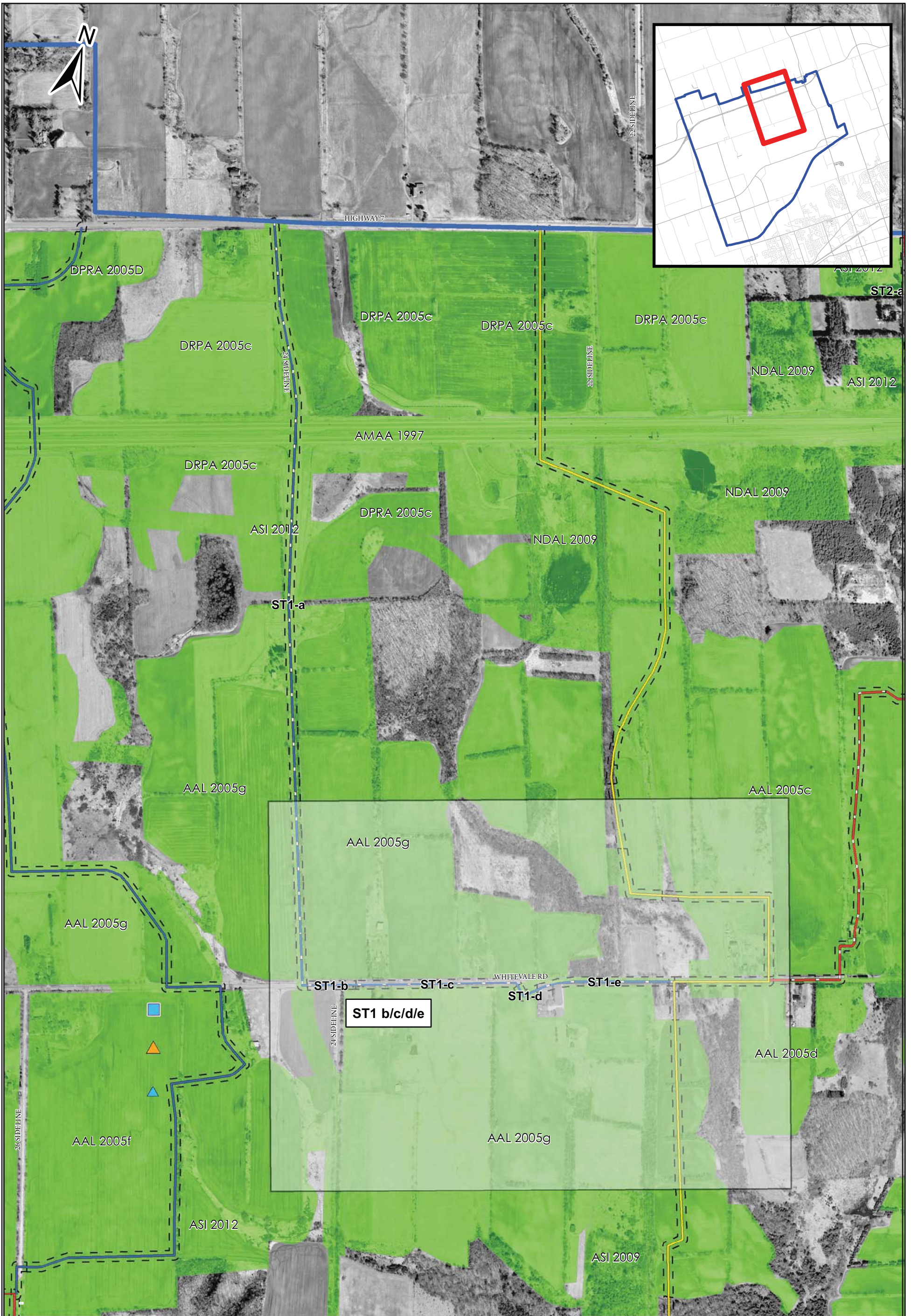
Figure 17: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 4 (T4-a/b)



Figure 18: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 4 (T4-c/d/e/f)



Figure 19: Central Pickering Development Plan - Stage 2 Assessment Results Trunk 4 (T4-f/g/h/i)



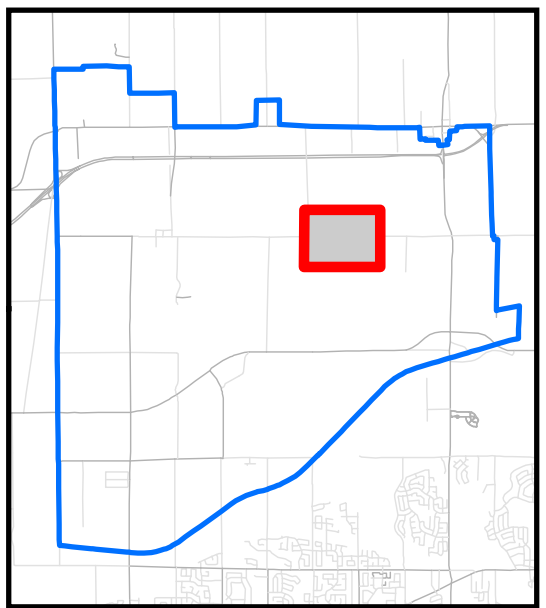
Map Sheet and Study Area	Pumping Station, 4	Proposed Sanitary Pump Station	Proposed Trunk (Nov, 21 2013)	
Previously Assessed Area	Pumping Station, 5	EST, 5	Trunk 1	Sub Trunk 2
Study Area	Reservoir, 3	Pumping Station, 3	Sub Trunk 1	Trunk 3
	Reservoir, 4		Trunk 2	Trunk 4
				Sub Trunk 4
				Trunk Corridor

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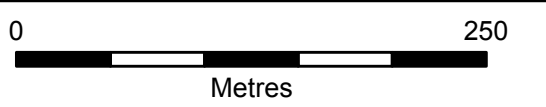
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 DATE: Feb 26 2014 FILE: Fig20_10EA192_SubTrunk1_key

Figure 20: Central Pickering Development Plan –Key Map Sub-Trunk 1 (ST1)



- ▭ Study Area
- ▭ Area Previously Assessed
- ▭ Complete Layout Corridor
- ▭ Proposed Trunk (Nov, 21 2013)
- ▭ Trunk 3
- ▭ Trunk Corridor (25m)
- ▭ Proposed Water Facilities August 2013
- ▲ Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- ▲ Reservoir, 3
- ▲ Reservoir, 4
- ▲ Stage 2 Assessment
- ▲ Photo Location
- ▭ Assessed - Previous Layout
- ▭ Assessed No Potential - Disturbed
- ▭ Assessed No Potential - Sloped
- ▭ Assessed No Potential - Low/Wet
- ▭ Assessed Test Pit Survey
- ▭ Assessed Pedestrian Survey
- ▭ Assessment Required

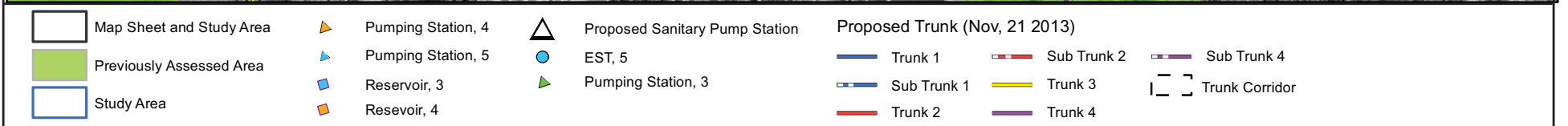
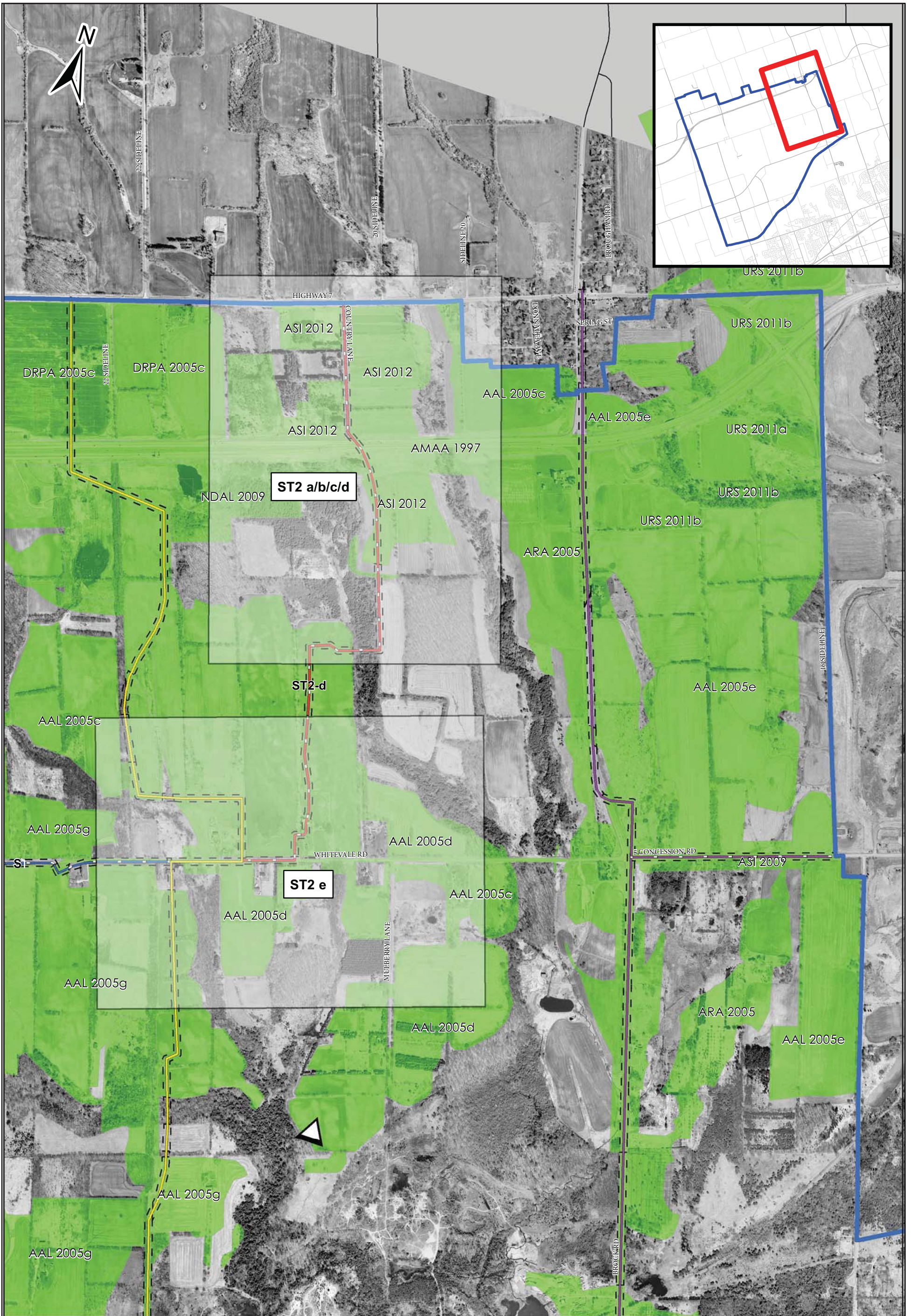
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DATE: Sept 18 2014 FILE: Fig21_results_SubTrunk1_bcdc

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Figure 21: Central Pickering Development Plan - Stage 2 Assessment Results Sub-Trunk 1 (St1-b/c/d/e)



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 pickering_50_2005_crop.sid

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 Metres
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 DATE: Feb 26 2014 FILE: Fig22_10EA192_SubTrunk2_key

Figure 22: Central Pickering Development Plan –Key Map Sub-Trunk 2 (ST2)

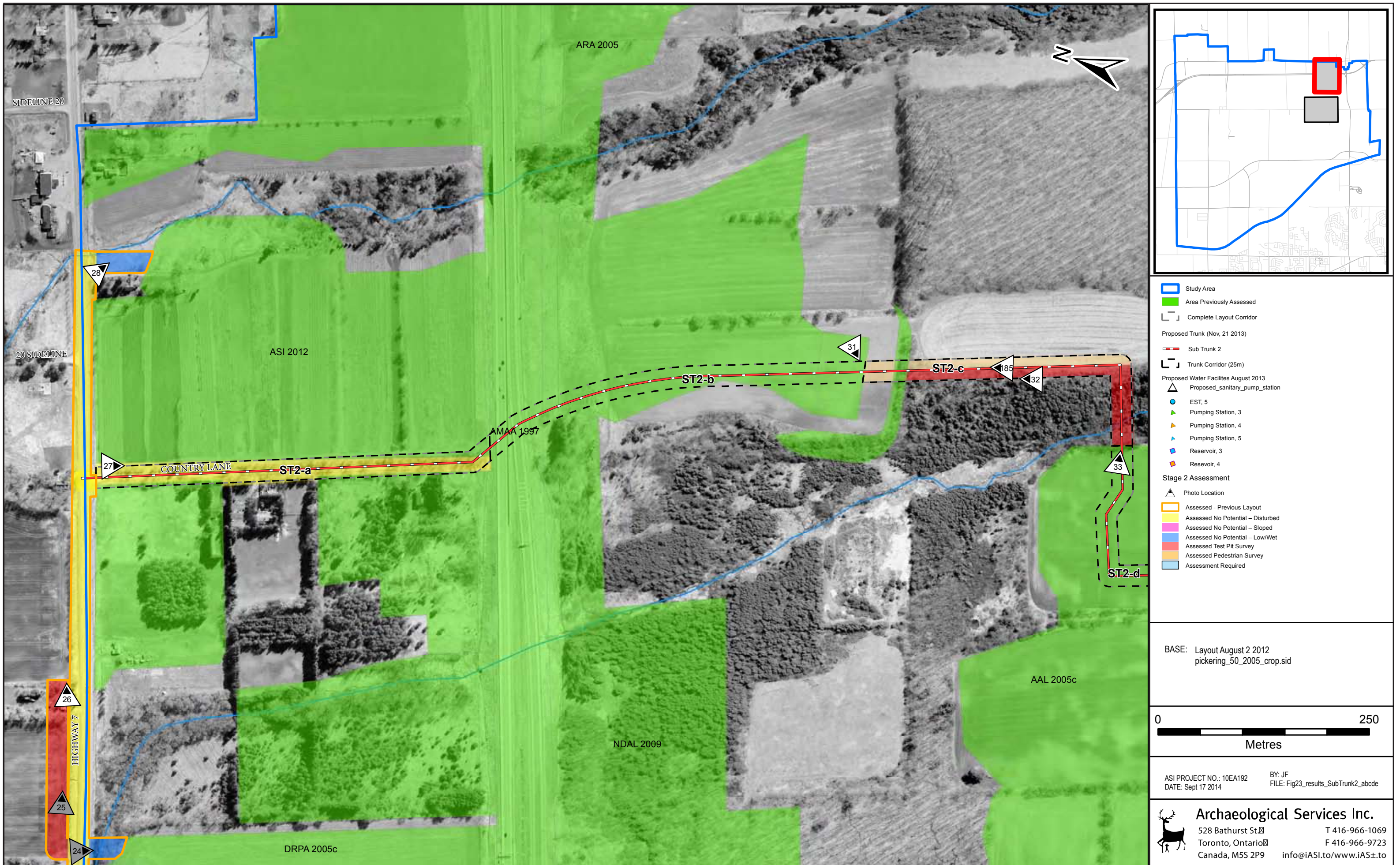
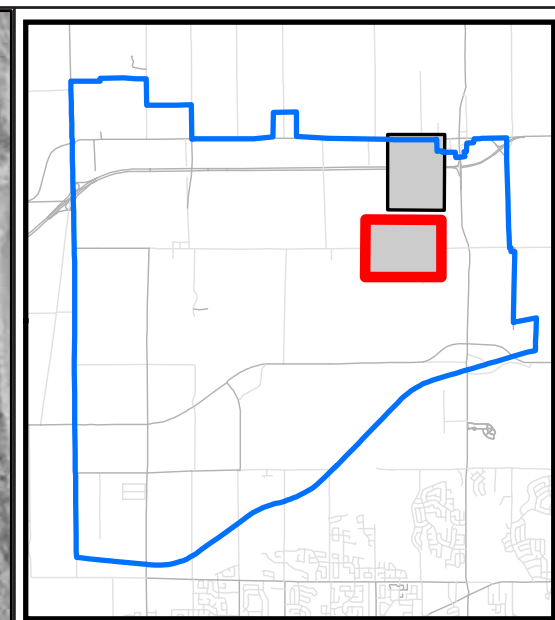
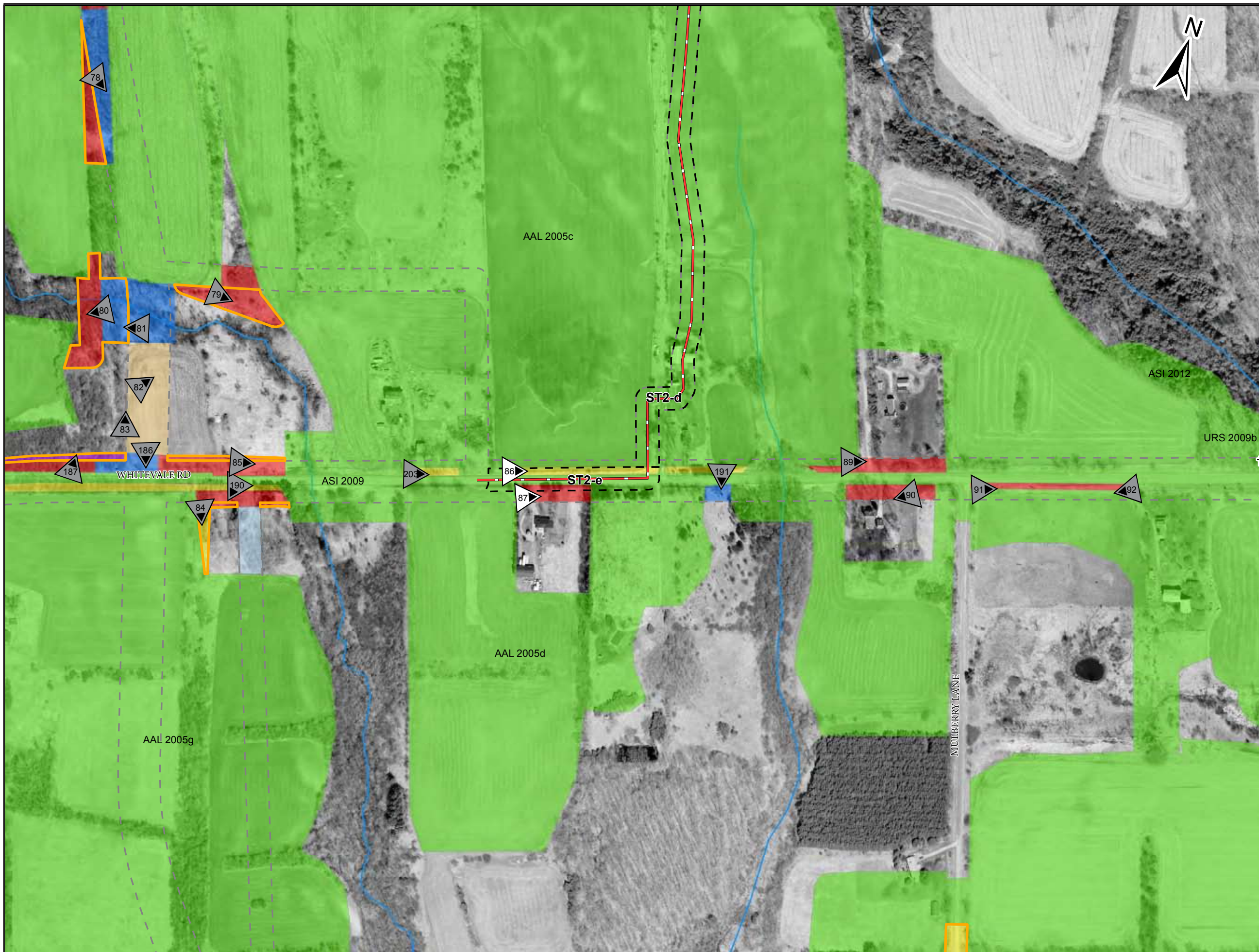
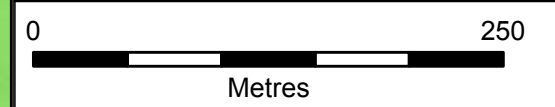


Figure 23: Central Pickering Development Plan - Stage 2 Assessment Results Sub-Trunk 2 (ST2-a/b/c/d/e)



- ▭ Study Area
- ▭ Area Previously Assessed
- Complete Layout Corridor
- Proposed Trunk (Nov, 21 2013)
- Sub Trunk 2
- Trunk Corridor (25m)
- Proposed Water Facilities August 2013
- ▲ Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- ▭ Reservoir, 3
- ▭ Reservoir, 4
- Stage 2 Assessment
- ▲ Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

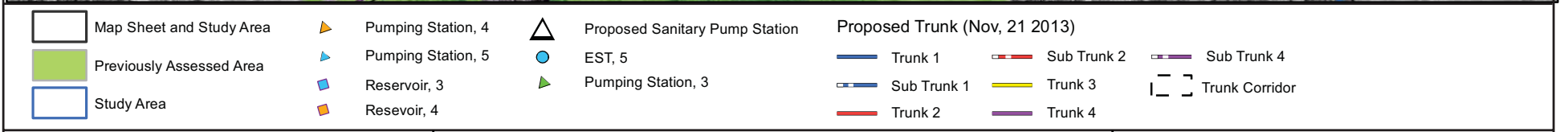
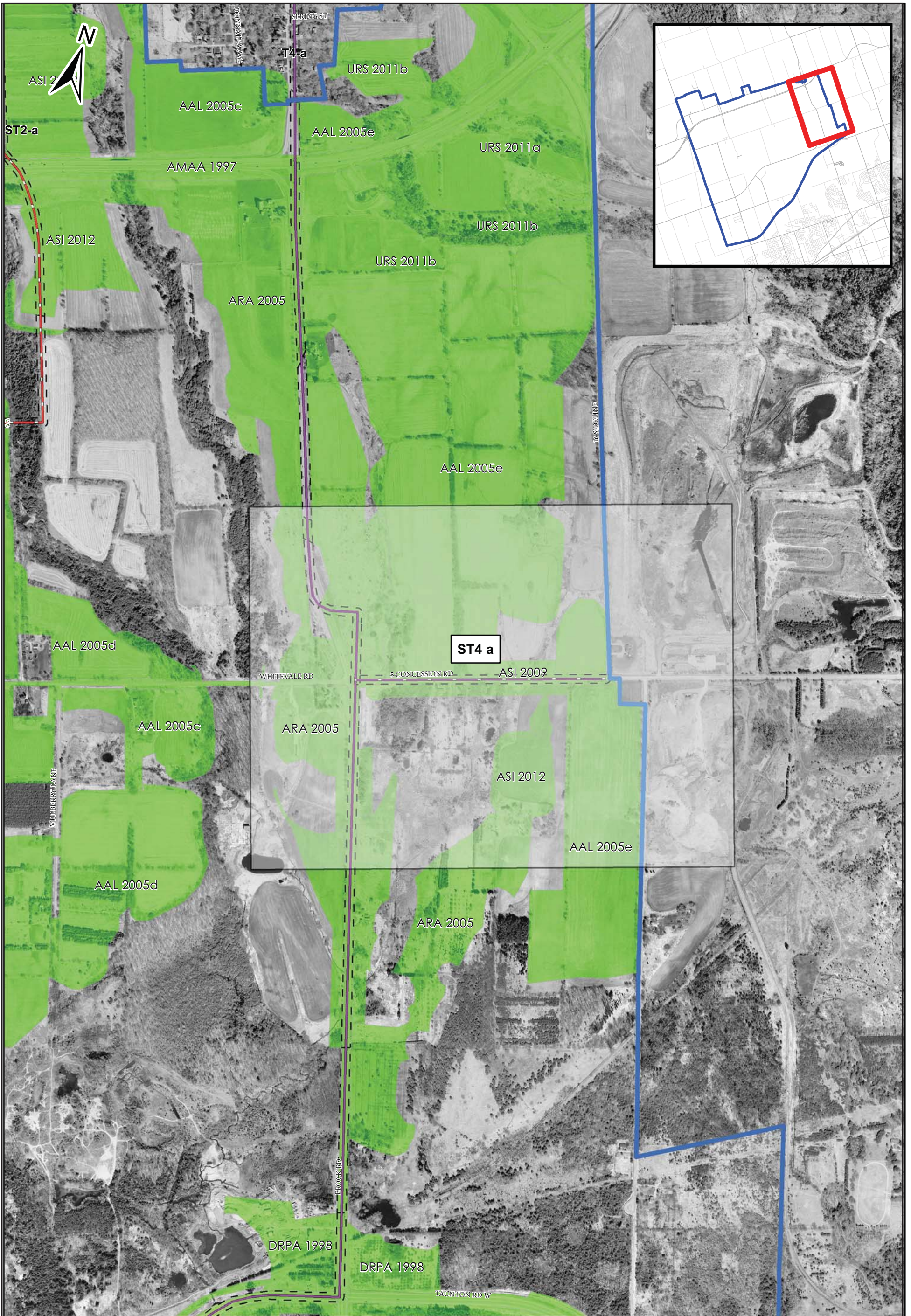
BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: Sept 18 2014 FILE: Fig24_results_SubTrunk2_e

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Figure 24: Central Pickering Development Plan - Stage 2 Assessment Results Sub-Trunk 2 (St2-e)



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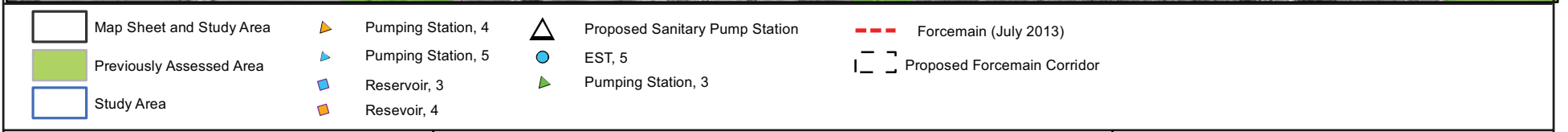
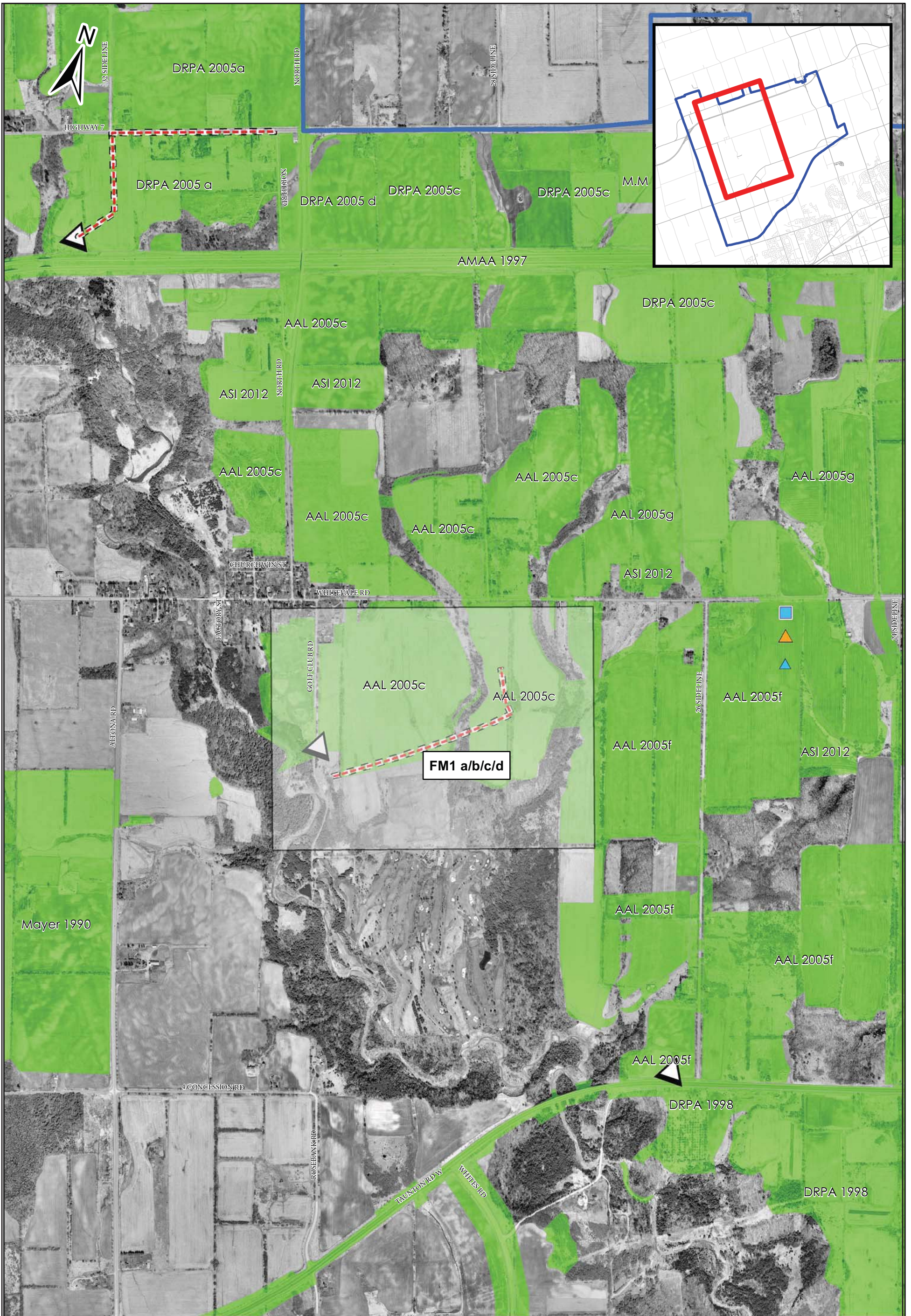
BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres
 ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig25_10EA192_SubTrunk4_key

Figure 25: Central Pickering Development Plan –Key Map Sub-Trunk 4 (ST4)



Figure 26: Central Pickering Development Plan - Stage 2 Assessment Results Sub-Trunk 4 (ST4-a)



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BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres

ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig27_10EA192_FM1_key

Figure 27: Central Pickering Development Plan –Key Map Forcemain 1 (FM1)

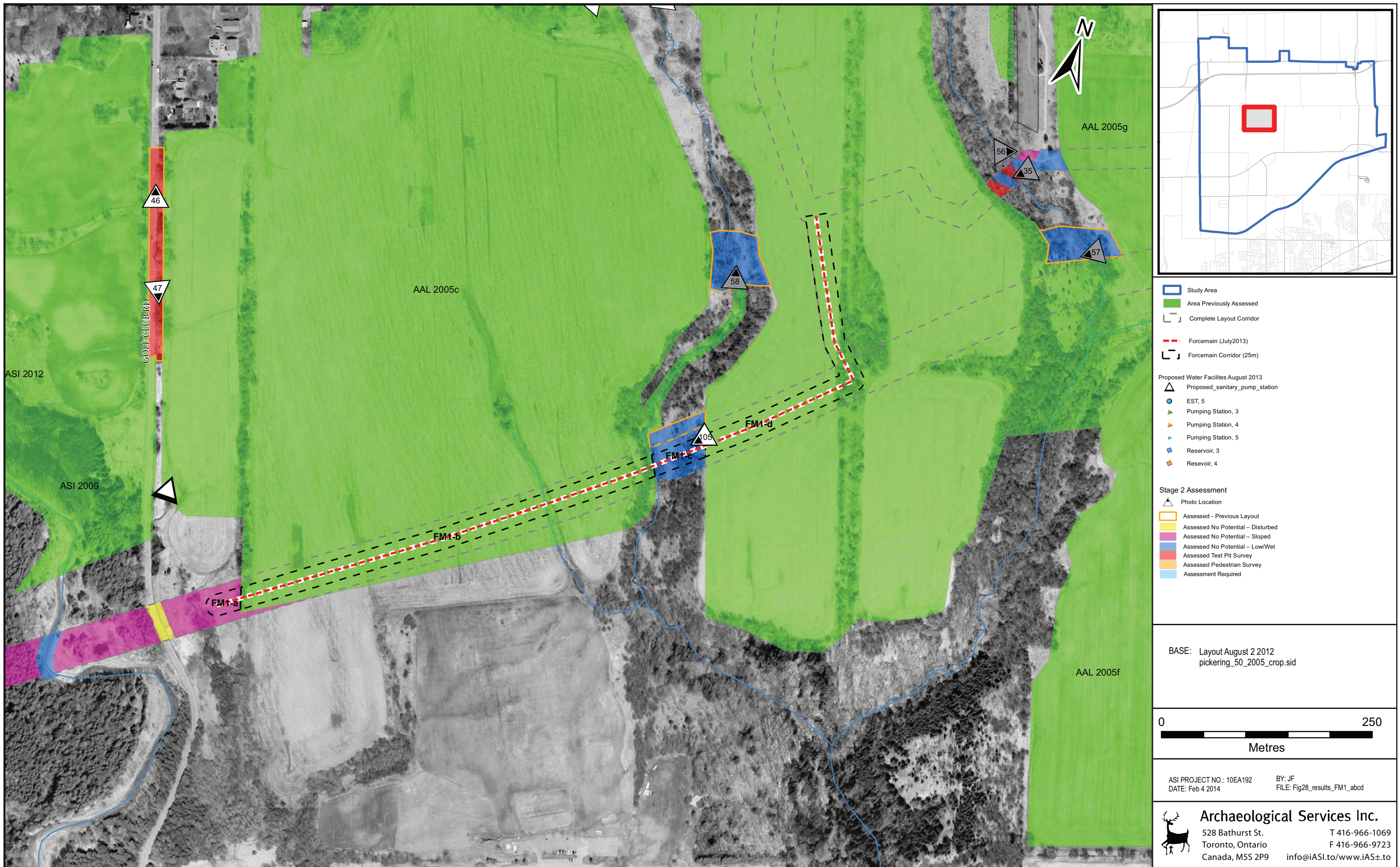
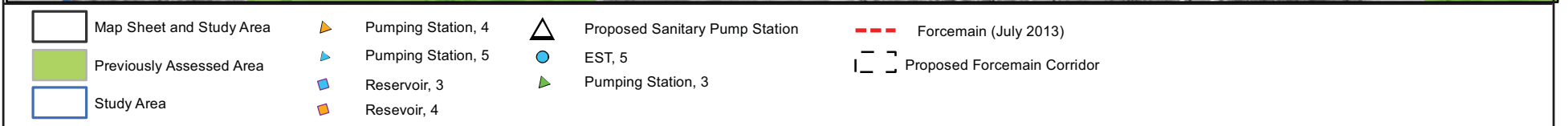
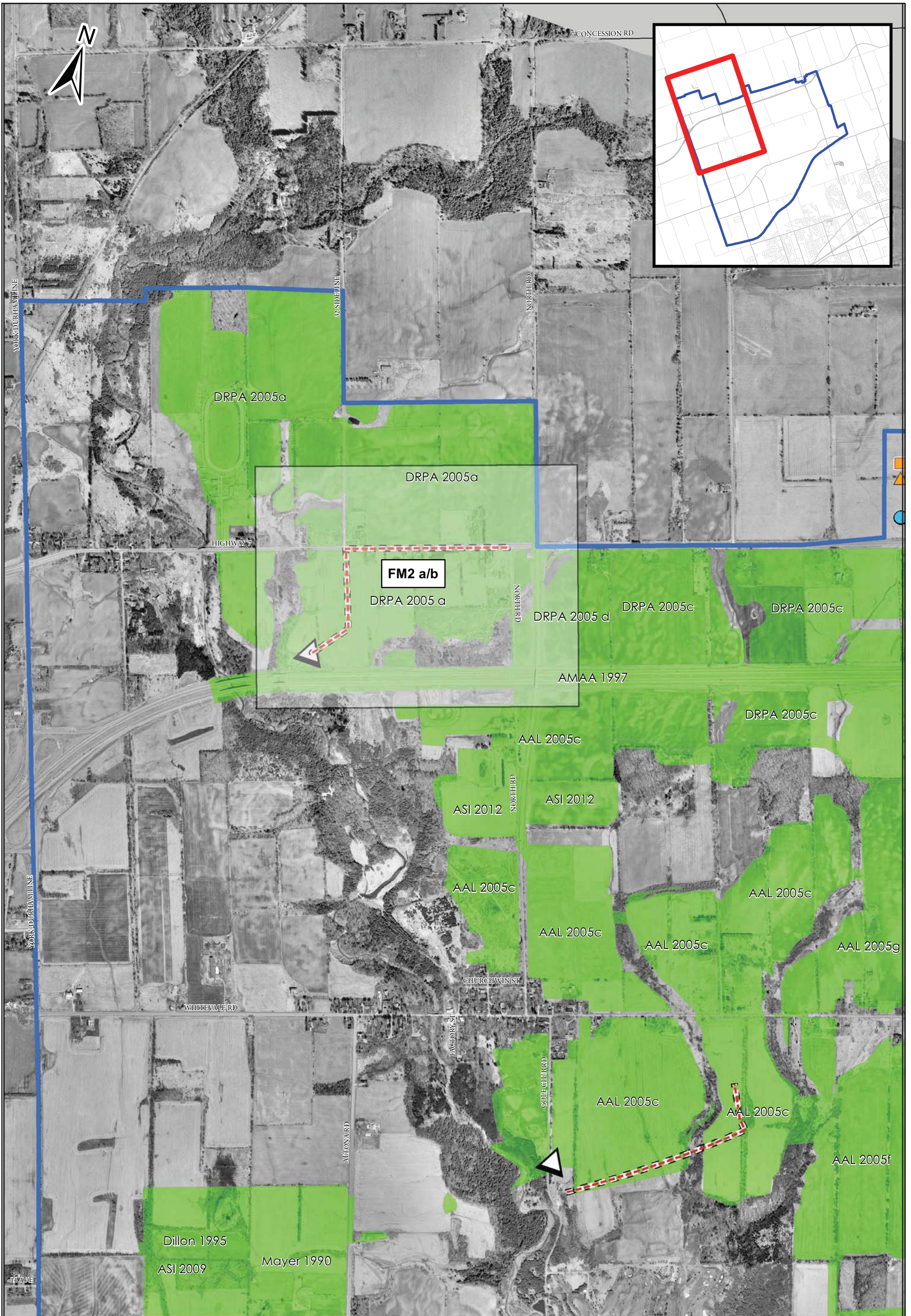


Figure 28: Central Pickering Development Plan - Stage 2 Assessment Results Forcemain 1 (FM1-a/b/c/d)



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BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

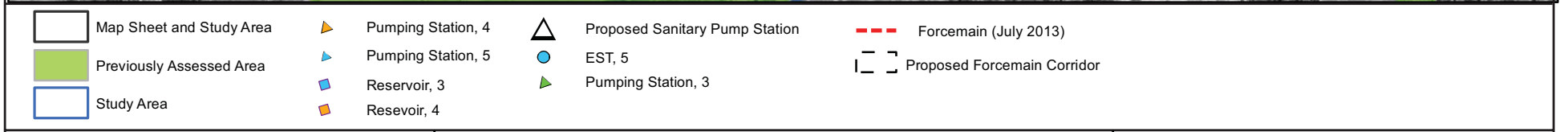
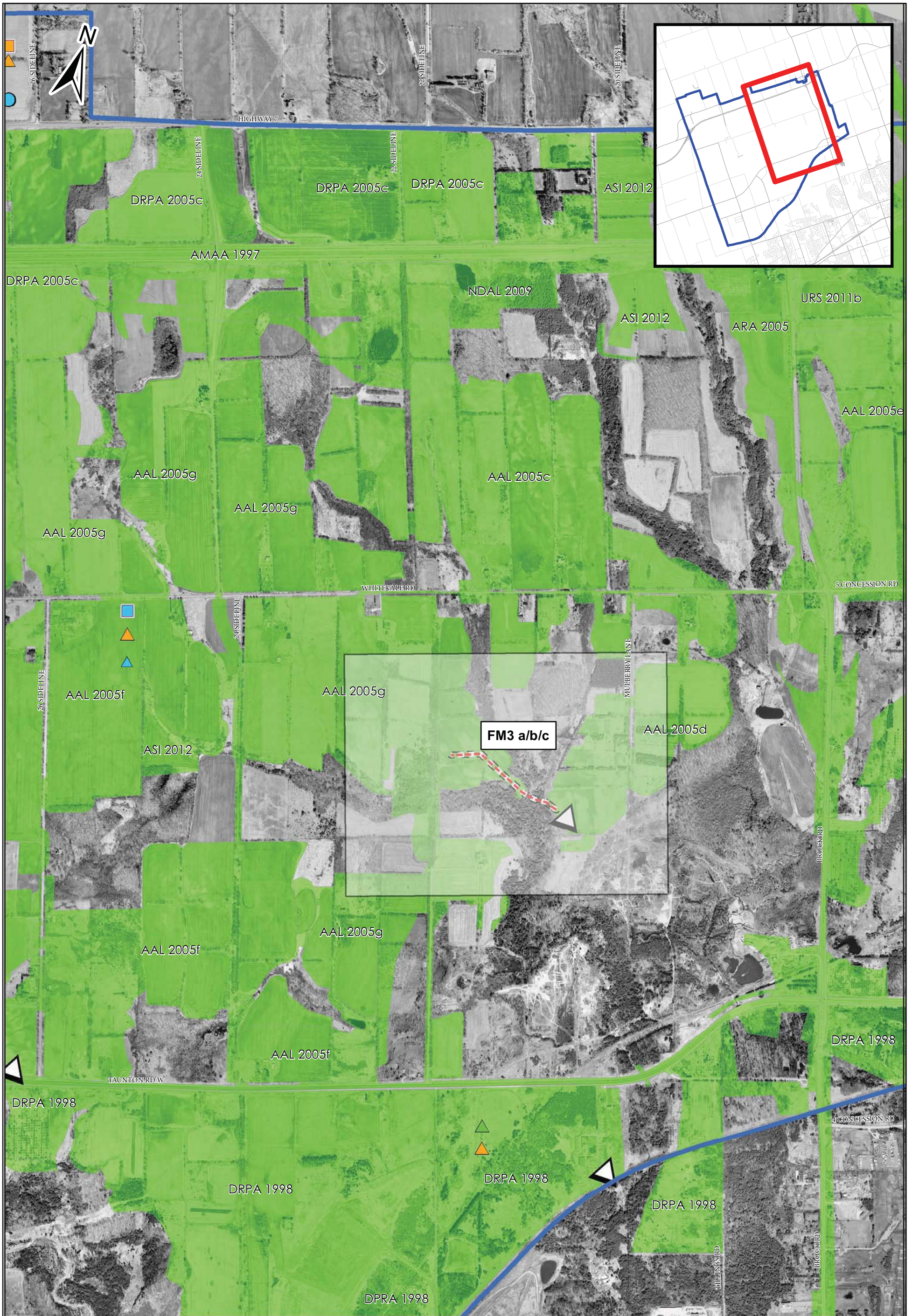
0 500
 Metres

ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig29_10EA192_FM2_key

Figure 29: Central Pickering Development Plan –Key Map Forcemain 2 (FM2)



Figure 30: Central Pickering Development Plan - Stage 2 Assessment Results Forcemain 2 (FM2-a/b)



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 pickering_50_2005_crop.sid

0 500
 Metres

ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig31_10EA192_FM3_key

Figure 31: Central Pickering Development Plan –Key Map Forcemain 3 (FM3)

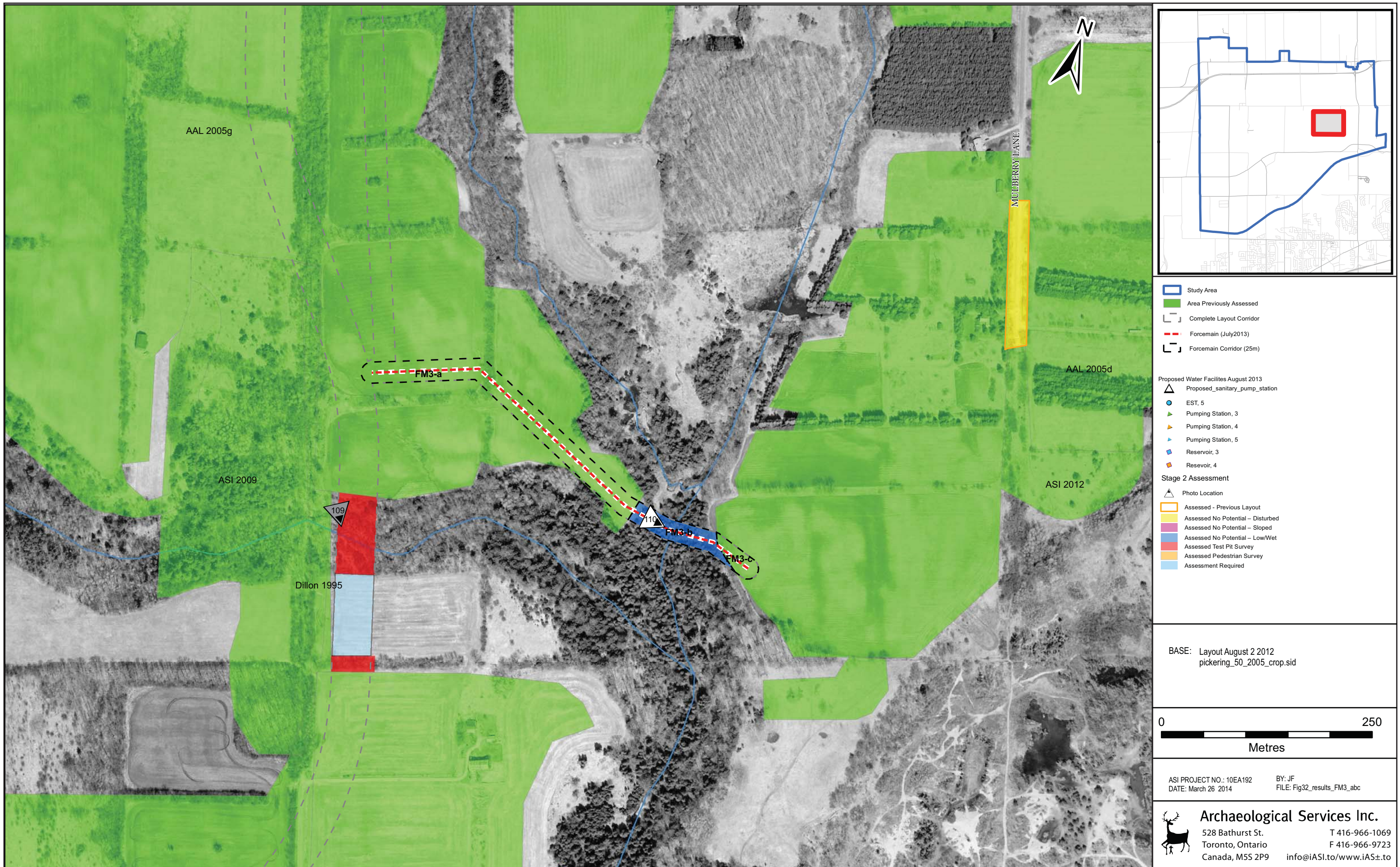
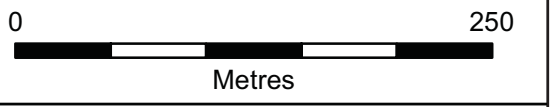


Figure 32: Assessment Results Forcemain 3 (FM3-a/b/c)

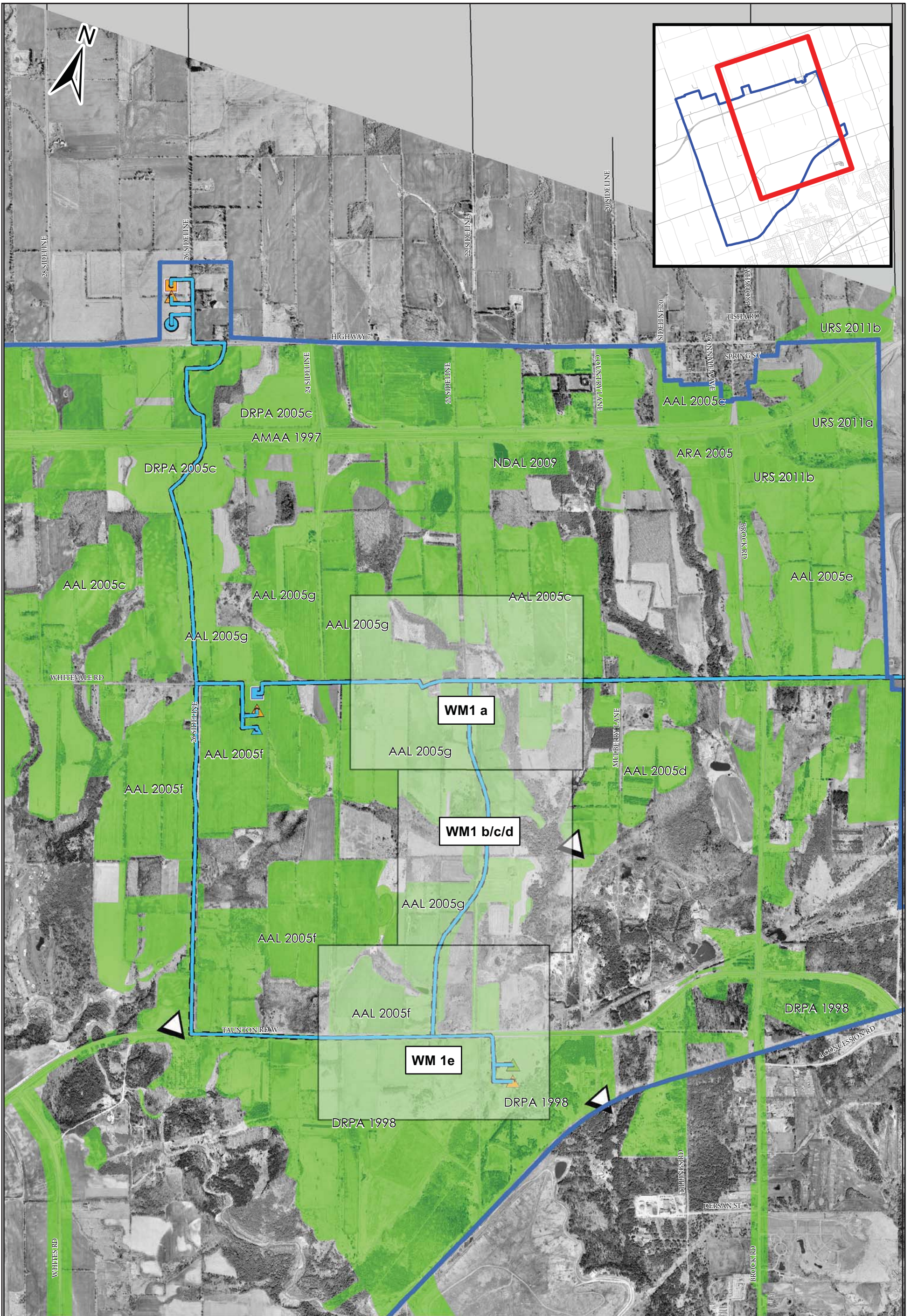
- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Forcemain (July 2013)
 - Forcemain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
 - EST, 5
 - Pumping Station, 3
 - Pumping Station, 4
 - Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Disturbed
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: March 26 2014 FILE: Fig32_results_FM3_abc

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- | | | | |
|--------------------------|--------------------|--------------------------------|----------------------------------|
| Map Sheet and Study Area | Pumping Station, 4 | Proposed Sanitary Pump Station | Proposed Watermain (Aug 06 2013) |
| Previously Assessed Area | Pumping Station, 5 | EST, 5 | Proposed Watermain Corridor |
| Study Area | Reservoir, 3 | Pumping Station, 3 | |
| | Reservoir, 4 | | |

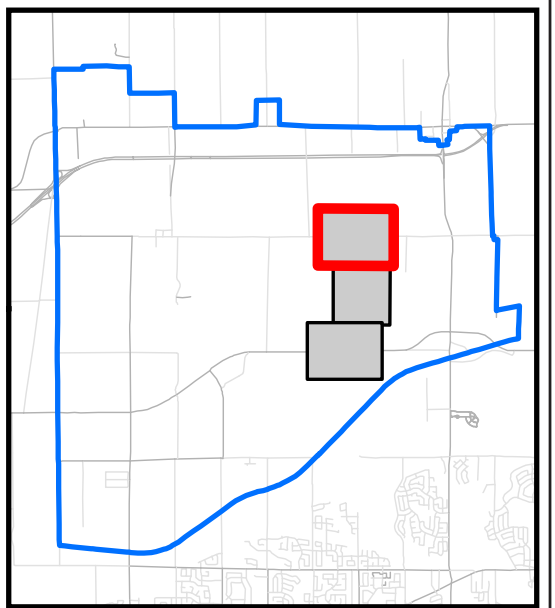
Archaeological Services Inc.
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 Canada, M5S 2P9 info@iASI.to/www.iASi±.to

BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres

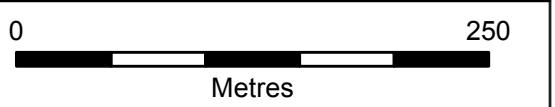
ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig33_10EA192_WM1_key

Figure 33: Central Pickering Development Plan –Key Map Watermain 1 (WM1)



- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Proposed Watermain (Aug 6 2013)
 - Watermain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed sanitary pump station
 - EST, 5
 - Pumping Station, 3
 - Pumping Station, 4
 - Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Disturbed
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

BASE: Layout August 2 2012
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ASI PROJECT NO.: 10EA192 BY: JF
DATE: Sept 18 2014 FILE: Fig34_results_WM1_a

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Figure 34: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 1 (WM1-a)

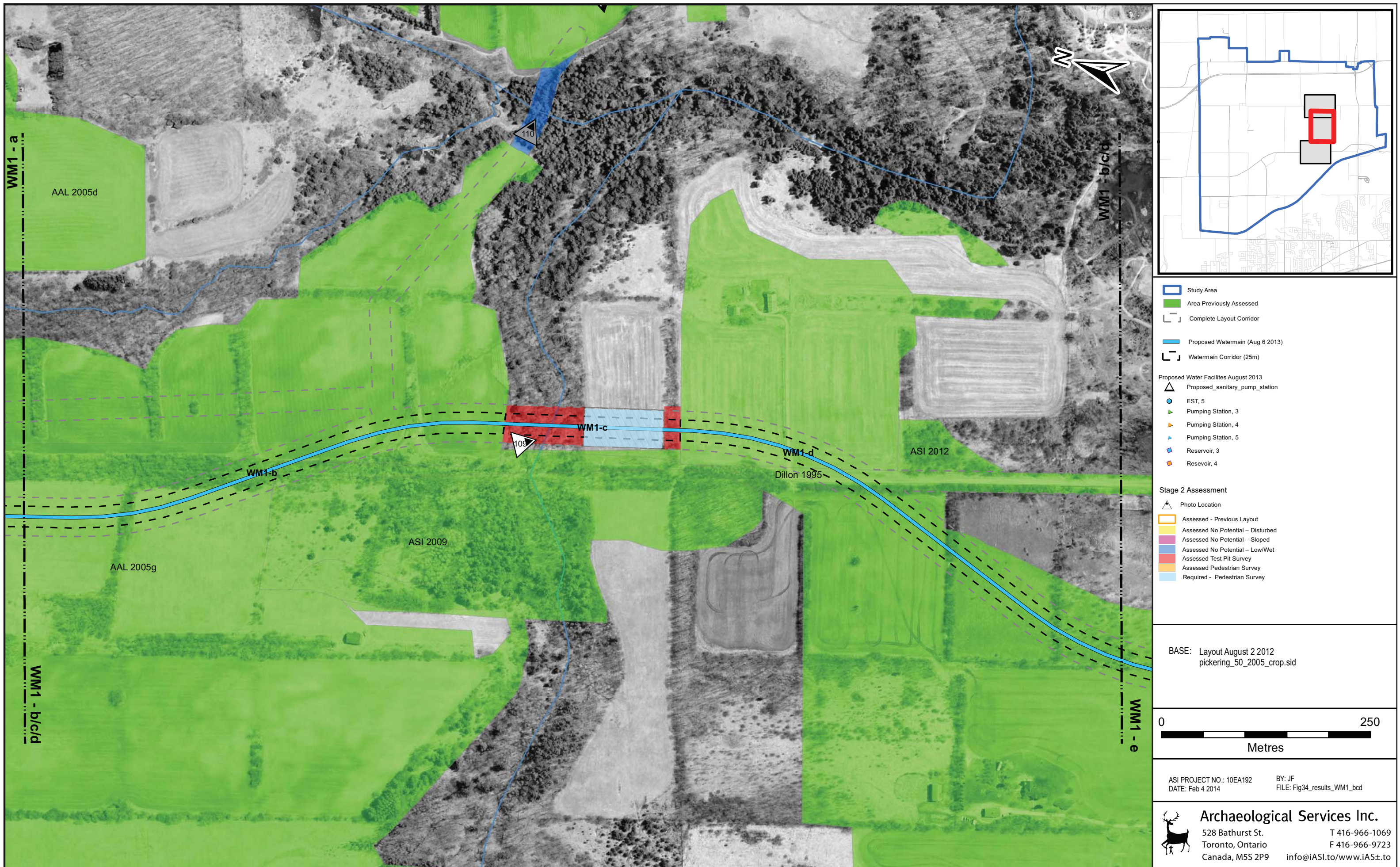


Figure 35: Central Pickering Development Plan - Stage 2 Assessment Results Watermain1 (WM1-b/c/d)

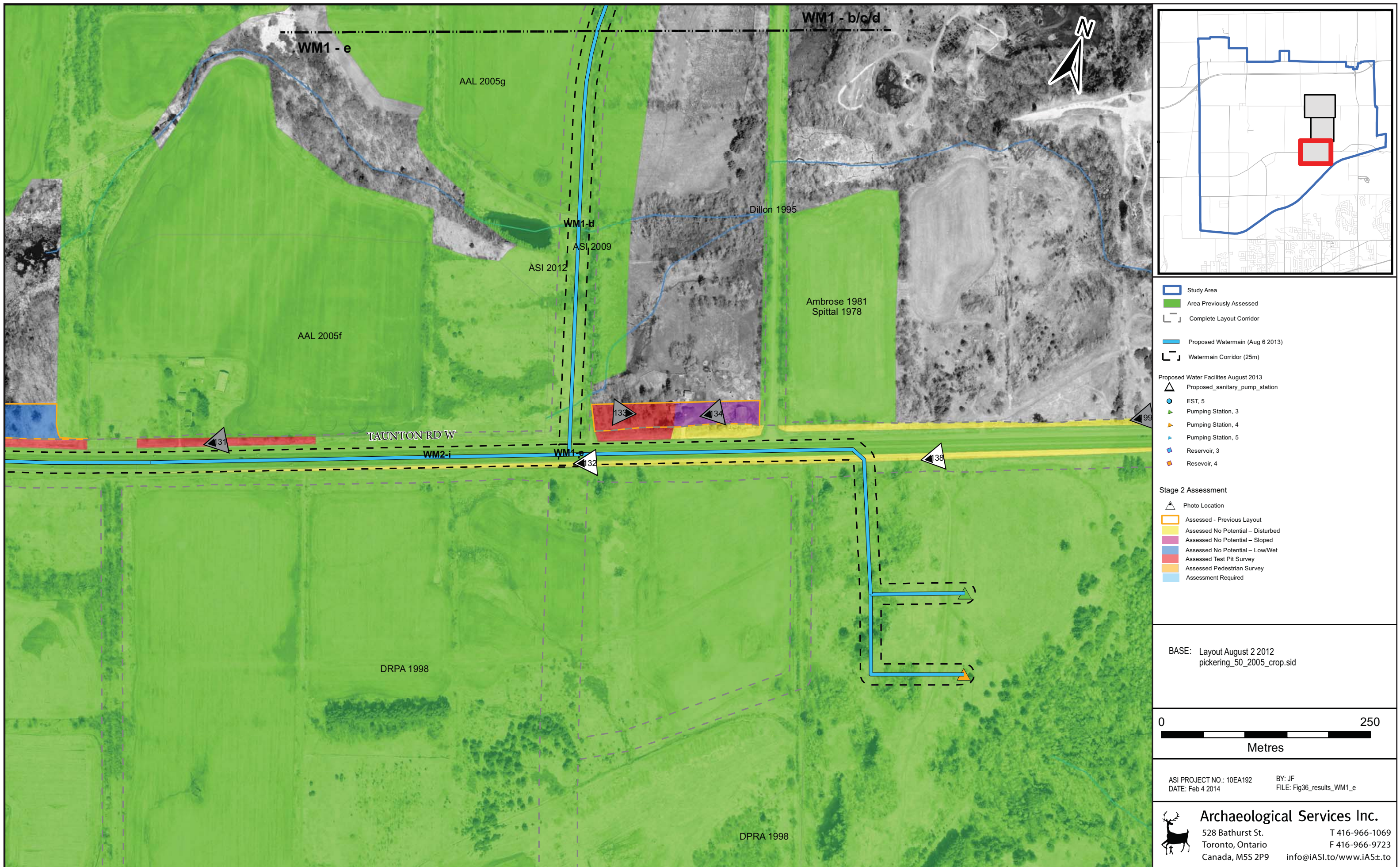
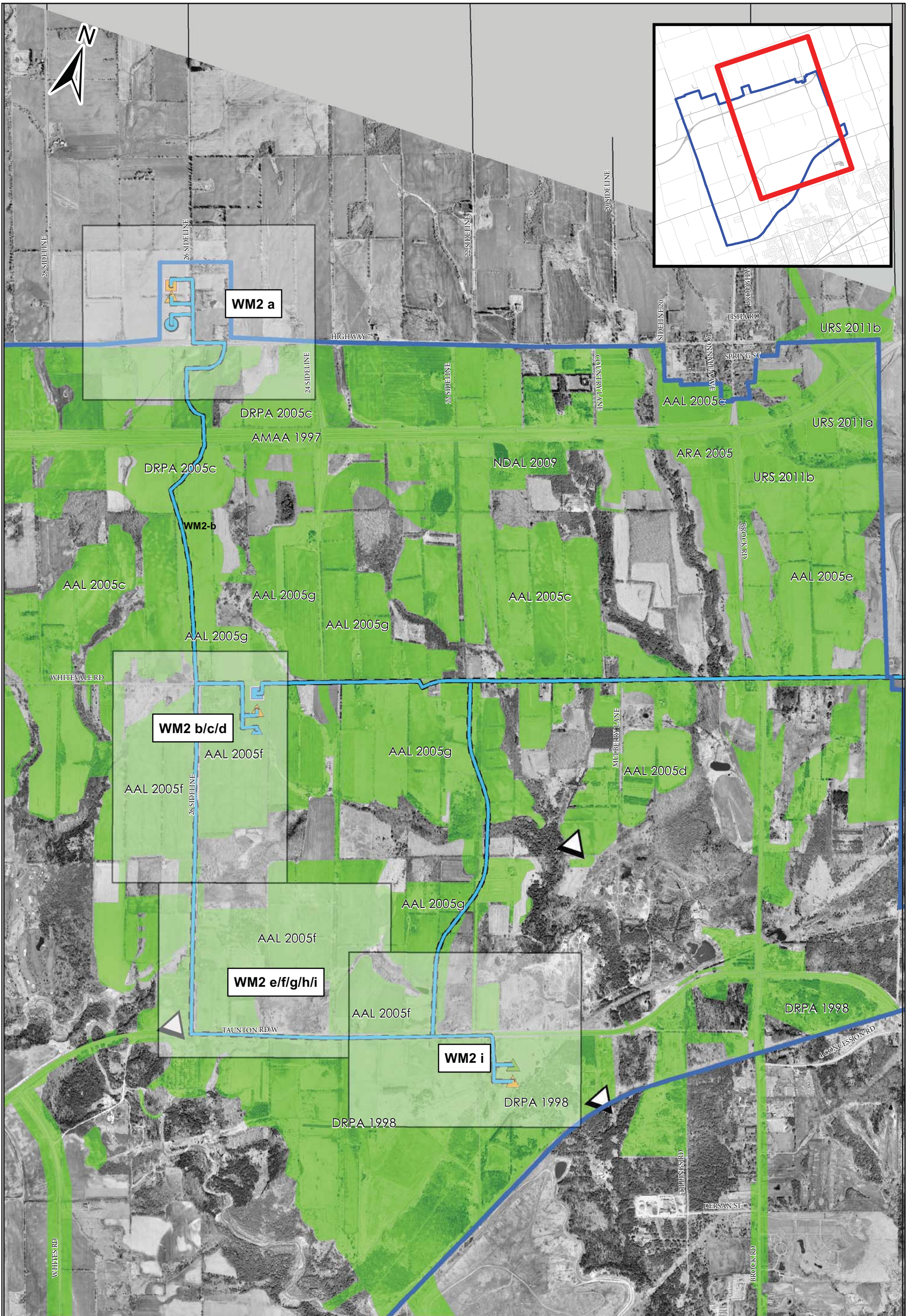


Figure 36: Central Pickering Development Plan - Stage 2 Assessment Results Watermain1 (WM1-e)



- | | | | |
|--------------------------|--------------------|--------------------------------|----------------------------------|
| Map Sheet and Study Area | Pumping Station, 4 | Proposed Sanitary Pump Station | Proposed Watermain (Aug 06 2013) |
| Previously Assessed Area | Pumping Station, 5 | EST, 5 | Proposed Watermain Corridor |
| Study Area | Reservoir, 3 | Pumping Station, 3 | |
| | Reservoir, 4 | | |

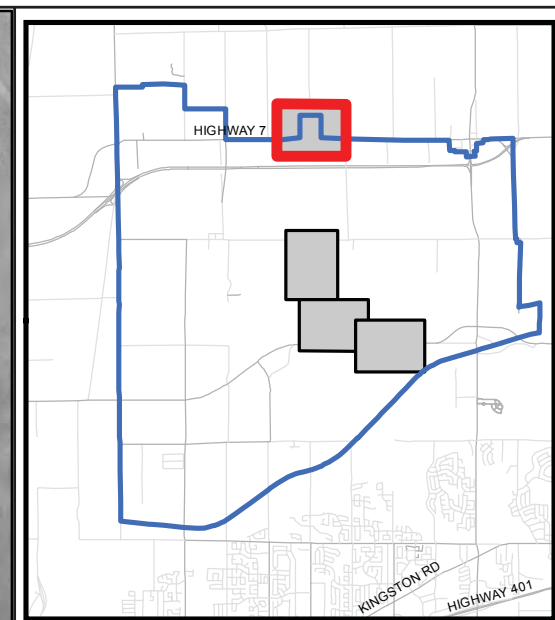
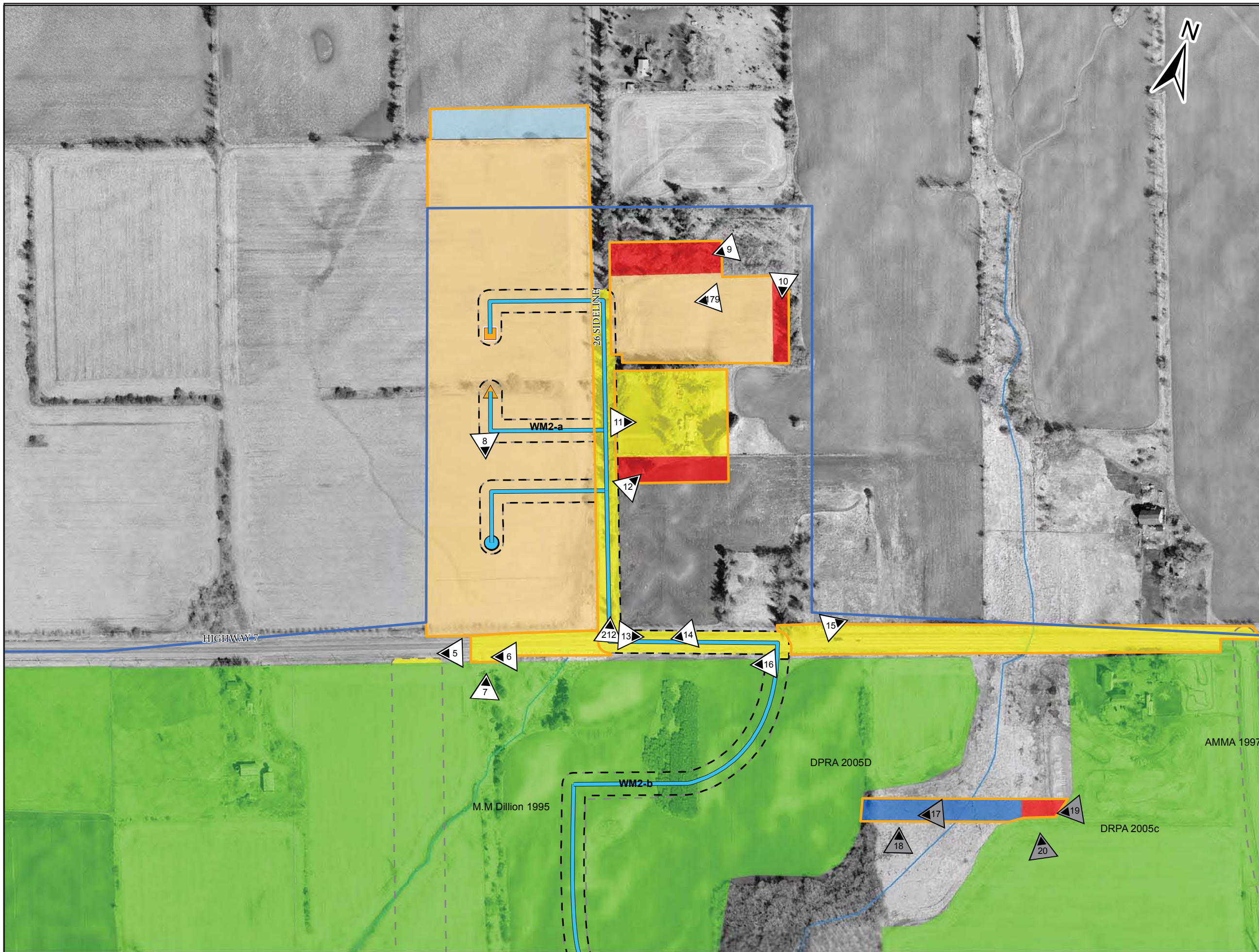
Archaeological Services Inc.
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 Canada, M5S 2P9 info@iASI.to/www.iAS±.to

BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres

ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig37_10EA192_WM2_key

Figure 37: Central Pickering Development Plan –Key Map Watermain 2 (WM2)



Legend

- Study Area
- Area Previously Assessed
- Complete Layout Corridor
- Proposed Watermain (Aug 6 2013)
- Watermain Corridor (25m)

Proposed Water Facilities August 2013

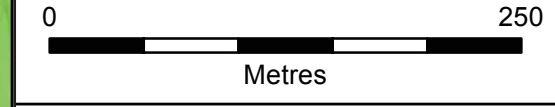
- Proposed_sanitary_pump_station
- EST, 5
- ▲ Pumping Station, 3
- ▲ Pumping Station, 4
- ▲ Pumping Station, 5
- Reservoir, 3
- Reservoir, 4

Stage 2 Assessment

- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid

AMMA 1997
DPRA 2005D
M.M Dillion 1995
DRPA 2005c



ASI PROJECT NO.: 10EA192 BY: JF
DATE: May 05 2014 FILE: Fig38_results_WM2_a_update

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Figure 38: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 2 (WM2-a/b)

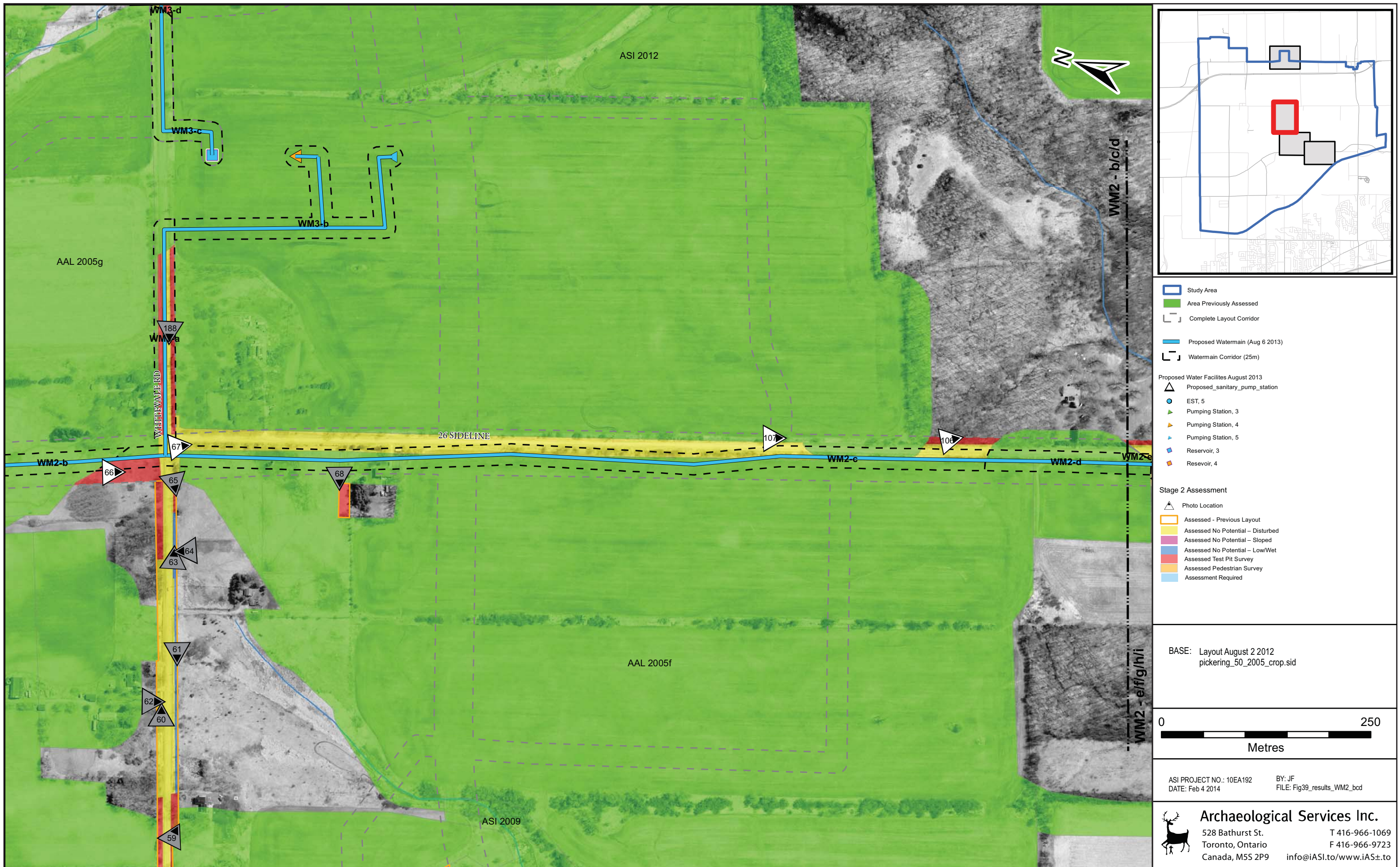
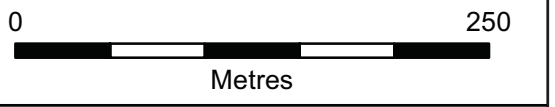


Figure 39: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 2 (WM2-b/c/d)

- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Proposed Watermain (Aug 6 2013)
 - Watermain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
 - EST, 5
 - ▲ Pumping Station, 3
 - ▲ Pumping Station, 4
 - ▲ Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Disturbed
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: Feb 4 2014 FILE: Fig39_results_WM2_bcd

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Canada, M5S 2P9 info@iASI.to/www.iAS±.to

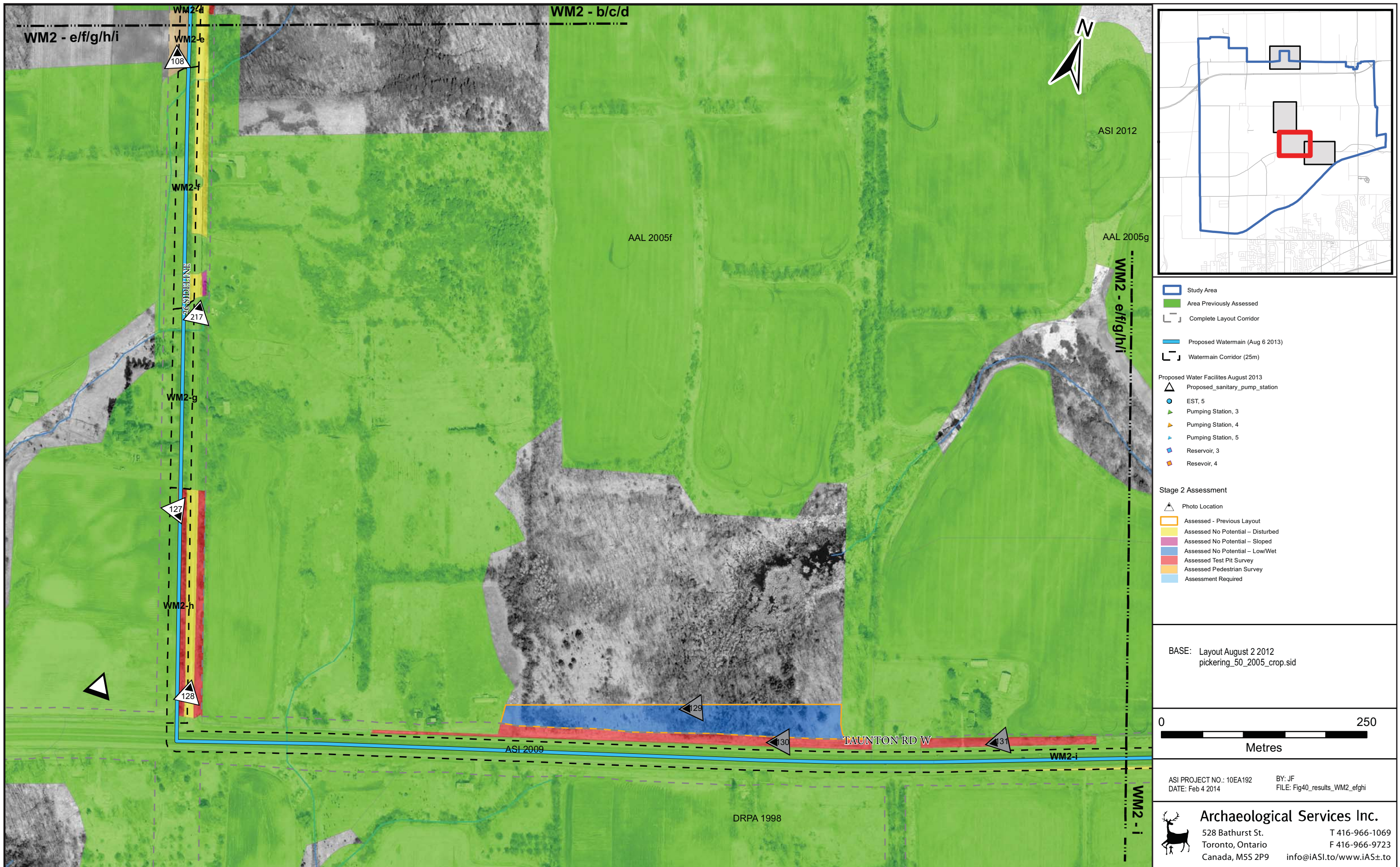
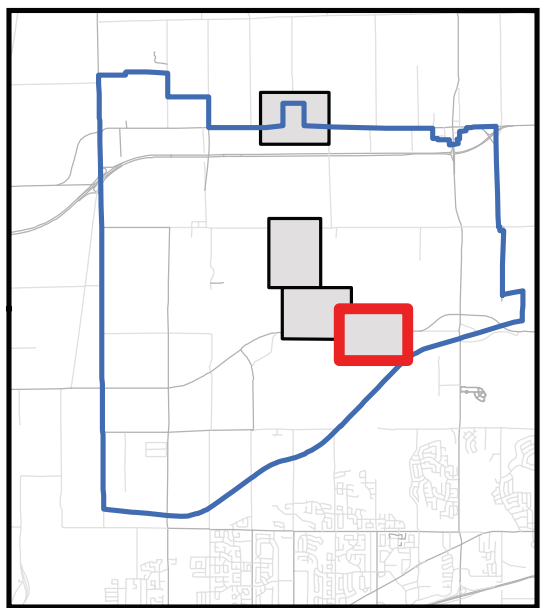
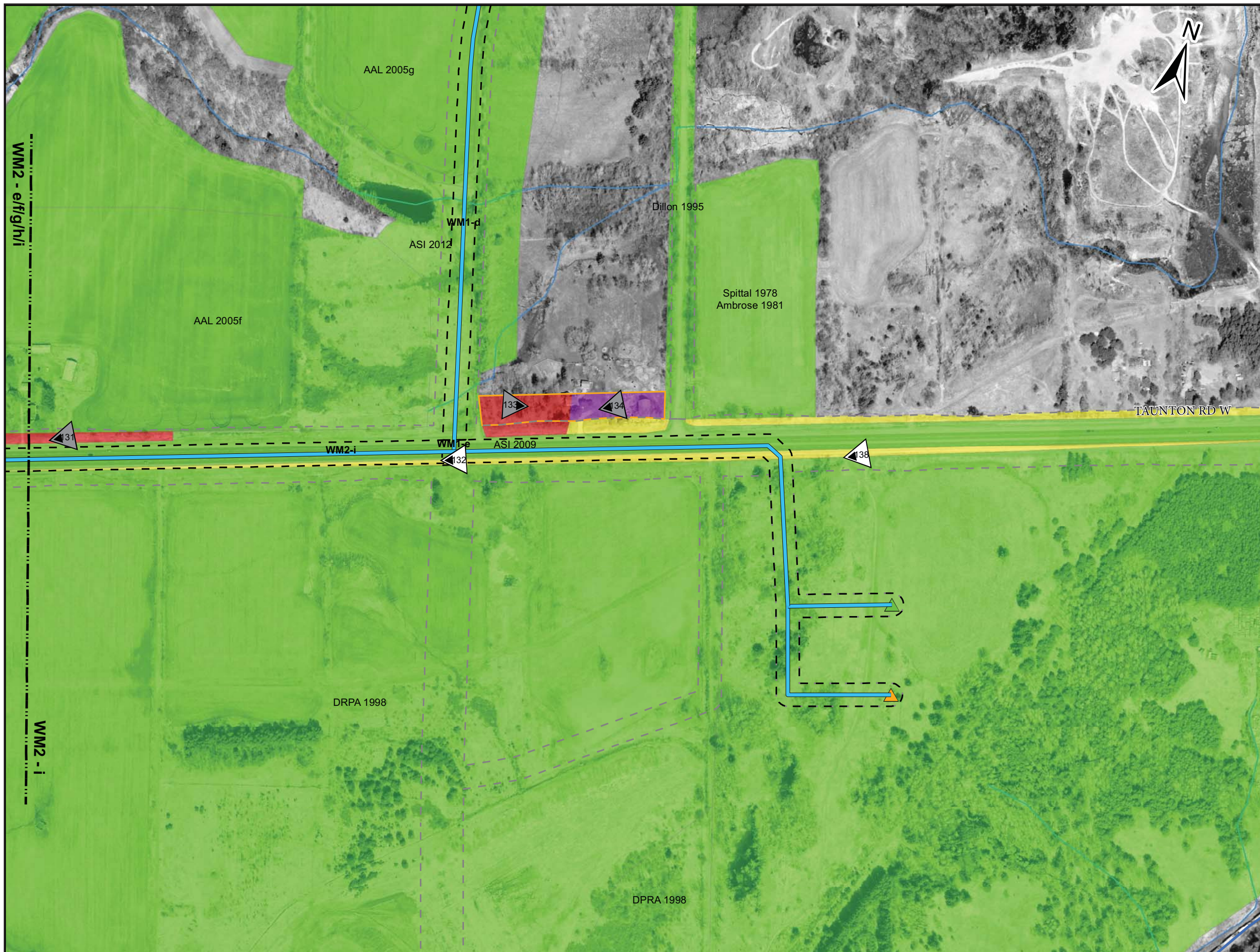
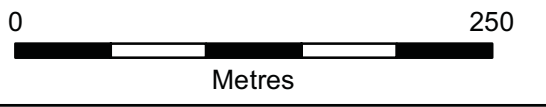


Figure 40: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 2 (WM2-e/f/g/h/i)



- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Proposed Watermain (Aug 6 2013)
 - Watermain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed_sanitary_pump_station
 - EST, 5
 - ▲ Pumping Station, 3
 - ▲ Pumping Station, 4
 - ▲ Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Disturbed
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

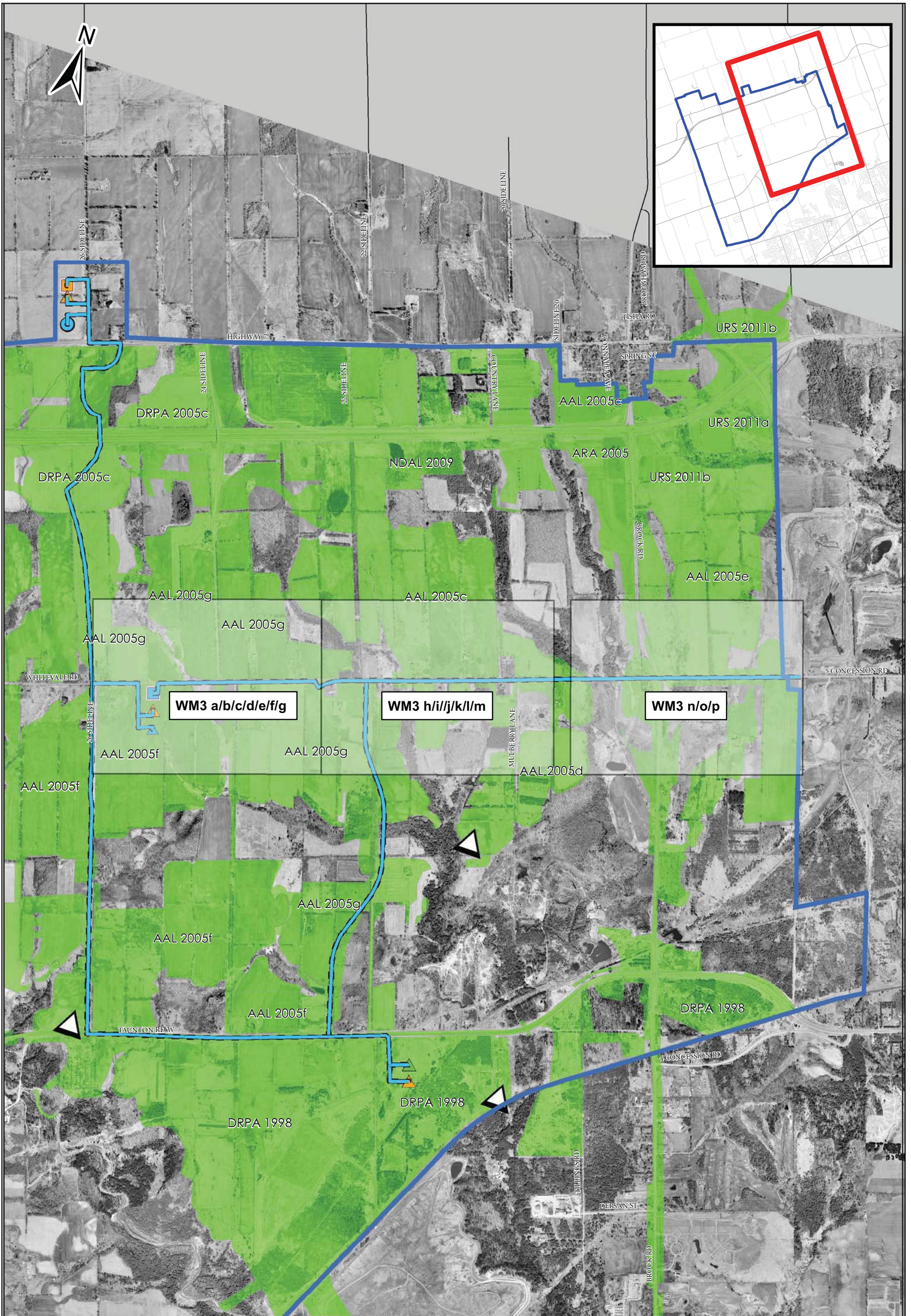
BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: Feb 4 2014 FILE: Fig41_results_WM2_i

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Figure 41: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 2 (WM2-i)



- | | | | |
|--------------------------|--------------------|--------------------------------|----------------------------------|
| Map Sheet and Study Area | Pumping Station, 4 | Proposed Sanitary Pump Station | Proposed Watermain (Aug 06 2013) |
| Previously Assessed Area | Pumping Station, 5 | EST, 5 | Proposed Watermain Corridor |
| Study Area | Reservoir, 3 | Pumping Station, 3 | |
| | Reservoir, 4 | | |

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BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres

ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig42_10EA192_WM3_key

Figure 42: Central Pickering Development Plan —Key Map Watermain 3 (WM3)



Figure 43: Central Pickering Development Plan - Stage 2 Assessment Results Watermain3 (WM3-a/b/c/d/e/f/g)

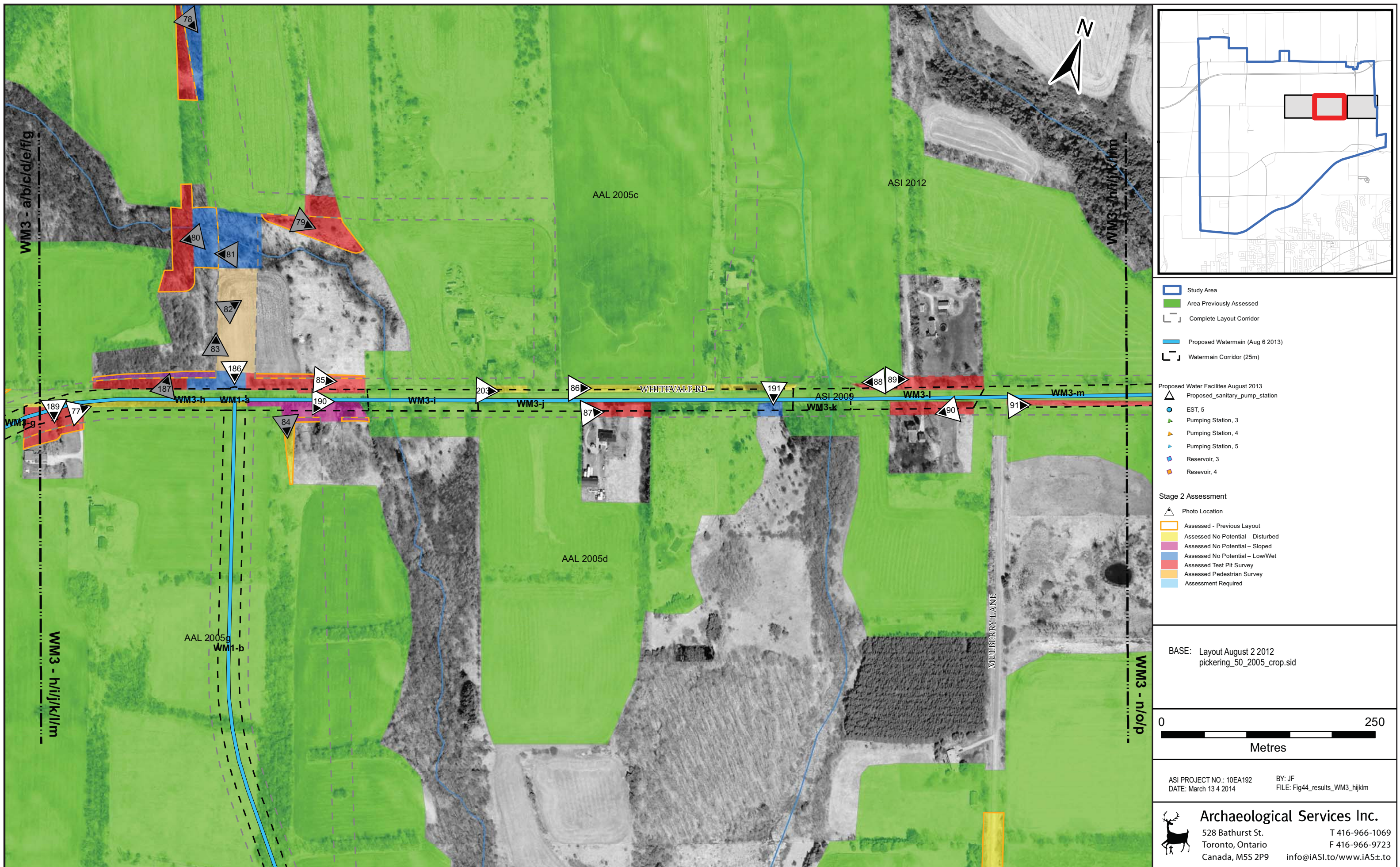


Figure 44: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 3 (WM3-h/i/j/k/l/m)

- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Proposed Watermain (Aug 6 2013)
 - Watermain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed sanitary pump station
 - EST, 5
 - Pumping Station, 3
 - Pumping Station, 4
 - Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: March 13 4 2014 FILE: Fig44_results_WM3_hijklm

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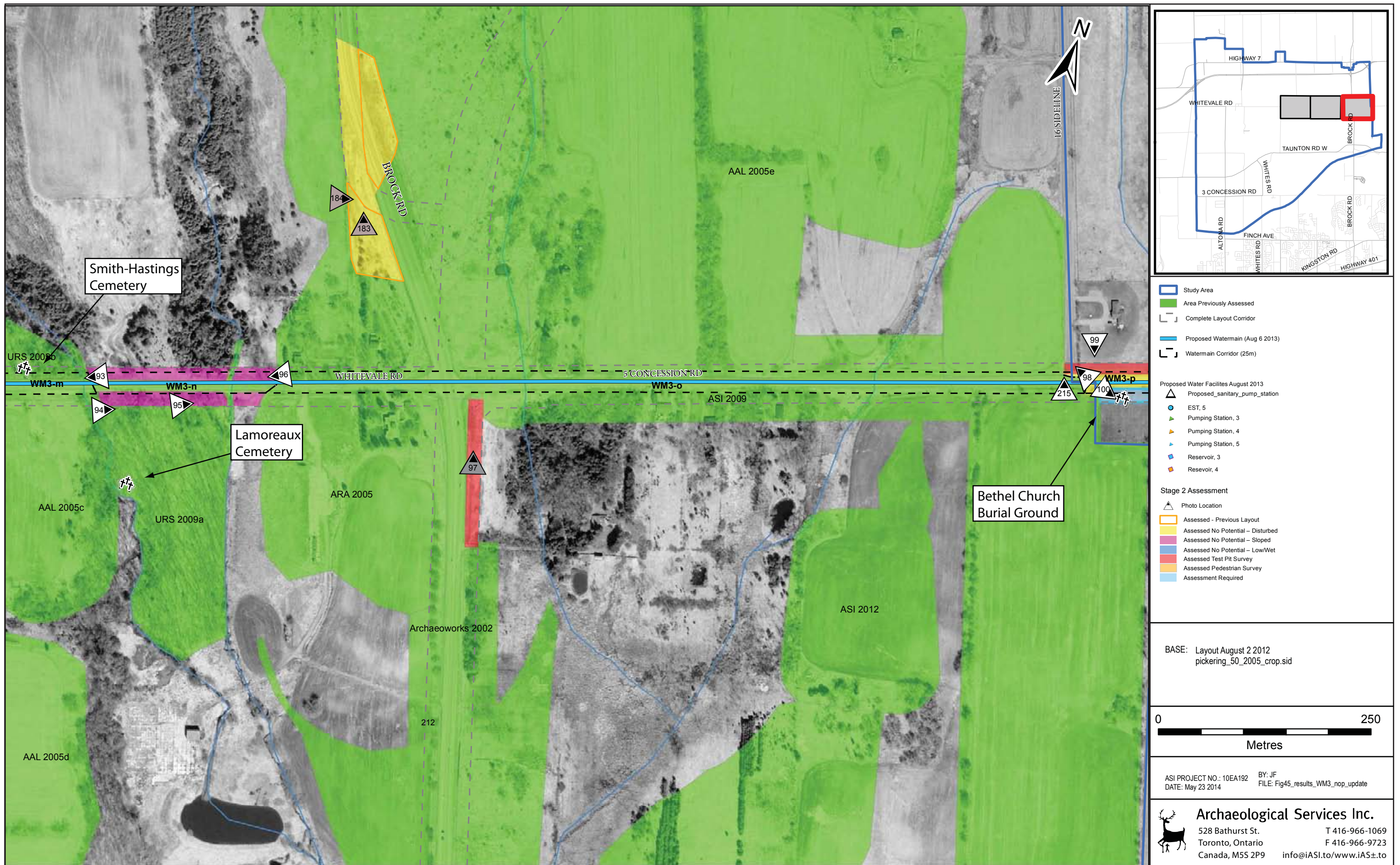
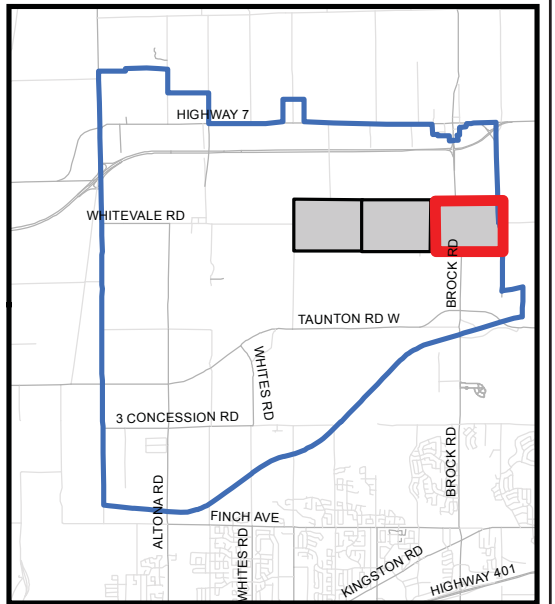
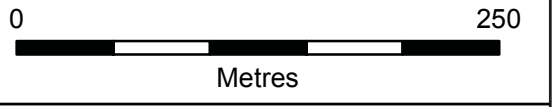


Figure 45: Central Pickering Development Plan - Stage 2 Assessment Results Watermain 3 (WM3-n/o/p)



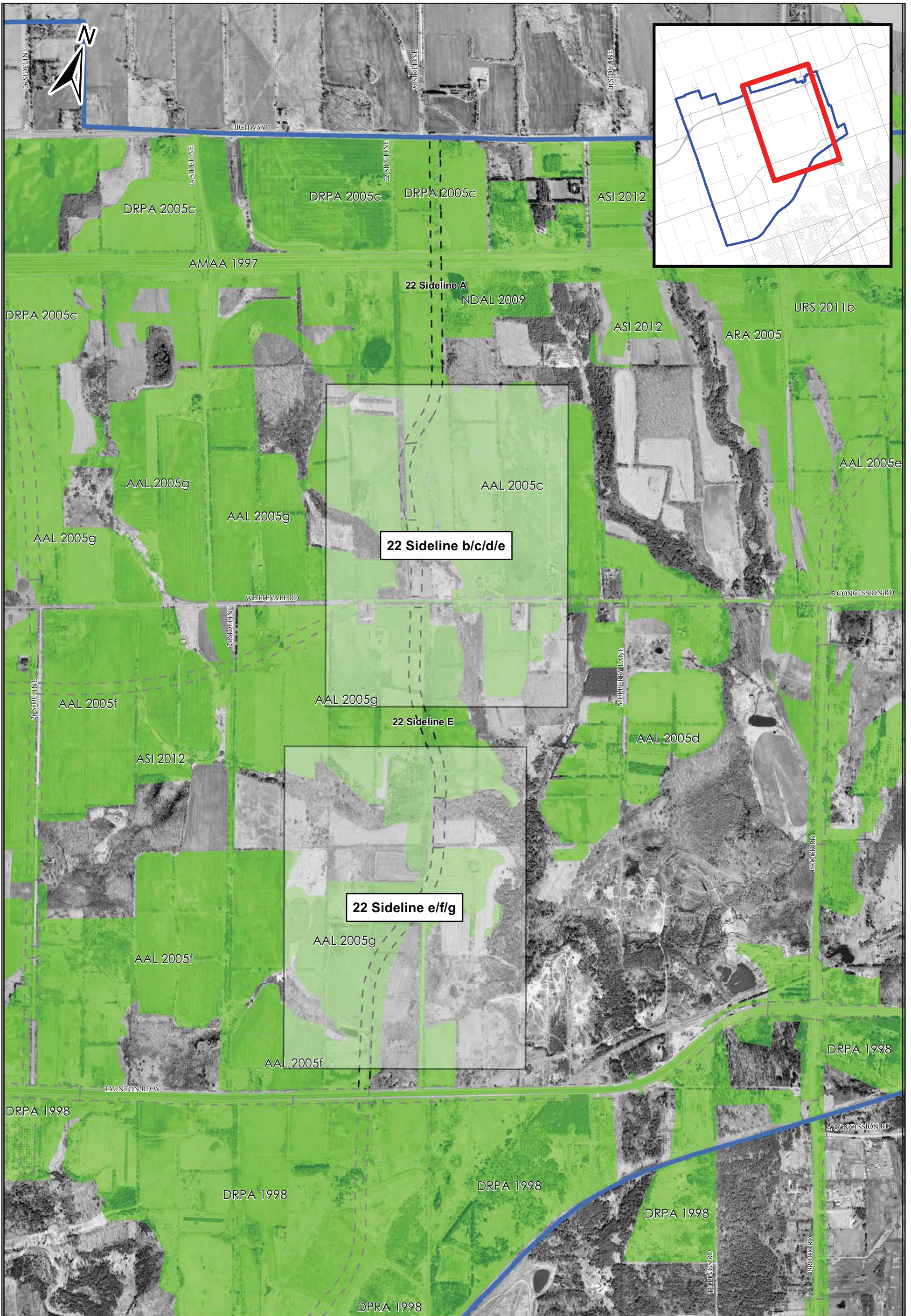
- Study Area
 - Area Previously Assessed
 - Complete Layout Corridor
 - Proposed Watermain (Aug 6 2013)
 - Watermain Corridor (25m)
- Proposed Water Facilities August 2013
- Proposed sanitary pump station
 - EST, 5
 - Pumping Station, 3
 - Pumping Station, 4
 - Pumping Station, 5
 - Reservoir, 3
 - Reservoir, 4
- Stage 2 Assessment
- Photo Location
 - Assessed - Previous Layout
 - Assessed No Potential - Disturbed
 - Assessed No Potential - Sloped
 - Assessed No Potential - Low/Wet
 - Assessed Test Pit Survey
 - Assessed Pedestrian Survey
 - Assessment Required

BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: May 23 2014 FILE: Fig45_results_WM3_nop_update

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Canada, M5S 2P9 info@iASI.to/www.iAS±.to



	Map Sheet and Study Area		Road Layout Buffer
	Previously Assessed Area		22 Sideline Layout Buffer
	Study Area		

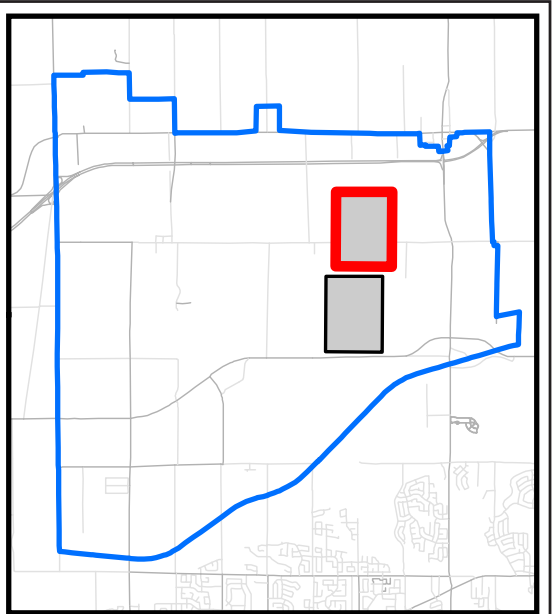
Archaeological Services Inc.
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 Toronto, Ontario F 416-966-9723
 Canada, M5S 2P9 info@iASI.to/www.iAS±.to

BASE: Layout 2013-11-21
 pickering_50_2005_crop.sid

0 500
 Metres

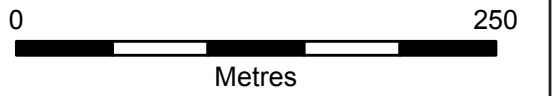
ASI PROJECT NO.: 10EA192 BY: JF
 DATE: Feb 26 2014 FILE: Fig46_10EA192_sideline22_key

Figure 46: Central Pickering Development Plan –Key Map 22 Sideline (22 Sideline)



- ▭ Study Area
- ▭ Area Previously Assessed
- Complete Layout Corridor
- Road Layout (Nov 21 2013)
- Road Layout Corridor (25m)
- Stage 2 Assessment**
- ▲ Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

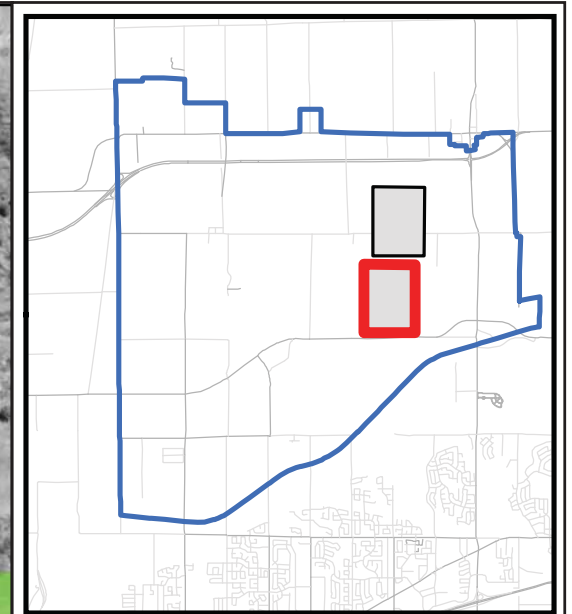
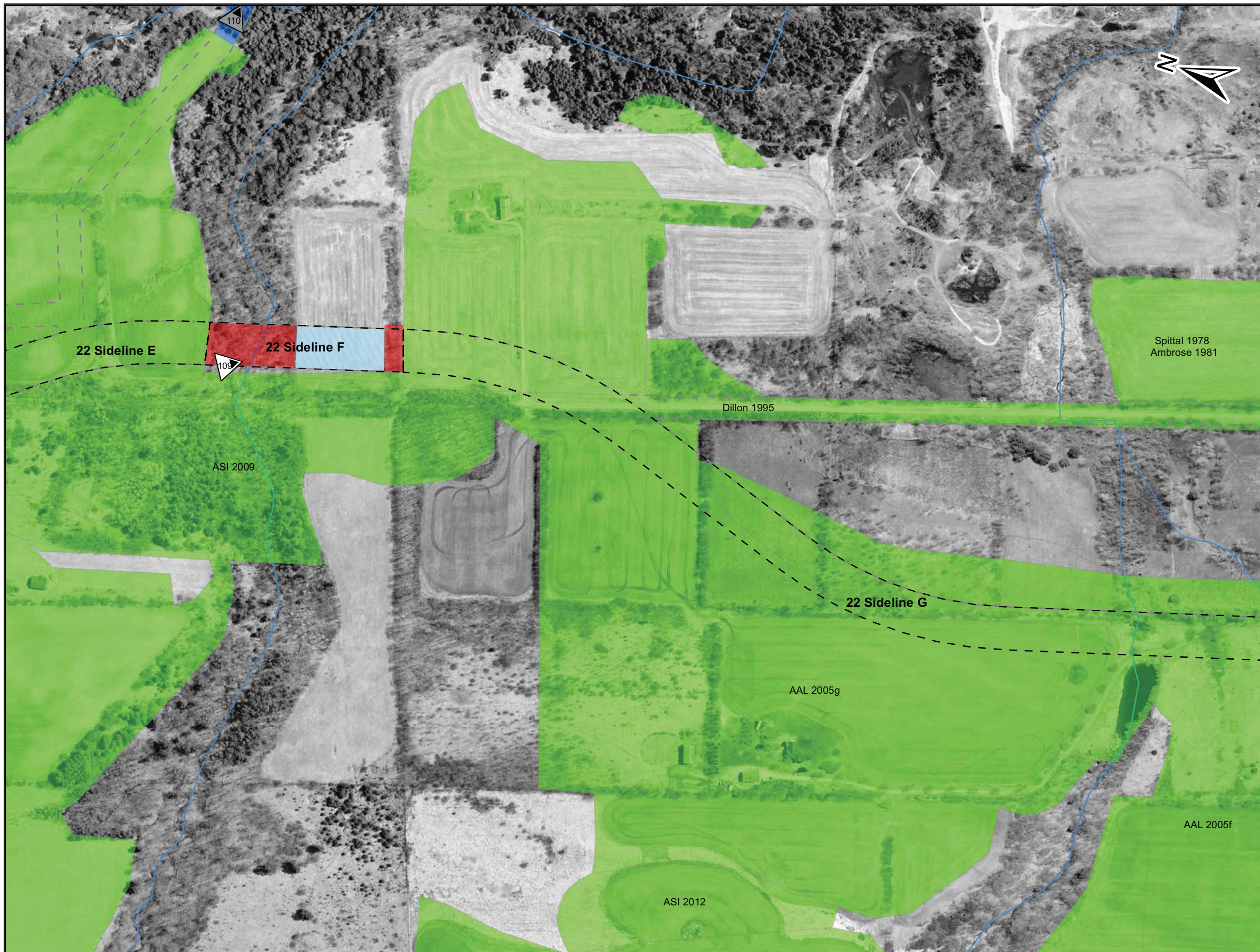
BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
DATE: Sept 18 2014 FILE: Fig47_results_22sideline_bode

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Figure 47: Central Pickering Development Plan - Stage 2 Assessment Results 22 Sideline (22 Sideline-b/c/d/e)



Study Area

- Study Area
- Area Previously Assessed
- Complete Layout Corridor

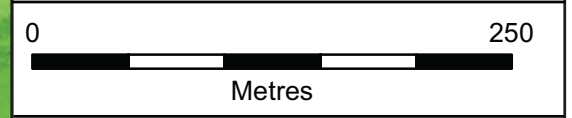
Road Layout (Nov 21 2013)

- Road Layout Corridor (25m)

Stage 2 Assessment

- Photo Location
- Assessed - Previous Layout
- Assessed No Potential - Disturbed
- Assessed No Potential - Sloped
- Assessed No Potential - Low/Wet
- Assessed Test Pit Survey
- Assessed Pedestrian Survey
- Assessment Required

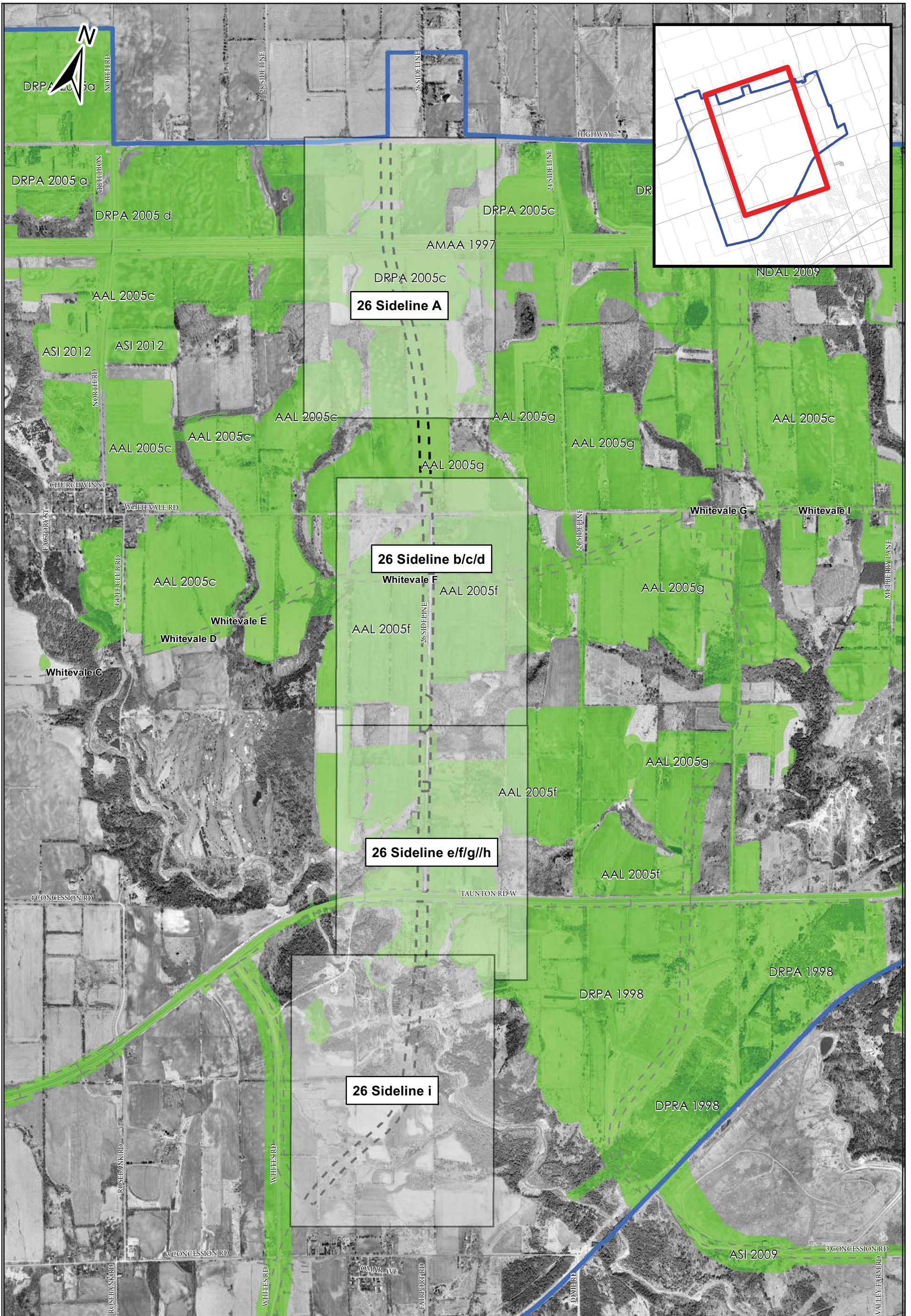
BASE: Layout August 2 2012
pickering_50_2005_crop.sid



ASI PROJECT NO.: 10EA192 BY: JF
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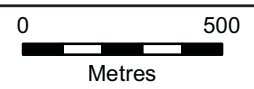
Figure 48: Central Pickering Development Plan - Stage 2 Assessment Results 22 Sideline (22 Sideline-e/f/g)



- Map Sheet and Study Area
- Road Layout Buffer
- Previously Assessed Area
- 26 Sideline Layout Buffer
- Study Area

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 DATE: March 26 2014 FILE: Fig49_10EA192_sideline26_key

Figure 49: Central Pickering Development Plan —Key Map 26 Sideline (26 Sideline)