ORIGINAL REPORT

26 August 2016

STAGE 1 ARCHAEOLOGICAL ASSESSMENT

York Downs Golf Club, Parts of Lot 16, 17 and 18, Concession 5, Geographic Township of Markham, County of York, Now 4134 16th Avenue, City of Markham, Ontario

Submitted to:
Mr. Frank Spaziani
Kylemore/ Metropia (YD) Management Ltd.
9980 Kennedy Road, Suite 200
Markham, Ontario
L6C 0M4

Licensee: Jamie Lemon, Golder Associates Ltd.

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EXECUTIVE SUMMARY

A Stage 1 archaeological assessment was conducted on behalf of Kylemore/Metropia (YD) Management Ltd. (the client), by Golder Associates Ltd. (Golder), for a proposed re-development of the York Down Golf Club in Markham Ontario. The study area is approximately 190 hectares in size and is located at 4134 16th Avenue, Markham Ontario (Map 1). The study area includes parts of Lots 16, 17 and 18, Concession 5, Geographic Township of Markham, former County of York, now City of Markham, Regional Municipality of York, Ontario

The objective of the Stage 1 archaeological assessment was to compile available information about the known and potential archaeological resources within the study area and to determine if a field survey (Stage 2) is required, as well as to recommended Stage 2 strategies if required.

The Stage 1 archaeological assessment found the York Downs Gold Club study area to exhibit potential for the recovery of intact archaeological deposits. Based on the findings of the Stage 1 assessment the following recommendations are made, as illustrated in Map 5 (See Section 5.0 for additional details):

1) Areas within the agricultural fields exhibit archaeological potential for the recovery of archaeological remains. Stage 2 pedestrian survey at an interval of five metres is recommended for these areas prior to ground disturbance activities;
2) Areas characterized as manicured lawns and wooded areas (including areas where previous disturbance could not be definitively demonstrated) exhibit archaeological potential for the recovery of archaeological remains. Stage 2 test pit survey at an interval of five metres is recommended for these areas prior to ground disturbance activities;
3) Areas of previous disturbance exhibit low potential for the recovery of archaeological remains. No further assessment is recommended for these areas;
4) Golf cart pathways and sand bunkers are considered to be previously disturbed, however would be captured within a five metre test pit grid; as such, individual previously disturbed golf cart paths and sand bunkers are not illustrated in Map 5; and
5) Give the level of unknown disturbance from soil grading within the golf course it is recommended the Stage 2 survey follow a two phase approach. The first phase would include the survey of treed areas including those situated between and along golf hole footprints. Should these areas be found to be heavily disturbed due to deep grading, all evidence of disturbance will be photo documented. Should the treed areas be found to be previously disturbed, it is recommended the greens and fairways also be considered previously disturbed. Should the first phase of test pitting reveal relatively undisturbed conditions within the treed areas, phase two will consist of Stage 2 test pit survey of the full extent of the golf course including all tees, fairways, roughs and greens. This two phase process is illustrated in Map 5 (Phase 1 – Wooded Area, Phase 2 – Open Area).

The MTCS is asked to review the results and recommendations presented herein and accept this report into the Provincial Register of archaeological reports. The MTCS is also asked to provide a letter concurring with the results presented herein.

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

Personnel

Project Manager	Jamie Lemon, M.A. (P1056)
Licensed Archaeologist	Jamie Lemon, M.A. (P1056)
Field Supervisor	Christopher Lemon, B.Sc. (R289)
Report Production	Christopher Lemon, B.Sc. (R289), Jamie Lemon, M.A. (P1056)
GIS	Jeff Todd
Senior Review	Carla Parslow, Ph.D. (P243), Associate, Senior Archaeologist

Acknowledgments

Proponent Contacts	Michael Montgomery, Frank Spaziani (Kylemore Homes), Kristy Shortall (Metropia), Peter Maleganovski (Minto Communities)

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1.0 PROJECT CONTEXT

1.1 Development Context

A Stage 1 archaeological assessment was conducted on behalf of Kylemore/Metropia (YD) Management Ltd. (the client), by Golder Associates Ltd. (Golder), for a proposed re-development of the York Down Golf Club in Markham Ontario. The study area is approximately 190 hectares in size and is located at 4134 16th Avenue, Markham Ontario (Map 1). The study area includes parts of Lots 16, 17 and 18, Concession 5, Geographic Township of Markham, former County of York, now City of Markham, Regional Municipality of York, Ontario. The Stage 1 assessment was conducted in accordance with the *Planning Act*, prior to the property being developed into a residential development. A copy of the development plan is provided in Appendix A.

The objective of the Stage 1 archaeological assessment was to compile available information about the known and potential archaeological resources within the study area and to determine if a field survey (Stage 2) is required, as well as to recommended Stage 2 strategies.

In compliance with the provincial standards and guidelines set out in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), the objectives of the Stage 1 archaeological assessment were as follows:

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

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

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the project area;
- An inquiry with the Ministry of Tourism, Culture and Sport (MTCS) to determine previous archaeological assessments conducted in close proximity to the study area; and
- A property inspection.

The Stage 1 property inspection of the study area was conducted on December 18, 2015 under archaeological consulting licence P1056, issued to Jamie Lemon of Golder. Permission to enter the property for the purposes of the property inspection was provided by Mr. Michael Montgomery of Kylemore/Metropia (YD) Management Ltd.

1.2 Historical Context

1.2.1 Post-Contact Aboriginal Occupation of Southern Ontario

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

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

The study area is situated within the former Geographic Township of Markham, County of York, Ontario. The study area is within lands that were part of Treaty number 13, conducted between the Mississaugas and the Crown in 1785. Treaty 13, also known as the Toronto purchase is described as follows:

> *On the 23rd day of September, 1787, ... Sir John Johnson, representing the King and Wabukanyne, Neace and Paquan, Principal Chief and Warchiefs of the Mississa[auga] Nation at the Carrying Place, did execute an agreement for the purpose of conveying a tract of land to the King, but it has been ascertained that the Instrument was defective and imperfect, and nothing was done about carrying it out until the first day of August, 1805, an Indenture was made, at the Rive Credit at Lake Ontario, between William Claus, Esquire, Deputy Superintendent General and Deputy Inspector General of Indians and of their Affairs, for and in behalf of Our Sovereign Lord the King and the Principal Chiefs, Warriors and people of the Mississa[uga] Nation of Indians. This purchase ..., is known as the Toronto Purchase and described as follows: "Commencing at the east bank of the south outlet of the River Etobicoke; thence up the same following the several windings and turnings of the said river to a maple tree, blazed on 4 sides at a distance of three quarters in a straight line from the mouth of the said river; thence north twenty-two degrees west twenty-four miles and one quarter; thence north sixty-eight degrees east fourteen miles; thence south twenty-two degrees east twenty-eight miles more or less to Lake Ontario; then westerly along the water's edge of Lake Ontario, to the eastern bank of the south outlet of the River Etobicoke, being the place of beginning, together with all the woods and waters thereon." This last described parcel is only a small portion of the parcel, supposed to have been conveyed by the Indians, September 23rd, 1787, and the consideration demanded by the Indians was only ten shillings.*
>
> Morris 1943: 21-22

Although no Aboriginal engagement was conducted as part of the Stage 1 assessment, should pre- or post-contact site(s) be identified during Stage 2, and be recommended for Stage 3 assessment, Aboriginal engagement measures consistent with MTCS standards will need to be undertaken.

1.2.2 Euro-Canadian Settlement

1.2.2.1 County of York, Township of Markham

The former township of Markham, named after William Markham the Archbishop of York, England, was first surveyed in 1793-1794 as part of the larger survey of the County of York and contained 67,578 acres (27,348 ha). The survey organized the territory into ten north-south concessions each 1¼ miles apart, running from Yonge Street and Vaughan Township in the west to Pickering Township in the east. The concessions were divided by six east-west side roads, also 1¼ miles apart. At the time of the survey, these side roads were little more than blazes on trees indicating where the roads would eventually be opened. The township was bounded by the Whitchurch Town Line (Gormley Sideroad) on the north, Yonge Street on the west, the Scarborough Town Line (now Steeles Avenue) on the south and Pickering Township on the west. Concessions were divided into 200 acre lots. In 1791, the Constitutional Act reserved a seventh-part of all lands granted in new townships for the Protestant clergy. In 1792, Simcoe similarly reserved a seventh-part of all lands granted for the Crown. Thus it was that two of every seventh lot in Markham Township were Crown and Clergy Reserves, with the exception of lots fronting Yonge Street. The reservation of lots hindered settlement in the township by blocking access to water sources and leaving roads unopened adjacent to the Reserve lots (Champion 1979:9). By the mid-1800s both the Crown and Clergy lots had been released and sold to private owners.

The first major wave of European settlement in Markham Township was led by William Moll Berczy (aka Johann Albrecht Ulrich Moll, aka Wilhelm Albert Ulrich von Mollo, aka Albert-Guillaume Berczy) (b. 1744, d. 1813). Berczy was a German merchant, painter and, eventually, developer who recruited over 200 people from northern Germany to settle in the Genesee area of New York State on behalf of the British based Genesee Association (Stagg 1983). The first group of settlers arrived in America in 1792, and spent the next two years engaged in legal battles to get access to their promised land and supplies. Seeking to remedy the situation, Berczy assisted with the formation of the German Company intent on acquiring land in Upper Canada. In 1794, the German Company was granted 64,000 acres (25,900 ha) west of the Grand River with the promise of more when the land was settled. The settlers travelled to Newark (Niagara-on-the-Lake) in June of 1794 and were informed that Simcoe had altered their agreement and they were now to settle in Markham Township due to Lieutenant Governor Simcoe's desire to see development in the vicinity of the newly formed Town of York. The German Company settlers once again packed their belongings and moved en masse to Markham Township. Approximately 190 German Company settlers, including some Pennsylvanians who had joined Berczy's group as they traveled, spent the winter of 1794 camping in the uncleared forests of Markham Township. The next two years were no easier for the settlers and several of them died of starvation in 1795 and 1796 (Champion 1979:13).

Other groups of early settlers in Markham Township included a collection of people known as the French *émigrés*, and the Pennsylvania Dutch. The French *émigrés* included a group of approximately 30 French aristocrats who had fled France to England to escape the French Revolution. By 1799, the *émigrés* had traveled to York and were settled on lots fronting Yonge Street in Markham Township. The settlement of the aristocrats in Markham was a failure and, with the exception of Laurent Quetton St. George who prospered through trade connections with local First Nations and other settlers, all of the *émigrés* had returned to France by 1815 (Champion 1979:26).

The Pennsylvania Dutch, who were in fact Germans or German speaking Swiss, had settled in America as early as the 17th century. The confusion in the name seems to derive from the similarity between the word 'Deutsch'

and the word 'Dutch'. Towards the end of the 1700s many Pennsylvanian Dutch families began migrating into Upper Canada which offered farmland at a much better price than could be acquired in Pennsylvania at the time. At the turn of the 18th century, numerous Pennsylvanian Dutch families made the eight week journey to Markham Township where they purchased land or occasionally traded their sturdy Conestoga horses for land. Most of the Pennsylvania Dutch settled in the eastern half of Markham Township (Champion 1979:27). The Markham Pennsylvania Dutch were mostly Mennonites, whose communal, self-sufficient lifestyle was well suited to the hardships of settlement in Upper Canada.

The remainder of settlers in early Markham Township tended to be of American or British origin and included English, Irish and Scots all fleeing from European famine and poverty. The first settlers to complete their settlement duties, including clearing land and roads and constructing housing, were Thomas Kinnear, Lot 48, Concession 1, Nicholas Miller, Lot 34, Concession 1 and John Lyons Lot 33, Concession 1. These men received their land deeds in 1796 (Bruce and Gohn 1950:5). All of these settlers were located on the western border of the township fronting Yonge Street.

The majority of free lots in Markham Township were partially cleared and had buildings erected on them, in accordance with the duties of settlement, by 1809 (Greenwald 1973:46). The Reserve Lots were mostly leased to settlers by the 1820s.

Early roads in Markham Township, as elsewhere, tended to follow the topography of the landscape rather than the straight survey lines. It was not until the early 20th century, with the increase in large engineering works that many of these roads were straightened out through the construction of iron and concrete bridges across the Rouge River and its associated tributaries.

In 1817 the Township of Markham had 14 mills in operation, including both grist mills and saw mills. Twelve of the mills were located on the Rouge River and 2 of the mills were located on the Don (Champion 1979:116). By 1824, three wool dressing mills were in operation and the number of grist and saw mills had increased to a total of 10 sawmills and 5 grist mills. Two decades later, in 1842, the population of Markham Township had increased to 5,698 and the number of mills in operation had more than doubled to 24 sawmills and 11 grist mills (Robinson 1885 Part II:120).

By 1850 the population of Markham Township had increased slightly to 6,868 and there were also a few more mills in operation: 27 sawmills and 13 grist mills. The farm productivity recorded for the township in 1849 was: 150,000 bushels of wheat, 11,000 bushels of barley, 7,000 bushels of rye, 145,000 bushels of oats, 45,000 bushels of peas, 55,000 bushels of potatoes, 3,000 bushels of turnips and 3,000 tons of hay. (Robinson 1885 Part II:120).

The population of Markham Township continued to increase over the next two decades and by 1871 it was 8,152 (Robinson 1885 Part II:121). The population of the township dropped to 6,375 by 1881, however this was caused by a reduction in land area assigned to the township due to the incorporation of the villages of Markham, Richmond Hill and Stouffville, rather than a reduction in the number of people living in the region. The area of the township was reduced to 66,475 acres (26,901 ha).

The farm productivity recorded for the township in 1881 was: 110,050 bushels of wheat, 199,181 bushels of barley, 271,851 bushels of oats, 55,954 bushels of peas and beans, 10,280 bushels of corn, 89,671 bushels of potatoes, 122,312 bushels of turnips, 118,397 bushels of other root crops and 10,598 tons of hay (Robinson

1885 Part II:120). A little over 10% of the land was in pasture and two per cent devoted to orchards while 70% of the land was under tillage and 10% still held forest, mainly beech, maple and basswood with some areas of pine.

York County was abolished in 1971 and replaced by the Regional Municipality of York. At this time, the northern portion of the Township of Markham was annexed into Richmond Hill, which had been elevated from a village to a town in 1957, and the newly formed Town of Whitchurch-Stouffville, an amalgamation of the former Township of Whitchurch and the former Village of Stouffville. The southern portion of the Township of Markham was transformed into the Town of Markham.

1.2.2.2 Lots and Concessions within Study Area

The study area is located at 4134 16th Avenue, Markham, Ontario and is comprised of the majority of Lots 16, 17 and 18, Concession 5, Geographic Township of Markham, former County of York. Based on the 1860 Tremaine's map, the study area was owned by five land owners at this time. These land owners are illustrated in Table 1 and on Map 2 of this report. By 1878 the Milles and Company map illustrates a change in ownership in three of the five properties. The 1878 owners are illustrated in Table 2. Map 3 illustrates the study area within the Township of Markham on the 1878 map from the *Illustrated Historical Atlas of the County of York* (Mile and Co. 1878). The study area in 1878 was situated just north of the Town of Unionville. The 1878 mapping also indicates that one of the before mentioned saw mills was located on the property. The saw mill is illustrated on the southeast limit of the study area, facing onto 16th Ave approximately 300 metres west of Kennedy Road. It is also interesting to note the Berczy Settlement and Bethesda Church and Burying Grounds historic cemetery is located only 150 metres east of the current study area.

Table 1: 1860 Listed Property Owners in Study Area

Listed Owner in 1878	Lot	Concession	Notable Infrastructure
Robert Stiver	16 (west half)	5	NA
Andrew Smith	16 (east half)	5	mill pond
William Horsely	17 (western 2/3)	5	NA
Glebe (family)	17 (eastern 1/3)	5	N/A
Estate of Henry Pingle	18 (entirety)	5	NA

Table 2: 1878 Listed Property Owners in Study Area

Listed Owner in 1878	Lot	Concession	Notable Infrastructure
Robert Stiver	16 (west half)	5	N/A
James Francis	16 (east half)	5	sawmill, house and orchard
William and Ina Olster	17 (western 2/3)	5	two houses and an orchard
Glebe Property	17 (eastern 1/3)	5	N/A
Joseph Pingle	18 (entirety)	5	house and orchard

Prior to the property inspection three historic aerial images of the study area were assessed (Map 7). The images date to 1946, 1960 and 1974. Each of the images helped to add context to the development of the study area from open farm land to its current configuration as the York Downs Golf Club. The sequence of aerial images indicts that overall configuration of Bercy and Bruce creeks have remained fundamentally unchanged over time and that two large areas of forest have remained largely intact since at least 1946. The images further illustrate that the undeveloped farm land located in the northeast of the study area has existed in its current state since at least 1946. Overall, the study area was utilized in the early to mid-20th century as primarily agricultural land, and currently serves as the York Downs Golf Club, with some areas still remaining in agricultural use.

1.3 Archaeological Context

1.3.1 The Natural Environment

The study area is situated within the "Peel Plain" physiographic region:

> *The Peel plain is a level-to-undulating tract of clay soils (Photo 70) covering 300 square miles across the central portions of the Regional Municipalities of York, Peel, and Halton. The general elevation is from 500 to 750 feet a.s.l. and there is a gradual and fairly uniform slope toward Lake Ontario. Across this plain the Credit, Humber, Don, and Rouge Rivers have cut deep valleys, as have other streams such as the Bronte, Oakville, and Etobicoke Creeks.*
>
> Chapman and Putnam, 1984:174

The soils of the study area consist predominantly of imperfectly drained clay soils that lend themselves well to agricultural practices. According to Hoffman and Richards, Cashel clay and Peel clay make up the majority of the soils contained within the study area. These clays are typically used for general farming and are well suited to the production of cereal crops (Hoffman and Richards, 1955). These types of soils would have been acceptable for pre-contact Aboriginal agricultural practices. The closest potable water source would have been either of the two creeks which traverse the property. Berczy Creek is located in the southwest of the study area and Bruce Creek flows generally north-south across the midsection of the property. The topography of the area is characterized as rolling with an overarching slope to the south towards Lake Ontario, which is located approximately 21 kilometres to the south of the study area.

1.3.2 General Overview of the Pre-Contact Period in Southern Ontario

The culture history of south-central Ontario, based on Ellis and Ferris (1990), is summarised in Table 3.

Table 3: Pre-contact cultural chronology for south-central Ontario

Period	Characteristics	Time Period	Comments
Early Paleo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Paleo-Indian	Hi-Lo Projectiles	8400 - 8000B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present

Period	Characteristics	Time Period	Comments
Late Archaic	Lamoka (narrow points)	2000 - 1800 B.C.	increasing site size
	Broadpoints	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C. - A.D.500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

1.3.3 Pre-contact Aboriginal Documentation

Previous archaeological assessments and research surveys have demonstrated that the area now occupied by Markham was intensively occupied by pre-contact Aboriginal people.

The following subsections outline the cultural or temporal periods recognized for southern Ontario more generally.

1.3.3.1 Paleo-Indian Period

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

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

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

camps scattered throughout the interior of southwestern and south-central Ontario, usually situated adjacent to wetlands.

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

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

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

The end of the Late Paleo-Indian Period was heralded by numerous technological and cultural innovations that appeared throughout the Archaic Period. These innovations may be best explained in relation to the dynamic nature of the post-glacial environment and region-wide population increases.

1.3.3.2 Archaic Period

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

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

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

This reduction in territory size was probably the result of gradual region-wide population growth which led to the infilling of the landscape. This process forced a reorganization of Native subsistence practices, as more people had to be supported from the resources of a smaller area. During the latter part of the Middle Archaic,

technological innovations such as fish weirs have been documented as well as stone tools especially designed for the preparation of wild plant foods.

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

During the Late Archaic (2500-950 B.C.) the trend towards decreased territory size and a broadening subsistence base continued. Late Archaic sites are far more numerous than either Early or Middle Archaic sites, and it seems that the local population had definitely expanded. It is during the Late Archaic that the first true cemeteries appear. Before this time individuals were interred close to the location where they died. During the Late Archaic, if an individual died while his or her group happened to be at some distance from their group cemetery, the bones would be kept until they could be placed in the cemetery. Consequently, it is not unusual to find disarticulated skeletons, or even skeletons lacking minor elements such as fingers, toes or ribs, in Late Archaic burial pits.

The appearance of cemeteries during the Late Archaic has been interpreted as a response to increased population densities and competition between local groups for access to resources. It is argued that cemeteries would have provided strong symbolic claims over a local territory and its resources. These cemeteries are often located on heights of well-drained sandy/gravel soils adjacent to major watercourses.

This suggestion of increased territoriality is also consistent with the regionalized variation present in Late Archaic projectile point styles. It was during the Late Archaic that distinct local styles of projectile points appear. Also during the Late Archaic the trade networks which had been established during the Middle Archaic continued to flourish. Native copper from northern Ontario and marine shell artifacts from as far away as the Mid-Atlantic coast are frequently encountered as grave goods. Other artifacts such as polished stone pipes and banded slate gorgets also appear on Late Archaic sites. One of the more unusual and interesting of the Late Archaic artifacts is the *birdstone*. Birdstones are small, bird-like effigies usually manufactured from green banded slate.

1.3.3.3 Woodland Period

The Early Woodland Period (940 to 400 B.C.) is distinguished from the Late Archaic Period primarily by the addition of ceramic technology. While the introduction of pottery provides a useful demarcation point for archaeologists, it may have made less difference in the lives of the Early Woodland peoples. The first pots were very crudely constructed, thick walled, and friable. It has been suggested that they were used in the processing of nut oils by boiling crushed nut fragments in water and skimming off the oil. These vessels were not easily portable, and individual pots must not have enjoyed a long use life. There have also been numerous Early Woodland sites located at which no pottery was found, suggesting that these poorly constructed, undecorated vessels had yet to assume a central position in the day-to-day lives of Early Woodland peoples.

Other than the introduction of this limited ceramic technology, the life-ways of Early Woodland peoples show a great deal of continuity with the preceding Late Archaic Period. For instance, birdstones continue to be manufactured, although the Early Woodland varieties have "pop-eyes" which protrude from the sides of their heads.

Likewise, the thin, well-made projectile points which were produced during the terminal part of the Archaic Period continue in use. However, the Early Woodland variants were side-notched rather than corner-notched, giving them a slightly altered and distinctive appearance.

The trade networks which were established in the Middle and Late Archaic also continued to function, although there does not appear to have been as much traffic in marine shell during the Early Woodland Period. During the last 200 years of the Early Woodland Period, projectile points manufactured from high quality raw materials from the American Midwest begin to appear on sites in southwestern Ontario.

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

In addition, Middle Woodland peoples relied much more extensively on ceramic technology. Middle Woodland vessels are often heavily decorated with hastily impressed designs covering the entire exterior surface and upper portion of the vessel interior. Consequently, even very small fragments of Middle Woodland vessels are easily identifiable.

It is also at the beginning of the Middle Woodland Period that rich, densely occupied sites appear along the margins of major rivers and lakes. While these areas had been utilized by earlier peoples, Middle Woodland sites are significantly different in that the same location was occupied off and on for as long as several hundred years and large deposits of artifacts often accumulated. Unlike earlier seasonally utilized locations, these Middle Woodland sites appear to have functioned as base camps, occupied off and on over the course of the year. There are also numerous small upland Middle Woodland sites, many of which can be interpreted as special purpose camps from which localized resource patches were exploited. This shift towards a greater degree of sedentism continues the trend witnessed from at least Middle Archaic times, and provides a prelude to the developments that follow during the Late Woodland Period.

The Late Woodland Period began with a shift in settlement and subsistence patterns involving an increasing reliance on corn horticulture (Fox 1990:185; Smith 1990; Williamson 1990:312). Corn may have been introduced into southwestern Ontario from the American Midwest as early as 600 A.D. or a few centuries before. Corn did not become a dietary staple, however, until at least three to four hundred years later, and then the cultivation of corn gradually spread into south-central and southeastern Ontario.

During the early Late Woodland, particularly within the Princess Point Complex (*circa* A.D. 500-1050), a number of archaeological material changes have been noted: the appearance of triangular projectile point styles, first seen during this period begin with the Levanna form; cord-wrapped stick decorated ceramics using the paddle and anvil forming technique take over from the mainly coil-manufactured and dentate stamped and pseudo-scallop shell impressed ceramics; and if not appearance, increasing use of maize (*Zea mays*) as a food source (e.g. Bursey 1995; Crawford *et al.* 1997; Ferris and Spence 1995:103; Martin 2004 [2007]; Ritchie 1971:31-32; Spence *et al*. 1990; Williamson 1990:299).

The Late Woodland Period is widely accepted as the beginning of agricultural life ways in south-central Ontario. Researchers have suggested that a warming trend during this time may have encouraged the spread of maize into southern Ontario, providing a greater number of frost-free days (Stothers and Yarnell 1977). Further, shifts

in the location of sites have also been identified with an emphasis on riverine, lacustrine and wetland occupations set against a more diffuse use of the landscape during the Middle Woodland (Dieterman 2001).

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

Village sites dating between 900 and 1300 A.D., share many attributes with the historically reported Iroquoian sites, including the presence of longhouses and sometimes palisades. However, these early longhouses were actually not all that large, averaging only 12.4 metres in length (Dodd *et al.* 1990:349; Williamson 1990:304-305). It is also quite common to find the outlines of overlapping house structures, suggesting that these villages were occupied long enough to necessitate re-building.

The Jesuits reported that the Huron moved their villages once every 10-15 years, when the nearby soils had been depleted by farming and conveniently collected firewood grew scarce (Pearce 2010). It seems likely that Early Ontario Iroquoians occupied their villages for considerably longer, as they relied less heavily on corn than did later groups, and their villages were much smaller, placing less demand on nearby resources.

Judging by the presence of carbonized corn kernels and cob fragments recovered from sub-floor storage pits, agriculture was becoming a vital part of the Early Ontario Iroquoian economy. However, it had not reached the level of importance it would in the Middle and Late Ontario Iroquoian Periods. There is ample evidence to suggest that more traditional resources continued to be exploited, and comprised a large part of the subsistence economy. Seasonally occupied special purpose sites relating to deer procurement, nut collection, and fishing activities, have all been identified. While beans are known to have been cultivated later in the Late Woodland Period, they have yet to be identified on Early Ontario Iroquoian sites.

The Middle Ontario Iroquoian Period (1300-1400 A.D.) witnessed several interesting developments in terms of settlement patterns and artifact assemblages. Changes in ceramic styles have been carefully documented, allowing the placement of sites in the first or second half of this 100-year period. Moreover, villages, which averaged approximately 0.6 hectares in extent during the Early Ontario Iroquoian Period, now consistently range between one and two hectares.

House lengths also change dramatically, more than doubling to an average of 30 metres, while houses of up to 45 metres have been documented. This increase in longhouse length has been variously interpreted. The simplest possibility is that increased house length is the result of a gradual, natural increase in population (Dodd *et al*. 1990:323, 350, 357; Smith 1990). However, this does not account for the sudden shift in longhouse lengths around 1300 A.D. Other possible explanations involve changes in economic and socio-political organization (Dodd *et al.* 1990:357). One suggestion is that during the Middle Ontario Iroquoian Period small villages were amalgamating to form larger communities for mutual defense (Dodd *et al*. 1990:357). If this was the case, the more successful military leaders may have been able to absorb some of the smaller family groups into their households, thereby requiring longer structures. This hypothesis draws support from the fact that some sites had up to seven rows of palisades, indicating at least an occasional need for strong defensive measures. There are, however, other Middle Ontario Iroquoian villages which had no palisades present (Dodd *et al.* 1990). More research is required to evaluate these competing interpretations.

The lay-out of houses within villages also changes dramatically by 1300 A.D. During the Early Ontario Iroquoian Period villages were haphazardly planned, with houses oriented in various directions. During the Middle Ontario Iroquoian Period villages are organized into two or more discrete groups of tightly spaced, parallel aligned, longhouses. It has been suggested that this change in village organization may indicate the initial development of the clans which were a characteristic of the historically known Iroquoian peoples (Dodd *et al.* 1990:358).

Initially at least, the Late Ontario Iroquoian Period (1400-1650 A.D.) continues many of the trends which have been documented for the proceeding century. For instance, between 1400 and 1450 A.D. house lengths continue to grow, reaching an average length of 62 metres. One longhouse excavated on a site southwest of Kitchener was an incredible 123 metres (Lennox and Fitzgerald 1990:444-445). After 1450 A.D., house lengths begin to decrease, with houses dating between 1500-1580 A.D. averaging 30 metres in length.

Why house lengths decrease after 1450 A.D. is poorly understood, although it is believed that the even shorter houses witnessed on Historical Period sites can be at least partially attributed to the population reductions associated with the introduction of European diseases such as smallpox (Lennox and Fitzgerald 1990:405, 410).

Village size also continues to expand throughout the Late Ontario Iroquoian Period, with many of the larger villages showing signs of periodic expansions. The Late Middle Ontario Iroquoian Period and the first century of the Late Ontario Iroquoian Period was a time of village amalgamation. These large villages were often heavily defended with numerous rows of wooden palisades, suggesting that defence may have been one of the rationales for smaller groups banding together.

1.3.4 Previously Identified Archaeological Sites and Surveys

Previous archaeological assessments and research surveys have demonstrated the lands that later became the County of York were utilized by pre-contact Aboriginal peoples. A search of the OASD and within Golder's corporate library indicated there are four pre-contact aboriginal sites registered within one kilometre of the study area. In addition to the three pre-contact sites, six historical Euro-Canadian sites have been entered into the OASD within one kilometre of the study area. Table 4 provides a breakdown of the sites recorded within one kilometre of the study area.

Table 4: Previously Identified Archaeological Sites within 1 Kilometre of Study Area

Boarden Number	Site Name	Site Type	Time Period
AlGu-362	Angus Glen West Village 1	Campsite	Pre-Contact Aboriginal
AlGu-218	Neu	Midden	Historical Euro-Canadian
AlGt-622	Pingle Site	Homestead	Historical Euro-Canadian
AlGt-602	Frederick Eckardt Site	Homestead	Historical Euro-Canadian
AlGt-601	Eckardt Log House Site	Homestead	Historical Euro-Canadian
AlGt-596	Royal	Campsite	Pre-Contact Aboriginal
AlGt-508	Pingle	Homestead	Historical Euro-Canadian
AlGt-240	N/A	Homestead	Historical Euro-Canadian
AlGt-223	N/A	Findspot	Pre-Contact Aboriginal
AlGt-222	N/A	Findspot	Pre-Contact Aboriginal

Three archaeological assessments have been documented on an adjacent property to the study area. In 1996 Archaeological Services Inc. (ASI) completed a Stage 1 and 2 assessment of the Proposed Angus Glen Subdivision on Part of Lots 19 and 20, Concession 5. Sites AlGt-222 and AlGt-223 were identified during Stage 2 pedestrian survey of this property. No further assessment was recommended for either site (ASI 1996). Neither these sites are located within 300 metres of the study area.

On the west side of the study area a small Stage 1 and 2 was undertaken for a small residential development adjacent to the study area (Part of Lot 17, Concession 5). AlGu-218 was identified during the Stage 2 test pit survey of this property, with Stage 3 assessment recommended (ASI 1998). Although the residential subdivision has been constructed, there are no MTCS records associated with that lot or Borden number.

A review of Golder's records show that Golder has conducted a Stage 1 assessment on a property adjacent to the east side of the current study. The Stage 1 recorded by Golder has yet to be finalized and submitted to the MTCS and was conducted under PIF 10656-0051-2015. Preliminary reports indicated the study area west of the current study area exhibit potential for the identification of pre- and post-contact and historical Euro-Canadian archaeological resources.

2.0 FIELD METHODS

2.1 Existing Conditions and Land Use

The study area is currently in use as a 27-hole private golf course with a small section of farm land, rented out to cash croppers, located along the northeast limits of the study area. The study area has been in its current use since the golf club's opening in 1969. As with all golf courses the study area is comprised of fairways, tee boxes, greens and roughs which present as manicured lawn. In addition to the manicured lawn there are areas of obstacles including sand traps and water features. Each hole of the course is separated from the next by thin tree lines. Buildings associated with the golf course, including the club house and maintenance buildings were also present. Areas not occupied by the golf course are comprised of agricultural fields.

The Stage 1 property inspection of the study area was conducted on December 17, 2015 under archaeological consulting licence P1056, issued to Jamie Lemon of Golder. The weather at the time of the property visit was ideal with partly cloudy skies and temperatures that ranged from six to nine degrees Celsius. Lighting conditions during the assessment were excellent and at no time were field conditions found to be detrimental to the completion of the property inspection.

2.2 Property Inspection

The property inspection was conducted by Mr. Christopher Lemon (R289) of Golder as delegated by Jamie Lemon as per Section 12 of the MTCS 2013 *Terms and Conditions for Archaeological Licences*, issued in accordance with clause 48(4)(d) of the *Ontario Heritage Act*. The property inspection consisted of a walking assessment of study area. During the waking assessment the current conditions of the study area were documented and the entire study area was subjected to extensive photo documentation. Map 4 provides an aerial image of the study area. Map 5 illustrates the Stage 1 assessment results and Map 6 illustrates the locations and directions and photographs presented in this report.

Overall the study area presented primarily as manicured lawn (Images 1 and 2) containing an extensive network of paved pathways (Image 3), interspersed with areas subjected to extensive landscaping (Image 4). Due to the fact the majority of the study area is currently used as a 27-hole golf course it was difficult to determine how extensive the land alterations had been during its development. While it was clearly evident that extensive subsurface alterations had been undertaken to construct each of the sand traps (Images 1 and 4) present on the property it was not possible to visually identify the areas, if any, that had been subjected to deep subsurface alteration during the construction of the courses fairways, greens and roughs. Each of the 27 holes are separated from one and other by stands of trees (Image 5).

When the topography of the property occupied by the golf course is compared to the areas of agricultural fields located in the northeast of the study area it was not possible to positively differentiate between the natural undulating topography and the undulations present on the playing surface.

In addition to not being able to conclusively distinguish between artificial and natural features of topographic relief it was equally difficult to ascertain if any course landscaping was the result of capping events, that would have preserved any archaeological remains contained within the natural soils below, or massive grading events that would have eradicated subsurface archaeological deposits.

The study area is intersected by two named creeks, Bruce Creek and Berczy Creek; both of these creeks exhibit banks that appear mostly undisturbed (Images 6 and 7).

In addition to the property inspection a series of aerial photographs of the study area were consulted in an attempt to positively identify areas of previous disturbance. The consulted images date to 1946, 1960 and 1974 and are illustrated in Map 7 of this report. Based on a review of these images it was possible to ascertain that the overall pattern of flow associated with the creeks on the property has remained consistent and that some sections of woodlot have remained intact since the 1940s.

The aerial photos also indicate that the overall layout of the course has not been significantly altered since its inception, indicating that with the exception of any land alterations that occurred during development the property has remained relatively unchanged for the past 45 to 50 years.

What can be conclusively stated is that areas associated with the existing club house (Image 8) as well as the infrastructure associated with the maintenance yards (Images 9 and 10) and the two large reservoirs (Image 11 and 12) represent areas of extensive land alterations that will have obliterated any underlying archaeological deposits.

In addition to the 27-hole golf course a section of the study area located in the northeast of the property is comprised of ploughed agricultural fields (Images 13 and 14). These fields are comprised of well-drained clay soils that predominantly slope to the south and west.

The property inspection, in collaboration with the assessment of aerial photos, revealed the study area contains three areas of mature forest (Images 15, 16 and 17). In addition to the three areas of undisturbed trees identified in the aerial images the property inspection revealed that significant sections of the property have been reforested and allowed to return to a natural state. Images 18 and 19 provide examples of such areas.

A single area of the study area was found to contain soils that are seasonally inundated with water (Image 20); these areas will need to be subject to Stage 2 survey during the height of summer to insure conditions conducive to the identification and recovery of cultural remains.

Finally the study area contains buried utilities infrastructure (Image 21); the extent of this infrastructure is beyond the scope of a Stage 1 assessment, however prior to Stage 2 assessment private locates will need to be acquired to delineate areas of subsurface infrastructure, installation of which may have impacted any subsurface cultural remains that may have been present.

3.0 RECORD OF FINDS

Table 5 provides an inventory of the documentary record generated in the field.

Table 5: Inventory of documentary record

Document Type	Current Location of Document	Additional Comments
Field Notes	Golder office in Whitby	1 page of word processed notes stored digitally on the Golder server
Hand Drawn Maps	Golder office in Whitby	1 maps (photo locations and assessment findings)
Maps Provided by Client	Golder office in Whitby	1 map stored digitally in project file
Digital Photographs	Golder office in Whitby	145 photographs stored digitally in project file

4.0 ANALYSIS AND CONCLUSIONS

4.1 Assessing Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. In accordance with the MTCS's 2011 *Standards and Guidelines for Consultant Archaeologists* the following are features or characteristics that indicate archaeological potential:

- Previously identified archaeological sites;
- Water sources:
  - Primary water sources (lakes, rivers, streams, creeks);
  - Secondary water sources (intermittent streams and creeks; springs; marshes; swamps);
  - Features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised gravel, sand, or beach ridges; relic river or stream channels indicated by clear dip or swale in the topography; shorelines of drained lakes or marshes; and cobble beaches);
  - Accessible or inaccessible shoreline (e.g. high bluffs, swamps or marsh fields by the edge of a lake; sandbars stretching into marsh);
- Elevated topography (eskers, drumlins, large knolls, plateaux);
- Pockets of well drained sandy soil, especially near areas of heavy soil or rocky ground; Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases (there may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings);
- Resource areas including:
  - Food or medicinal plants;
  - Scarce raw minerals (e.g. quartz, copper, ochre or outcrops of chert);
  - Early Euro-Canadian industry (fur trade, mining, logging);
- Areas of Euro-Canadian settlement; and,
- Early historical transportation routes.

In recommending a Stage 2 property survey based on determining archaeological potential for a study area, MTCS stipulates the following:

- No areas within 300 metres of a previously identified site; water sources; areas of early Euro-Canadian Settlement; or locations identified through local knowledge or informants can be recommended for exemption from further assessment;
- No areas within 100 metres of early transportation routes can be recommended for exemption from further assessment; and,
- No areas within the property containing an elevated topography; pockets of well-drained sandy soil; distinctive land formations; or resource areas can be recommended for exemption from further assessment.

4.1.1 Potential for Pre- and Post-Contact Aboriginal Archaeological Resources

Following the criteria outlined above in Section 4.1 to determine pre- and post-contact Aboriginal archaeological potential, a number of factors can be highlighted. Two creeks flow through the study area and the soils of the study area would have been suitable for pre-contact Aboriginal agriculture. In addition, four pre-contact Aboriginal archaeological sites have been previously identified within one kilometre of the study area; none of the previously identified sites were located within 300 metres of the study area.

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for the identification of pre-contact and post-contact Aboriginal sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.1.3), areas of no or low levels of previous disturbance retain their archaeological potential. Map 5 illustrates areas of previous disturbance as well as areas recommended for Stage 2 survey.

4.1.2 Potential for Historical Euro-Canadian Archaeological Resources

Following the criteria outlined above in Section 4.1 to determine historical Euro-Canadian archaeological potential, a number of factors can be highlighted. The study area is located on the historic road grid and is situated in close proximity to the historic town of Unionville. Historic mapping also illustrates that by 1860 the properties comprising the study area were privately owned and by 1878 structures including homesteads and a mill were present. The study area is also located within 150 metres of the Berczy Settlement and Bethesda Church and Burying Grounds historic cemetery, which commemorates the founding German pioneers who helped transform Markham into a thriving community. In addition, a total of six historical Euro-Canadian archaeological sites have been previously identified within one kilometre of the study area; with AlGu-218 located within 300 metres of the study area.

When the above noted archaeological potential criteria were applied to the study area, the study area exhibits archaeological potential for historical Euro-Canadian sites. While areas of previous disturbance eradicate the potential for the recovery of archaeological resources (Section 4.1.3), areas of no or low levels of previous disturbance retain their archaeological potential. Map 5 illustrates areas of previous disturbance as well as areas recommended for Stage 2 survey.

4.1.3 Archaeological Integrity

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

Section 1.3.2 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists states that:

> *Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources.*
>
> MTCS 2011:18

The types of disturbance referred to above includes, but is not restricted to, quarrying, sewage and infrastructure development, building footprints and major landscaping involving grading below topsoil.

Areas identified as being previously disturbed include the existing club house, roadways, infrastructure associated with the maintenance yards and two large reservoirs. Smaller of disturbance such as cart pathways and sand bunkers are not mapped on Map 6 due to their small size; it is assumed they will be captured as part of the five metre interval during Stage 2 survey.

As discussed in Section 2.2 the current use of the property as a golf course indicates the property has been subjected to some level of subsurface disturbance, but it is not possible through visual assessment to determine to what extent the development of the golf course impacted any subsurface cultural remains that may be present in the study area. The *Standards and Guidelines for Consultant Archaeologists* state that "minor grading and landscaping do not necessarily affect archaeological potential" (MTCS, 2011:18). Based on this and the findings of the property inspection it is recommended the study area be subjected to a Stage 2 archaeological assessment prior to development, including areas where it was not possible to visually identify previous disturbance during the Stage 1 property assessment.

5.0 RECOMMENDATIONS

The Stage 1 archaeological assessment found the York Downs Golf Club study area located at 4134 16th Avenue, Markham, Ontario to exhibit potential for the recovery of intact archaeological deposits. Based on the findings of the Stage 1 assessment the following recommendations are made, as illustrated in Map 5:

1) Areas of agricultural fields exhibit archaeological potential for the recovery of archaeological remains. Stage 2 pedestrian survey at an interval of five metres is recommended for these areas prior to ground disturbance activities. Areas recommended for pedestrian survey will need to be ploughed and weathered by rainfall ahead of the survey. The pedestrian survey will involve a visual inspection of the property by having archaeologists walk the area at five metre transects. Should artifacts be identified survey intervals will be reduced to one metre within a radius of 20 metres around the initial findspot;
2) Areas of manicured lawns and wooded areas (including areas where previous disturbance could not be definitively demonstrated) exhibit archaeological potential for the recovery of archaeological remains. Stage 2 test pit survey at an interval of five metres is recommended for these areas prior to ground disturbance activities. Test pits should be approximately 30 centimetres in diameter and excavated to subsoil. If artifacts be recovered their location should be recorded with a GPS unit and test pit intervals reduced to 2.5 metres within 5 metres of the positive test pit, as well as a one-metre test unit if necessary;
3) Areas of previous disturbance exhibit low potential for the recovery of archaeological remains. No further assessment is recommended for these areas;
4) Golf cart pathways and sand bunkers are considered to be previously disturbed, however would be captured within a five metre test pit grid; as such, individual previously disturbed golf cart paths and sand bunkers are not illustrated in Map 5; and
5) Give the level of unknown disturbance from soil grading within the golf course it is recommended the Stage 2 survey follow a two phase approach. The first phase would include the survey of treed areas including those situated between and along golf hole footprints. Should these areas be found to be heavily disturbed due to deep grading, all evidence of disturbance will be photo documented. Should the treed areas be found to be previously disturbed, it is recommended the greens and fairways also be considered previously disturbed. Should the first phase of test pitting reveal relatively undisturbed conditions within the treed areas, phase two will consist of Stage 2 test pit survey of the full extent of the golf course including all tees, fairways, roughs and greens. This two phase process is illustrated in Map 5 (Phase 1 – Wooded Area, Phase 2 – Open Area).

The MTCS is asked to review the results and recommendations presented herein and accept this report into the Provincial Register of archaeological reports. The MTCS is also asked to provide a letter concurring with the results presented herein.

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

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*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issue by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced 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 licenced archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating 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 representative of a new archaeological site or sites and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

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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8.0 IMAGES

Image 1: Typical manicured conditions encountered, facing east

Image 2: Typical manicured conditions found along edge of holes, facing southeast

Image 3: Paved path through manicured lawn, facing east

Image 4: Example of a hazard trap indicative of previous disturbance, facing southwest

Image 5: Stand of trees between holes, facing west

Image 6: Undisturbed creek banks, facing west

Image 7: Undisturbed creek banks, facing south

Image 8: Disturbance associated with main club house, facing southeast

Image 9: Maintenance building and associated disturbance, facing southwest

Image 10: Area of disturbance associated with maintenance building, facing east

Image 11: Disturbance associated with artificial water retention pond, facing southwest

Image 12: Artificial water retention pond, facing west

Image 13: Typical agricultural field conditions, facing north

Image 14: Ploughed agricultural field, facing west.

Image 15: Undisturbed forest, facing northwest.

Image 16: Undisturbed cedar forest on banks of Bruce Creek, facing east

Image 17: Forest conditions on west of study area, facing south

Image 18: Naturalized area, facing east

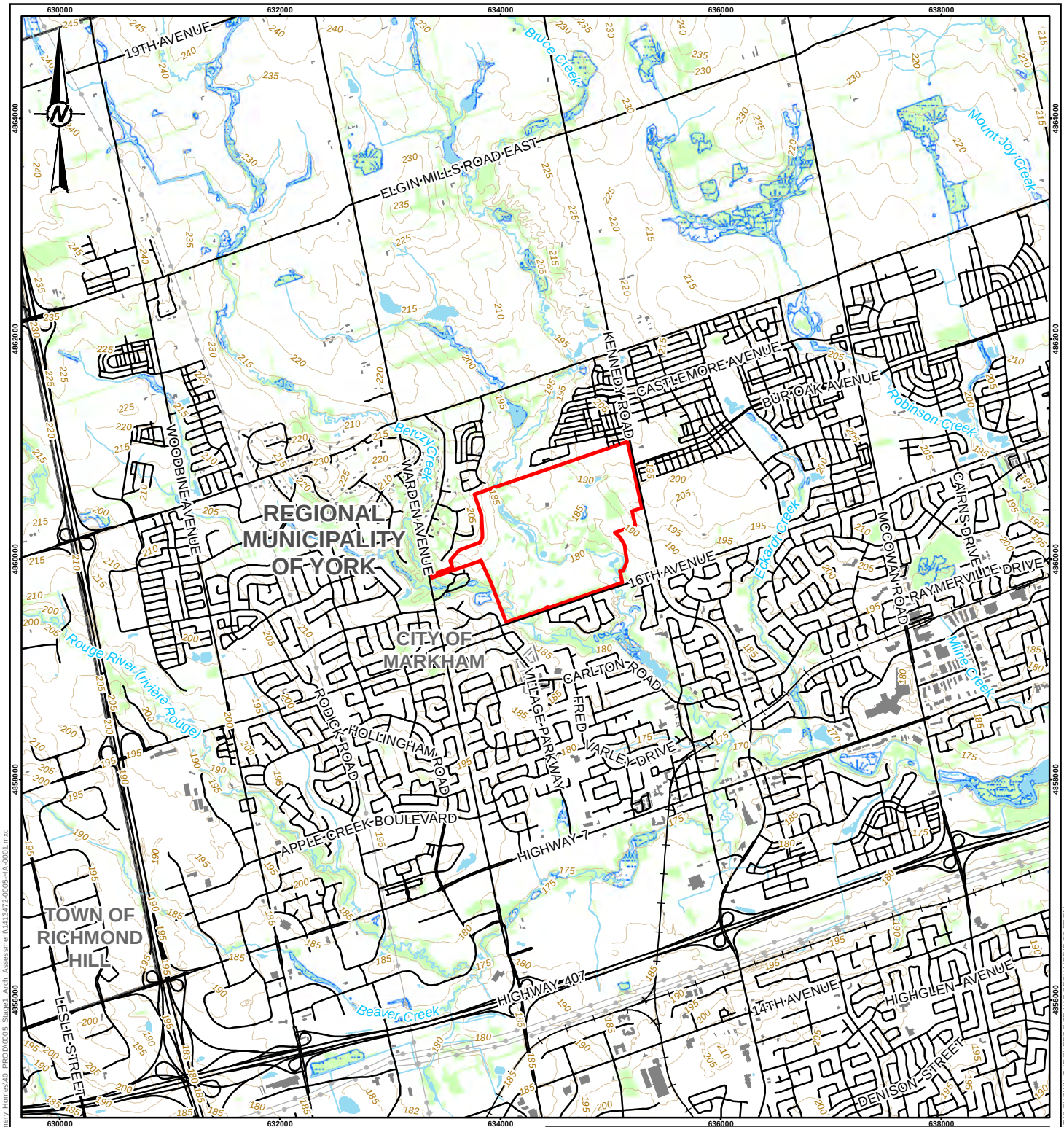
Image 19: Naturalized area, facing east

Image 20: Area of seasonal wetness, facing down (north is up)

Image 21: Example of buried infrastructure, facing down (west is up)

9.0 MAPS

All mapping will follow on succeeding pages.



LEGEND

- CONTOURS (M)
- RAILWAY
- ROAD
- UTILITY LINE
- APPROXIMATE STUDY AREA
- BUILDING
- MUNICIPAL BOUNDARY
- WATERBODY
- WETLAND
- WOODED AREA

0 1,000 2,000

1:50,000 METERS

REFERENCES

BASE DATA - MNR LIO, OBTAINED 2013
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CLIENT
KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT
STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB MARKHAM, ONTARIO

TITLE
LOCATION OF STUDY AREA

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-01-08
DESIGNED	JT
PREPARED	JT
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	MAP
1413472 (7000)			1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

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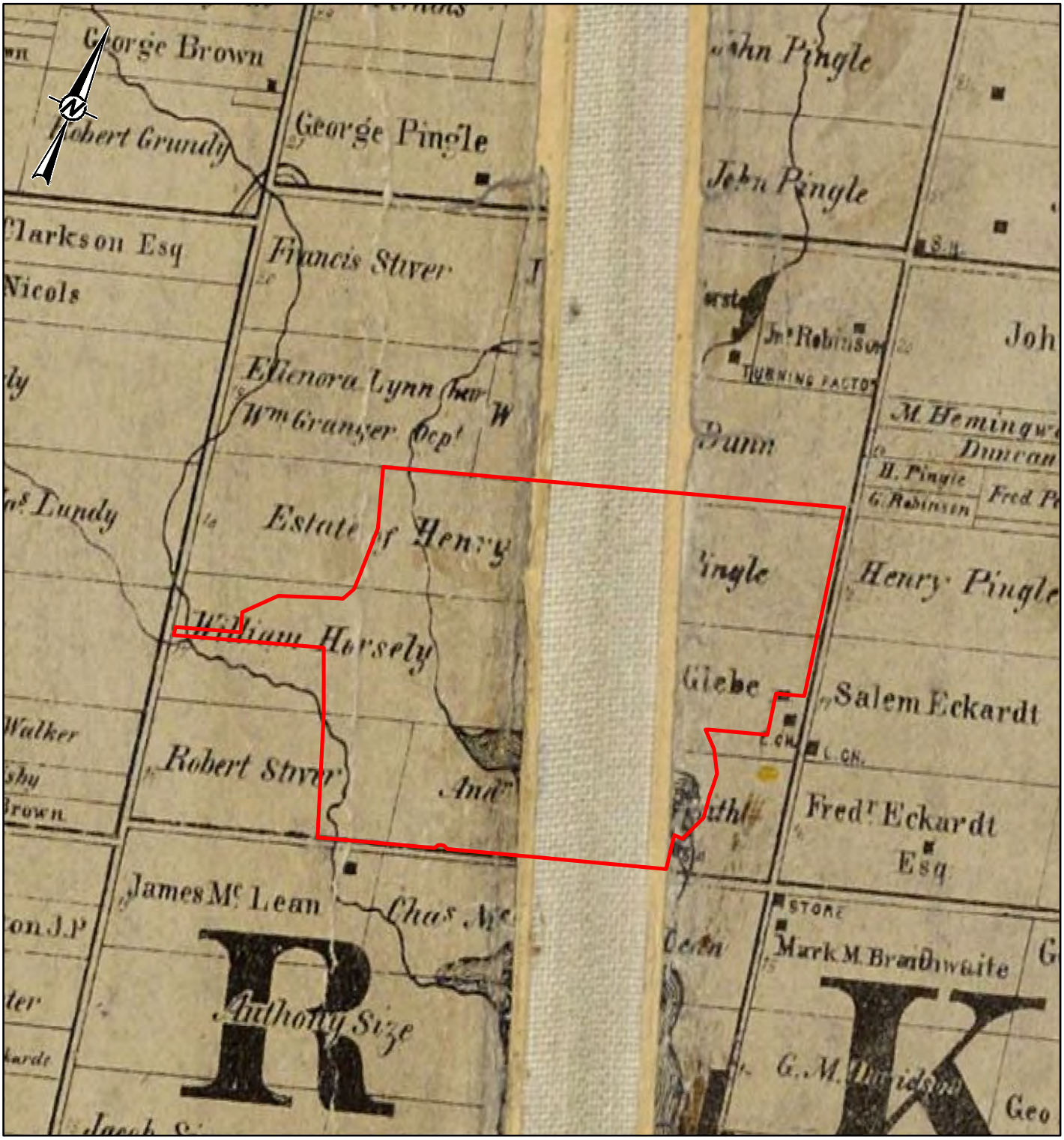

LEGEND

APPROXIMATE STUDY AREA

NOTE(S)

1. NOT TO SCALE
2. ALL LOCATIONS ARE APPROXIMATE

REFERENCES

BASE IMAGE: TREMAINE, GEORGE. 1860. TREMAINE'S MAP OF THE COUNTY OF YORK, CANADA WEST

CLIENT

KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB MARKHAM, ONTARIO

TITLE

A PORTION OF THE 1860 TREMAINE MAP

CONSULTANT

Golder Associates

YYYY-MM-DD	2016-01-08
DESIGNED	JT
PREPARED	JT
REVIEWED	
APPROVED	

PROJECT NO. 1413472 (7000) | CONTROL | REV. | MAP 2

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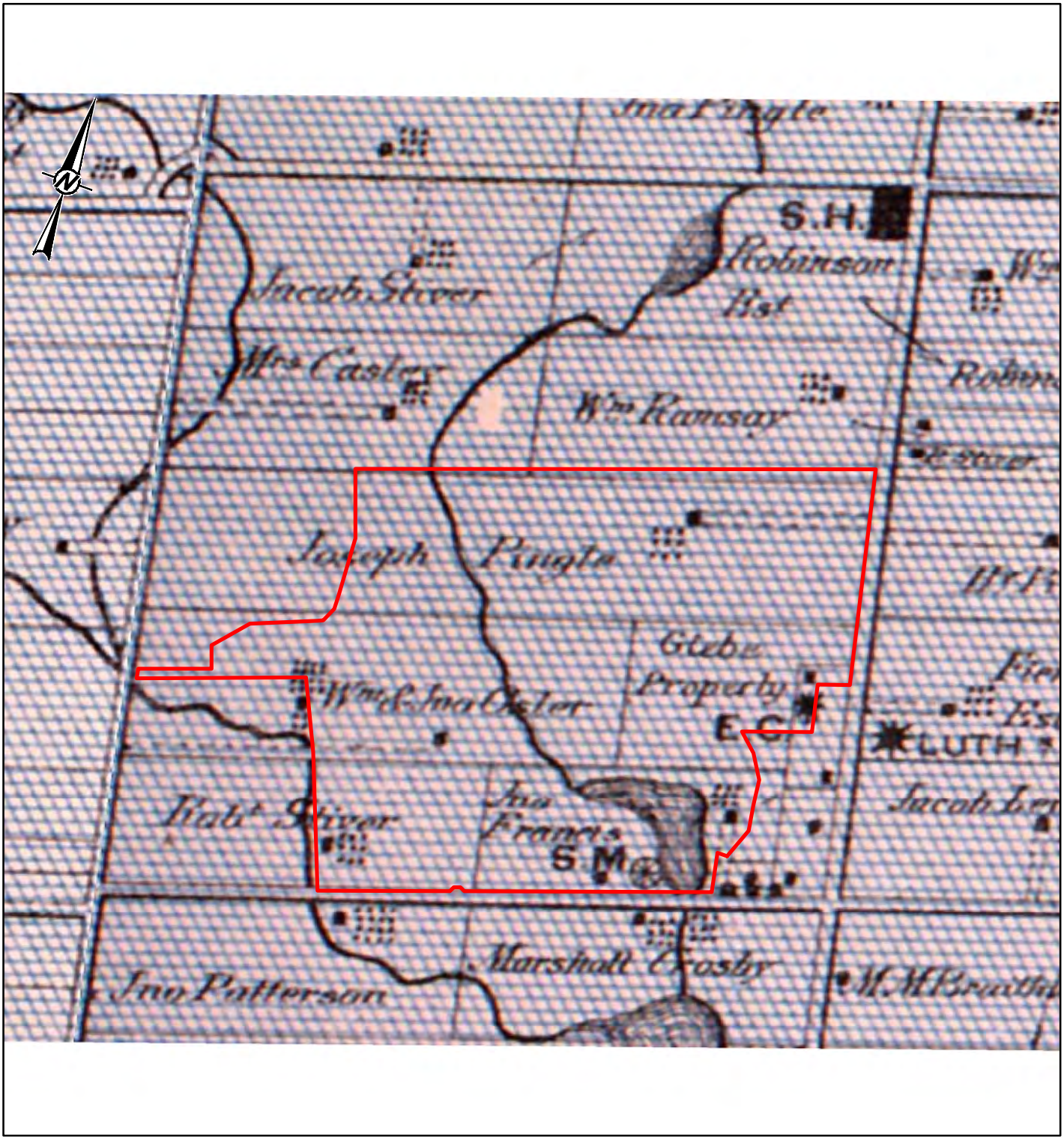

LEGEND

APPROXIMATE STUDY AREA

NOTE(S)

1. NOT TO SCALE
2. ALL LOCATIONS ARE APPROXIMATE

REFERENCES

BASE IMAGE: MILES AND COMPANY. 1878. ILLUSTRATED HISTORICAL ATLAS OF THE COUNTY OF YORK AND THE TOWNSHIP OF WEST GWILLIMBURY AND TOWN OF BRADFORD IN THE COUNTY OF SIMCOE, ONTARIO. 1996 REPRINT. WILSON'S PUBLISHING COMPANY AND APMIST ENTERPRISES LTD., CANADA.

CLIENT

KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB MARKHAM, ONTARIO

TITLE

A PORTION OF THE 1878 HISTORIC MAP OF THE COUNTY OF YORK

CONSULTANT

Golder Associates

YYYY-MM-DD	2016-01-08
DESIGNED	JT
PREPARED	JT
REVIEWED	
APPROVED	

PROJECT NO.	CONTROL	REV.	MAP
1413472 (7000)			3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
25mm
0

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LEGEND

WATERCOURSE

APPROXIMATE STUDY AREA

0 250 500

1:7,500 METERS

REFERENCE(S)

BASE DATA - ATLAS OF CANADA, NATURAL RESOURCES CANADA, 2011. MNR LIO, OBTAINED 2013
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BASE IMAGERY - MICROSOFT BING ©2015 MICROSOFT CORPORATION AND ITS DATA SUPPLIERS.
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT

KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB, MARKHAM, ONTARIO

TITLE

AERIAL IMAGE OF STUDY AREA

CONSULTANT

Golder Associates

YYYY-MM-DD	2016-01-11
DESIGNED	JT
PREPARED	JT
REVIEWED	CL
APPROVED	

PROJECT NO. CONTROL REV. MAP
1413472 (7000) **4**

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

LEGEND

- WATERCOURSE
- DEVELOPMENT LIMITS AROUND ENVIRONMENTAL LANDS
- APPROXIMATE STUDY AREA
- PREVIOUS DISTIURBANCE
- STAGE 2 PEDESTRIAN SURVEY RECCOMENDED
- STAGE 2 TEST PIT RECCOMENDED (OPEN AREA)
- STAGE 2 TEST PIT RECCOMENDED (WOODED AREA)
- APPROXIMATE STUDY AREA

0 250 500

1:7,500 METERS

REFERENCE(S)

BASE DATA - ATLAS OF CANADA, NATURAL RESOURCES CANADA, 2011. MNR LIO, OBTAINED 2013 PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2015
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PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT
STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB, MARKHAM, ONTARIO

TITLE
STAGE 1 ASSESSMENT RESULTS

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-01-11
DESIGNED	JT
PREPARED	JT
REVIEWED	CL
APPROVED	

PROJECT NO.	CONTROL	REV.	MAP
1413472 (7000)			5

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

LEGEND

- PHOTO LOCATION AND DIRECTION
- WATERCOURSE
- APPROXIMATE STUDY AREA

0 250 500

1:7,500 METERS

REFERENCE(S)

BASE DATA - ATLAS OF CANADA, NATURAL RESOURCES CANADA, 2011. MNR LIO, OBTAINED 2013
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PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT
STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB, MARKHAM, ONTARIO

TITLE
PHOTO LOCATIONS

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-01-11
DESIGNED	JT
PREPARED	JT
REVIEWED	CL
APPROVED	

PROJECT NO. 1413472 (7000) | CONTROL | REV. | MAP 6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

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LEGEND

APPROXIMATE STUDY AREA

0 500 1,000

1:20,000 METERS

REFERENCE(S)

BASE IMAGES OBTAINED BY LGI COPY SERVICE CANADA
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT

KYLEMORE/METROPIA (YD) MANAGEMENT LTD.

PROJECT

STAGE 1 ARCHAEOLOGICAL ASSESSMENT
YORK DOWNS GOLF CLUB, MARKHAM, ONTARIO

TITLE

HISTORIC AERIAL IMAGES OF STUDY AREA

CONSULTANT

Golder Associates

YYYY-MM-DD	2016-01-11
DESIGNED	JT
PREPARED	JT
REVIEWED	CL
APPROVED	

PROJECT NO. 1413472 (7000) | CONTROL | REV. | MAP 7

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10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

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

Report Signature Page

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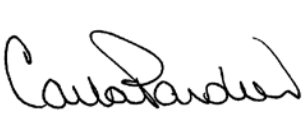

Jamie Lemon, M.A.
Project Archaeologist

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

CWL/JLL/lb

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APPENDIX A

Development Plan

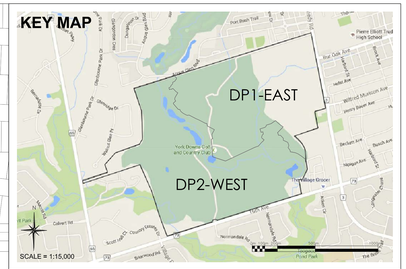
EAST DRAFT PLAN

WEST DRAFT PLAN

ENVIRONMENTAL CONSTRAINTS LEGEND:

- WATERCOURSE
- ESTIMATED LONG TERM STABLE TOP OF SLOPE
- ESTIMATED LONG TERM STABLE TOP OF SLOPE + 10m
- LONG TERM STABLE TOP OF SLOPE (GOLDER)
- LONG TERM STABLE TOP OF SLOPE + 10m (GOLDER)
- STAKED TOP OF SLOPE / DRIPLINE
- STAKED TOP OF SLOPE / DRIPLINE + 10m BUFFER
- MEANDER BELT WIDTH
- REDSIDE DACE HABITAT (MEANDER BELT + 30m)
- REGIONAL FLOODLINE
- REGIONAL FLOODLINE + 10m
- 100 YEAR FLOODLINE
- STAKED WETLAND
- STAKED WETLAND LIMITS + 15m

KEY MAP



EXISTING RESIDENTIAL
EXISTING OPEN SPACE
ANGUS GLEN BOULEVARD
ROYAL COUNTY DOWN CRECENT
ROYAL TROON CRECENT
EXISTING PARK
SADDLEWORTH ROAD
PROSPECTORS DRIVE
DANCERS DRIVE
PARKSTONE ROAD
BUR OAK AVE.
GLENGOURNE PARK DRIVE
GLENRIDGE DRIVE
WALNUT GLEN PLACE
WARDEN AVENUE
KENNEDY ROAD
WILFRED MURISON AVE.
BECKETT AVENUE.
NIPIGON AVENUE
YORKTON BOULEVARD
APPROVED DRAFT PLAN YORKTON PHASE 2
COUNTRY ESTATES DRIVE
SCOTT HALL COURT
DELHI CRESCENT
NORMANDALE ROAD
AITKEN CIRCLE
16th AVENUE
BRUCE CREEK
BERCZY CREEK

BLOCK 1 OPEN SPACE (WOODLOT) 4.445 ha
BLOCK 2 OPEN SPACE 7.754 ha
BLOCK 2 SWM 5.779 ha
BLOCK 1 OPEN SPACE 22.298 ha
BLOCK 3 OPEN SPACE 6.270 ha
BLOCK 3 SWM 1.153 ha
BLOCK 5 SWM 1.583 ha
BLOCK 6 SWM 1.789 ha
BLOCK 6 PARK 2.114 ha
BLOCK 8 ELEMENTARY SCHOOL 2.511 ha
BLOCK 5 PARK 0.556 ha
BLOCK 4 PARK 0.918ha
BLOCK 9 STACKED TOWNHOUSES 1.402ha
BLOCK 8 PARK 1.147 ha
BLOCK 9 PARK 0.269 ha
BLOCK 4 OPEN SPACE 0.222 ha
BLOCK 10 PARK 0.463 ha
BLOCK 7 PARK 0.751 ha
BLOCK 11 Mixed-Use 3.542ha
BLOCK 12 Medium Density 1.357 ha
BLOCK 13 1 Foot Reserve 0.000ha
BLOCK 12 1 Foot Reserve 0.011ha
BLOCK 10 RESIDENTIAL RESERVE 0.004ha
BLOCK 11 1 Foot Reserve 0.001ha
BLOCK 13 1 Foot Reserve 0.012ha
BLOCK 14 1 Foot Reserve 0.009ha
BLOCK 10 ROAD WIDENING 0.008ha
BLOCK 10 ROAD WIDENING 0.005ha
BLOCK 11 ROAD WIDENING 0.01ha
Existing Pedestrian Crossing
Existing Pedestrian Crossing

0m 50m 100m 200m 300m

Title:

4134 16th Avenue Composite Plan

Scale:	1:2000 (36 x 54)	Date:	August 22, 2016
Job #:	65MA-1511	Dwg#:	1511-CP1

Gatzios Planning + Development Consultants Inc.
701 Mount Pleasant Road - 3rd Floor
Toronto, ON. M4S 2N4
t: (647) 748-9466
www.gatziosplanning.com

mbtw wai
255 Wicksteed Ave., Unit 1A, Toronto
Ontario, Canada M4H 1G8
T: 416.449.7767 | F: 416.449.1803
www.mbtw-wai.com
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Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

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

Golder Associates