



**ORIGINAL REPORT:
STAGE 1 ARCHAEOLOGICAL ASSESSMENT:
NEW LISKEARD LANDFILL EXPANSION
CITY OF TEMISKAMING SHORES, ONTARIO**

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AND

THE ONTARIO MINISTRY OF TOURISM, CULTURE AND SPORT

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**Archaeological Consulting License # P141 (Austin)
P.I.F. # P141-0215-2014
AMEC Project # TY910491
30 September 2014**

EXECUTIVE SUMMARY

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by the City of Temiskaming Shores (the City) on 20th August, 2009 to complete a Feasibility Study to assess alternatives for long-term solid waste management (i.e., landfill disposal). The City has two existing landfill sites, the New Liskeard Landfill and the Haileybury Landfill. The New Liskeard Landfill is currently at capacity and landfill activities have ceased as of June 2009. The Haileybury Landfill is currently in operation, but is anticipated to reach capacity in 2016. The City initiated the process to identify the most feasible option for establishing new capacity for long-term solid waste disposal. AMEC was retained to assess the feasibility of providing new solid waste disposal capacity by means of: a) expansion of one or both of the existing municipal landfill sites; b) the development of a new site; or c) a combination of both strategies. The Feasibility Study examined all alternatives on the basis of a comprehensive set of criteria addressing the natural environment, public health, socio-economic/cultural factors, technical issues and cost. The overall most preferred option for the provision of new landfill capacity was determined to be the expansion of the existing New Liskeard landfill site.

On the 21st September, 2010 AMEC was again retained by the City to obtain an amended C of A for the expansion of the New Liskeard Landfill, including all work necessary to meet the regulatory and approval requirements in accordance with Ontario Regulation 232/98 for approval under the Environmental Protection Act (EPA) and the Ontario Water Resources Act (OWRA). The development requires a full Environmental Assessment (EA) under Part II of the Ontario Environmental Assessment Act. As such, AMEC has been charged with the task of conducting a Stage 1 Archaeological Assessment in support of this environmental assessment process.

The City of New Liskeard is located in north-eastern Ontario, near the Quebec border, at the head of Lake Temiskaming. The New Liskeard Landfill (the Site) is located on the West ½ of Lot 5, Concession 2, in the Township of Dymond, District of Temiskaming, and is approximately three kilometres (km) west of downtown New Liskeard off of Rockley Road.

The Stage 1 background study was conducted under an Ontario Professional Licence to Conduct Archaeological Fieldwork (P141) held by Dr. Shaun Austin, Associate Archaeologist at AMEC. The project information was acknowledged by the Ministry of Tourism, Culture, and Sport (MTCS) on 18 June 2014 with the approval of PIF number P141-0215-2014. The background research and review of photographic evidence was conducted under the direction of Mr. Jeff Stott (R461).

Since the spring of 2013, AMEC has been retained by the City to conduct water monitoring on the New Liskeard Landfill property and the adjacent properties east and south of the Site. During that time, AMEC personnel (including Mr. Stott) visited the property four times to sample the water monitoring wells and took numerous

photographs of the existing landfill property documenting the entire site and surrounding areas. Each sampling season photographs were taken on clear, sunny days where weather conditions permitted good visibility of the land features. Weather conditions did not impede the photographic evidence in any way. Due to the disturbed nature of the Site, excessive slopes (i.e. >20°), a permanent wet and low-lying area, as well as AMEC's familiarity of the Site and photographic evidence taken, a property inspection has been deemed unnecessary.

AMEC has determined that the study area does not contain any archaeological potential due to the following factors:

- Prior to its development as a landfill, the Site was used as a limestone quarry where deep land alterations took place over the majority of the study area;
- The study area has had archaeological potential removed due to previous land filling operations throughout the entirety of the site, including grading, road construction, and stripping of vegetation and topsoil over one foot in depth;
- Excessive slopes (i.e. >20°) along the eastern extent of the existing landfill; and,
- The presence of a permanent wet and low-lying area in the north-east corner of the study area created by the removal of natural ground.

Moreover, the nearest water source is located 1.2 km west of the project area, and there are no registered archaeological sites within a one-km radius.

In light of these results, the following recommendation is made:

1. The project area does not require additional archaeological assessment.

PROJECT PERSONNEL

<i>Project Director:</i>	Shaun Austin, Ph.D. (P141)
<i>Project Manager:</i>	Shaun Austin, Ph.D.
<i>Report Preparation:</i>	Jeff Stott, B.A. (R461)
<i>Drafting:</i>	Matthew Thornton
<i>Report Reviewer:</i>	Shaun Austin, Ph.D.



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1.0 PROJECT CONTEXT

1.1 Development Context

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by the City of Temiskaming Shores (the City) on 20th August, 2009 to complete a Feasibility Study to assess alternatives for long-term solid waste management (i.e., landfill disposal). The City has two existing landfill sites, the New Liskeard Landfill and the Haileybury Landfill. The New Liskeard Landfill is currently at capacity and landfill activities have ceased as of June 2009. The Haileybury Landfill is currently in operation, but is anticipated to reach capacity in 2016. The City initiated the process to identify the most feasible option for establishing new capacity for long-term solid waste disposal. AMEC was retained to assess the feasibility of providing new solid waste disposal capacity by means of: a) expansion of one or both of the existing municipal landfill sites; b) the development of a new site; or c) a combination of both strategies. The Feasibility Study examined all alternatives on the basis of a comprehensive set of criteria addressing the natural environment, public health, socio-economic/cultural factors, technical issues and cost. The overall most preferred option for the provision of new landfill capacity was determined to be the expansion of the existing New Liskeard landfill site.

On the 21st September, 2010 AMEC was again retained by the City to obtain an amended Certificate of Approval for the expansion of the New Liskeard Landfill, including all work necessary to meet the regulatory and approval requirements in accordance with Ontario Regulation 232/98 for approval under the Environmental Protection Act (EPA) and the Ontario Water Resources Act (OWRA). The development requires a full Environmental Assessment (EA) under Part II of the Ontario Environmental Assessment Act. As such, AMEC has been charged with the task of conducting a Stage 1 Archaeological Assessment in support of this environmental assessment process.

The City of New Liskeard is located in north-eastern Ontario, near the Quebec border, at the head of Lake Temiskaming. The New Liskeard Landfill (the Site) is located on the West ½ of LOT 5, Concession 2, in the Township of Dymond, District of Temiskaming, and is approximately three km west of downtown New Liskeard off of Rockley Road.

The Stage 1 background study was conducted under an Ontario Professional Licence to Conduct Archaeological Fieldwork (P141) held by Dr. Shaun Austin, Associate Archaeologist at AMEC. The project information was acknowledged by the Ministry of Tourism, Culture, and Sport (MTCS) on 18 June 2014 with the approval of PIF number P141-0215-2014. The background research and review of photographic evidence was conducted under the direction of Mr. Jeff Stott (R461).

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taken on clear, sunny days where weather conditions permitted good visibility of the land features. Weather conditions did not impede the photographic evidence in any way. Due to the disturbed nature of the Site, excessive slopes (i.e >20°), a permanent wet and low-lying area, as well as AMEC's familiarity of the Site and photographic evidence taken, a property inspection has been deemed unnecessary.

All aspects of the Stage 1 assessment were conducted in accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (2011). This report presents the results of the Stage 1 background study and site inspection, and makes pertinent recommendations.

1.1.1 Scope of Work

A Stage 1 archaeological assessment is a systematic qualitative process executed in order to assess the archaeological potential of a property based on its historical use and its potential for early Euro-Canadian (early settler) and pre-contact Aboriginal occupation. The objectives of a Stage 1 background study are: 1) to provide information about the property's geography, history, previous archaeological fieldwork and current land condition; 2) to evaluate in detail the property's archaeological potential which will support recommendations for Stage 2 property assessment for all or parts of the property if warranted; and, 3) to recommend appropriate strategies for Stage 2 property assessment if warranted.

The Stage 1 background study was conducted in accordance with the *Standards and Guidelines for Consultant Archaeologists, 2011*, set out by the MTCS, and with the Ontario Heritage Act, R.S.O. 1990, c.0.18.

The scope of work consisted of the following tasks:

- Contact the MTCS to determine if recorded archaeological sites exist in the vicinity (one-km radius) of the property, through a search of the Ontario Archaeological Sites Database maintained by that Ministry;
- Contact the MTCS to determine if previous archaeological field work has been conducted within a radius of 50 m around the project area;
- A desktop review of the project area's physical setting to determine its potential for both historic and pre-contact human occupation, including its topography, hydrology, soils, vegetation, and proximity to important resources and historic transportation routes;
- A review of photographic evidence taken from four seasons of water monitoring activities (2013 and 2014) which clearly shows the entirety of the study area. The photographic assessment of the project area evidences the property's physical setting, and delineates areas where archaeological potential may have been impacted or removed by previous land-use practices;
- Mapping, photographing and other relevant graphics;
- A review of the potential for historic occupation as documented in historical atlases and other archival sources; and,

- Preparing a report with recommendations regarding the need for further archaeological work if deemed necessary.

1.1.2 Physical Setting

“The Temiskaming region is located along the southern edge of the Little Clay Belt area, near the Quebec border on the shores of Lake Temiskaming’s Wabi Bay. Flat clay belt farmland comprises most of the surrounding area which is disrupted by two fault-originating northwest-trending escarpments, towards which the underlying bedrock dips gently southwest, forming homoclines, and by trellis-patterned waterways incised deeply into the clay” (Lovell, H.L., E.D., Frey., 1976, pg.3). In 1935 a series of strong earthquakes epi-centered near Temiskaming Station, Quebec, registered strongly in the New Liskeard area and numerous aftershocks were felt for months afterward (Lovell, H.L., E.D., Frey., 1976, pg.17). “The limestone escarpment is exposed in rock cuts on Highway 11 near New Liskeard, but farther northwest lake bottom clay draped over the limestone escarpment obscures it almost entirely” (Lovell, H.L., E.D., Frey., 1976, pg.17). The western portion of the project area contains middle and upper Ordovician Liskeard Group formations including shale, limestone, limy sandy beds and shales, as well as sandstone conglomerates (Lovell, H.L., E.D., and Caine, T.W., 1972). The remaining portions of the project area contain Pleistocene clay deposits (Lovell, H.L., E.D., and Caine, T.W., 1972).

“The main drainage system is the Wabi Creek and its tributaries, which generally form a trellis pattern. The Wabi Creek drains southeastward along the strike of the lowest rift valley fault block, and empties into Lake Temiskaming, which is a part of the Ottawa River” (Lovell, H.L., E.D., Frey., 1976, pg.3). The South Wabi, a tributary of the Wabi Creek, is located approximately 1.2 km west of the project area and drains north into the Wabi Creek.

1.2 Historical Context

The project area is located on the West ½ of Lot 5, Concession 2, in the Township of Dymond, District of Temiskaming, and is approximately three km west of downtown New Liskeard off of Rockley Road. “The Ottawa River, which drains into and out of Lake Temiskaming, has been a well-travelled route from the earliest times, and served as the initial point of access to the Temiskaming area. Native peoples travelled this route since the earliest times. Fort Temiscamingue was established in 1695 by French explorers. In 1794 George Gladman of the Hudson’s Bay Company established Abitibi House on Lake Abitibi, to the north. In 1886, Alexander H. Telfer led a survey trip up Lake Temiskaming and gave a report to the Temiskaming Settlers’ Association” (Telfer, A.H., 2004). Prior to New Liskeard’s existence, the original inhabitants were natives of the Algonquin First Nations, specifically the Wabigijic (Wabie) family (History of Temiskaming Shores, 2014). Their traditional hunting territory included the Dymond Township; however, by the time the first white settlers arrived in 1891, the natives had abandoned the site (History of Temiskaming Shores, 2014).

“William Murray (1840–1906) and Irvin Heard (1871–1956) were the first European settlers in the New Liskeard area, arriving in 1891. In 1893 Crown Lands Agent John Armstrong was dispatched to the area to oversee formal land settlement. The settlers founded a prosperous agricultural center, taking advantage of the rich soil in the Little Claybelt region. New Liskeard



was founded soon after settlers began to arrive in Dymond” (Ontario Heritage Foundation, 2003). “Although there was no rail access until 1904 when the T and NO Railway was built, or road access until much later, settlers poured into the area (most aboard the famous steamboat Meteor) attracted by good, inexpensive farmland. Dymond Township was incorporated in 1901, and two years later, the Town of New Liskeard, which had grown to a population of 150, was incorporated, with John Armstrong as its first mayor” (History of Temiskaming Shores, 2014). New Liskeard was named after Liskeard in Cornwall, England (Ontario Heritage Foundation, 2003).

“Dymond Township was primarily an agricultural community, until the 1970s, when a commercial area grew along Highway 11. The Town of New Liskeard, which soon grew to more than 5000 population, became the commercial, industrial, and administrative centre for the area. Because of the strong agricultural base, the area’s economy has been able to avoid the boom and bust cycle of other northern communities that relied on the mining and forestry industries, and has become the attractive, stable, and vital community that it is today” (History of Temiskaming Shores, 2014).

In 2004 Temiskaming Shores was created by an amalgamation of the town of New Liskeard, the town of Haileybury, and the township of Dymond. Prior to the amalgamation the region was commonly known as The Tri-Towns.

Events of interest in the early days of New Liskeard have been compiled into Table 1 below.

Table 1: Events of Interest in Early New Liskeard (Compiled from the Founding of New Liskeard, Ontario Heritage Foundation, 2003)

Year:	Event:
1686	French trading company, La Compagnie du Nord, sent the Pierre de Troyes expedition up the Ottawa River and Lake Temiskaming to attack the English fur trade forts on James bay.
1688	Fort is destroyed by the Iroquois and a second fort is built at the narrows on Lake Temiskaming which eventually fell into disuse until around 1763.
1795	Fort Temiskaming under the control of North West Company, which merged with the Hudson’s Bay Company in 1821.
1863	Oblate Jesuit missionaries established a mission to the Algonquins, Mission St. Claude, on the Ontario side of Lake Temiskaming opposite Fort Temiskaming.
1887	Dr. Robert Bell and his assistant Arthur Barlow mapped the land above Lake Temiskaming, including the northern townships.
1890	The government announced plans to develop the area by tapping its natural resources following Barlow’s report on the geology and natural resources of the area, which suggested that the rich belt of clay that lay north of the big lake was ideal for agricultural settlement.
1891	William Murray (1840-1906) and Irvin Heard (1871-1956), both farmers from Haliburton County, settled at the mouth of the Wabi River.
1893	Provincial government appointed a Crown Lands Agent, John Armstrong (1851-1928), to supervise the development of the townships in the southern portion of the Little Clay Belt.



Year:	Event:
1895	Opening of the first lumber mill, which made New Liskeard the largest business centre north of North Bay.
1896	First Post office opened.
1897	First influx of European settlers (Markham Excursion, ~80 people) to take up vacant property from the land agent.
1901	Province organizes a party of "land seeker excursionists" to settle in the northern regions of New Liskeard.
1902	Hudson's Bay Company fort is abandoned. Population increases to ~500 people.
1903	Federal Government changed the name of the town from Thornloe to New Liskeard.
1904	First annual fall fair showcasing the horticulture and agriculture of the Little Clay Belt.
1905	The Temiskaming and Northern Ontario Railway, now the Ontario Northland Railway, arrives in New Liskeard.
1912 - 1935	The Nipissing Central Railway, an electric streetcar line provided commuter service by connecting New Liskeard with nearby towns of Cobalt and Haileybury, bringing regional business into New Liskeard. It closed in 1935.
1922	The Great Fire of 1922 was a wildfire burning through the Lesser Clay Belt from October 4 to 5. It has been called one of the ten worst natural disasters in Canadian History. The fire consumed an area of 1,680 square kilometres (650 sq mi) affecting 18 townships. It completely destroyed the communities of North Cobalt, Charlton, Thornloe, Heaslip, and numerous smaller settlements. Englehart and New Liskeard were partly burnt. In all, 43 people died.
2003	Thursday, June 26, the Ontario Heritage Foundation, 2003 unveiled a provincial plaque to celebrate the founding of New Liskeard.

1.3 Archaeological Context

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTCS. This database contains archaeological registered sites within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on longitude and latitude. A Borden block is approximately 13 kilometres east to west, and approximately 18.5 kilometres north to south. Each Borden block is referred to by a four letter designation and sites located within the block are numbered sequentially as they are found. According to the OASD there are no archaeological sites registered within a one-km radius (MTCS correspondence 17 July 2014).

It is crucial to consider the proximity of modern and relict water sources in any evaluation of archaeological potential because the availability of water is arguably the single most important determinant of human land use, past and present. The *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) lists proximity to water as one of the prime indicators of potential for the presence of archaeological sites. Distance from potable water has been one of the most commonly used variables for predictive modeling of site location. Water, both potable and non-potable, also facilitated the transportation of people and goods and served to focus animal and vegetable resources. The South Wabi is located approximately 1.2 km west of the project area and drains north into the Wabi Creek which then drains into Lake Temiskaming.

1.3.1 Summary of Archaeological Potential

The background study indicates that the study area does not exhibit archaeological potential due to the following factors:

Prior to its development as a landfill, the Site was used as a limestone quarry where deep land alterations took place over the majority of the study area;

The study area has had archaeological potential removed due to previous land filling operations throughout the entirety of the site, including grading, road construction, and stripping of vegetation and topsoil over 30 cm in depth;

Excessive slopes (i.e. $>20^\circ$) along the eastern extent of the existing landfill; and,

The presence of a permanent wet and low-lying area in the north-east corner of the study area created by the removal of natural ground.

2.0 STAGE 1 ANALYSIS AND CONCLUSIONS

The Stage 1 background study indicates that the project area does not exhibit archaeological potential due to the following factors:

Prior to its development as a landfill, the Site was used as a limestone quarry where deep land alterations took place over the majority of the study area;

The study area has had archaeological potential removed due to previous land filling operations throughout the entirety of the site, including grading, road construction, and stripping of vegetation and topsoil over one foot in depth;

Excessive slopes (i.e. $>20^\circ$) along the eastern extent of the existing landfill; and,

The presence of a permanent wet and low-lying area in the north-east corner of the study area created by the removal of natural ground.

The photographic evidence and desktop analysis completed during the spring, summer, and fall of 2013 and the spring of 2014 indicated the following: 42.8% or 4.1 ha is excessively sloped (i.e. $>20^\circ$); 46% or 4.4 ha has had archaeological potential removed as a result of quarrying, grading, road construction, and the stripping of vegetation and topsoil over 30 cm in depth; and 11.2% or 1.1 ha is low and perennially wet (see Appendix A: Figures 6).

Appendix A: Figures 5 and 6 indicate the Stage 1 archaeological assessment results including land use cover, photographic locations, numbers and directions. Photographs of field conditions were taken during previous water monitoring visits between the spring of 2013 and the spring of 2014 (Appendix B).

3.0 RECOMMENDATIONS

AMEC Environment & Infrastructure, a division of AMEC Americas Limited (AMEC), was retained by the City of Temiskaming Shores to obtain an amended C of A for the expansion of the New Liskeard Landfill, including all work necessary to meet the regulatory and approval requirements in accordance with Ontario Regulation 232/98 for approval under the Environmental Protection Act (EPA) and the Ontario Water Resources Act (OWRA). The development requires a full Environmental Assessment (EA) under Part II of the Ontario Environmental Assessment Act. As such, AMEC has been charged with the task of conducting a Stage 1 Archaeological Assessment in support of this environmental assessment process. The project area is located on the West ½ of Lot 5, Concession 2, in the Township of Dymond, District of Temiskaming, and is approximately three km west of downtown New Liskeard off of Rockley Road.

The Stage 1 background study indicates that the project area does not contain any archaeological potential due to the following factors:

Prior to its development as a landfill, the Site was used as a limestone quarry where deep land alterations took place over the majority of the study area;

The study area has had archaeological potential removed due to previous land filling operations throughout the entirety of the site, including grading, road construction, and stripping of vegetation and topsoil over one foot in depth;

Excessive slopes (i.e. >20°) along the eastern extent of the existing landfill; and,

The presence of a wet, low-lying area in the north-east corner of the study area created by the removal of natural ground.

The photographic evidence and desktop analysis completed during the spring, summer, and fall of 2013 and the spring of 2014 indicated the following: 42.8% or 4.1 ha is excessively sloped (i.e. >20°); 46% or 4.4 ha has had archaeological potential removed as a result of quarrying, grading, road construction, and the stripping of vegetation and topsoil over 30 cm in depth; and 11.2% or 1.1 ha is low and perennially wet (see Appendix A: Figures 6).

In light of these results, the following recommendation is made:

1. The project area does not require additional archaeological assessment.

The above recommendation is subject to MTCS approval. It is an offence to alter any of the project area without MTCS concurrence. No grading or other activity that may result in the destruction or disturbance to the project area is permitted until notice of MTCS approval has been received.

4.0 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 IV of the *Ontario Heritage Act, R.S.O. 1990, c 0.18*. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

5.0 ASSESSOR QUALIFICATIONS

This report was prepared and reviewed by the undersigned, employees of AMEC Environment & Infrastructure, a division of AMEC Americas Limited. AMEC is one of North America's leading engineering firms, with more than 50 years of experience in the earth and environmental consulting industry. The qualifications of the assessors involved in the preparation of this report are provided in Appendix C.

6.0 CLOSURE

This report was prepared for the exclusive use of the City of Temiskaming Shores and is intended to provide a Stage 1 background study of the project area located on the West ½ of Lot 5, Concession 2, in the Township of Dymond, District of Temiskaming, and is approximately three km west of downtown New Liskeard off of Rockley Road.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance



on this report, written authorization from AMEC will be required. With respect to third parties, AMEC has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the Stage 1 background study conducted by AMEC. Except as otherwise maybe specified, AMEC disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to AMEC after the time during which AMEC conducted the archaeological assessment.

In evaluating the project area, AMEC has relied in good faith on information provided by other individuals noted in this report. AMEC has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the City of Temiskaming Shores. AMEC accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

AMEC makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

This report is also subject to the further Standard Limitations contained in Appendix D.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Respectfully Submitted,

**AMEC Environment & Infrastructure,
a Division of AMEC Americas Limited**

Prepared by

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Jeff Stott, B.A.
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Reviewed by

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Shaun Austin, Ph.D.
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7.0 BIBLIOGRAPHY AND SOURCES

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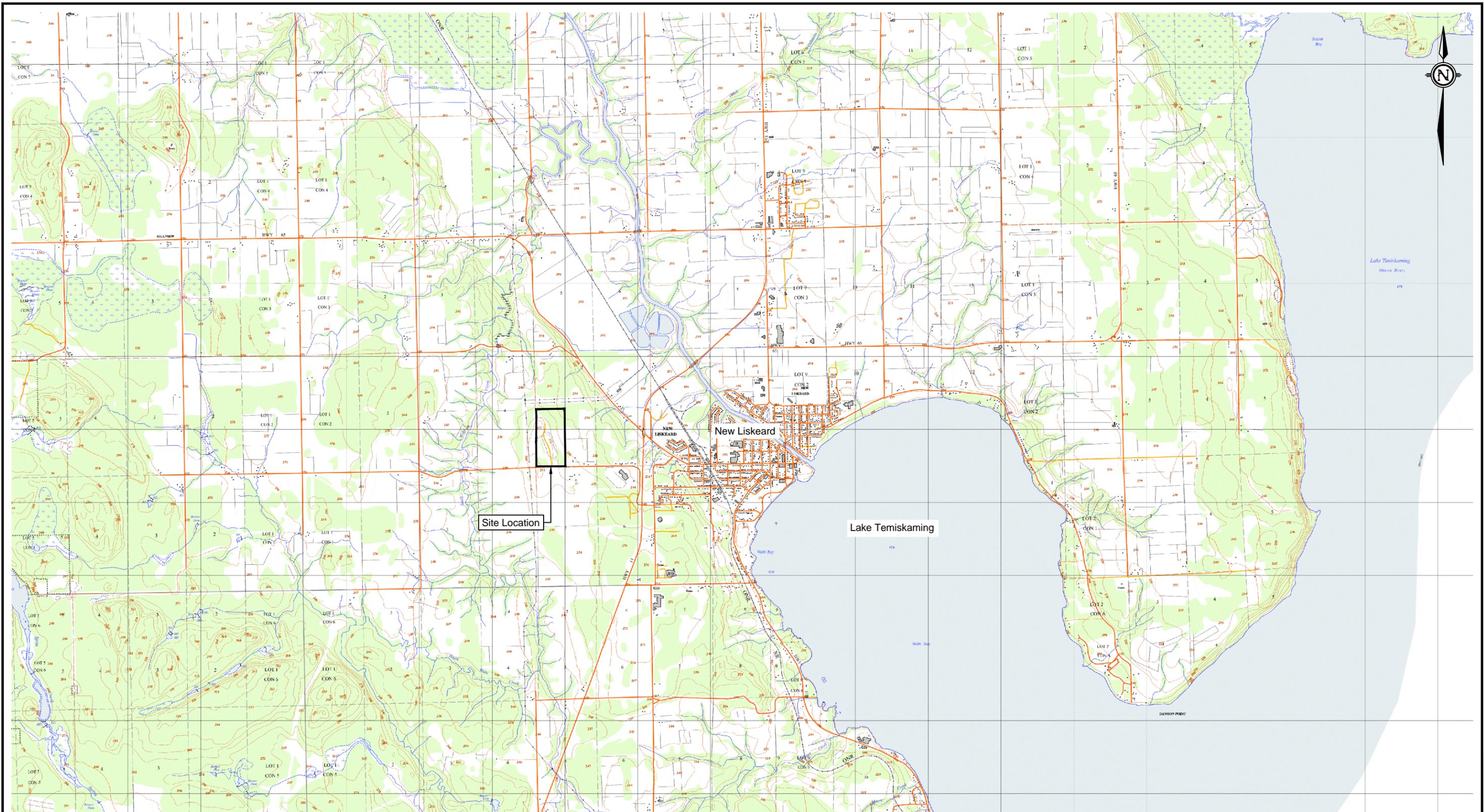
Government of Ontario

1990 *Heritage Act RSO 1990*. Queen's Printer, Toronto

City of Temiskaming Shores
Stage 1 Archaeological Assessment
New Liskeard Landfill Expansion
City of Temiskaming Shores, Ontario
30 September 2014



APPENDIX A
FIGURES



City of Temiskaming Shores

AMEC Environment & Infrastructure
 131 Fielding Road
 Lively, Ontario
 P3Y 1L7
 705-682-2632



DWN BY: MAT
 CHK'D BY: TIM
 DATUM: UTM NAD 83, ZONE 17T
 SCALE: as shown

PROJECT

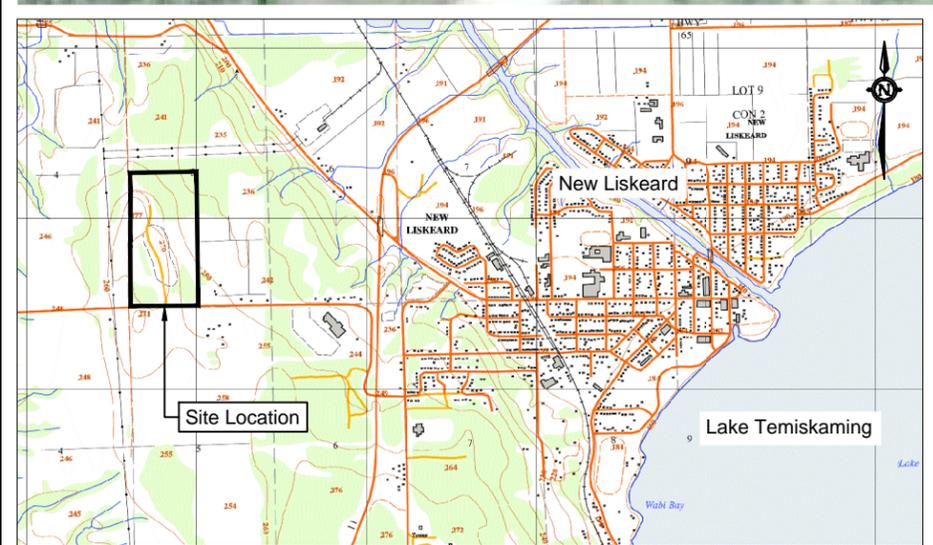
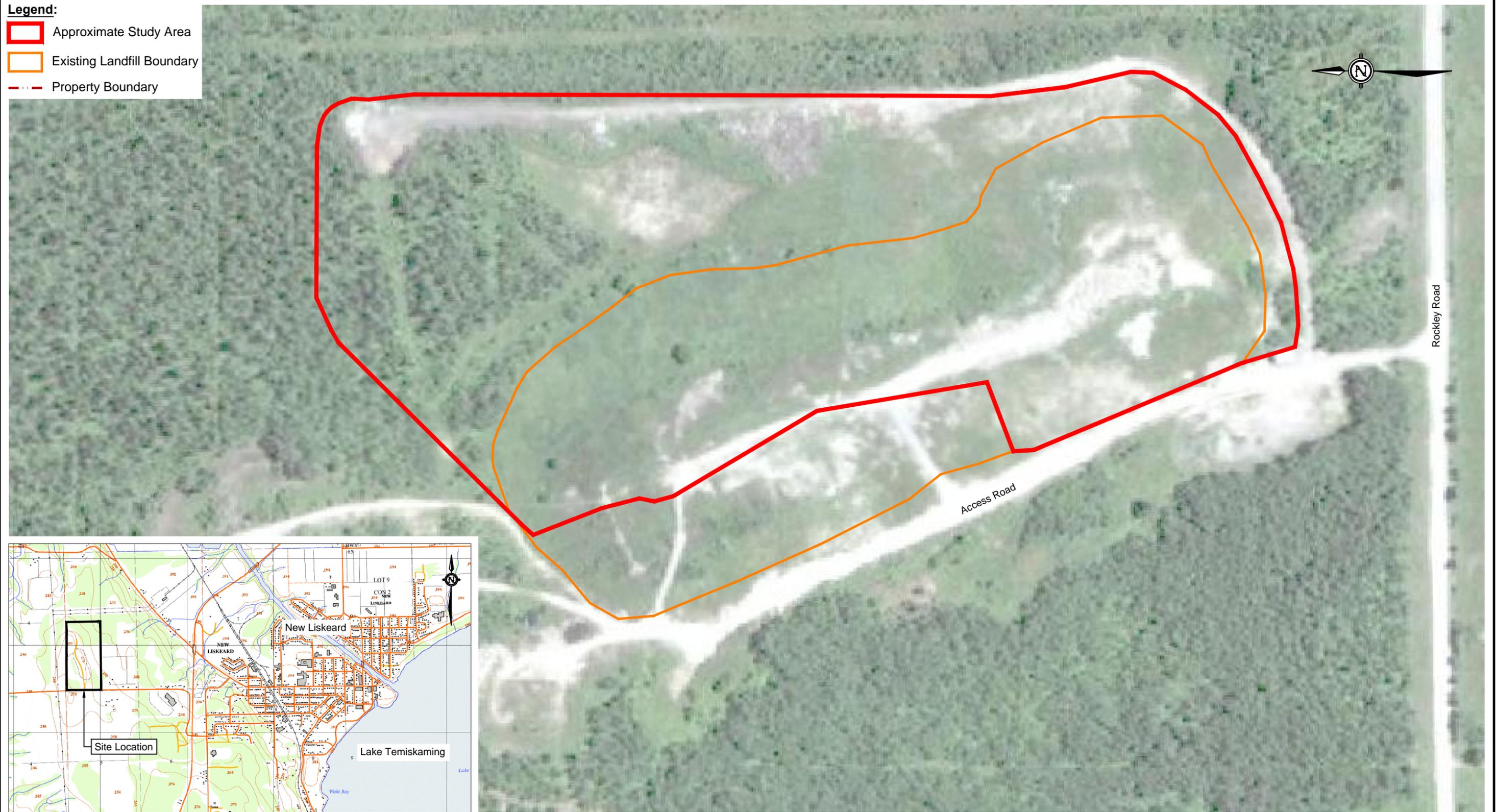
Stage 1 Archaeological Assessment
 New Liskeard Landfill
 City of Temiskaming Shores

TITLE

Location of Project Area

DATE: June 2014
 PROJECT No.: TY910491
 REV. No.: 1
 FIGURE No.: 1

- Legend:**
- Approximate Study Area
 - Existing Landfill Boundary
 - Property Boundary

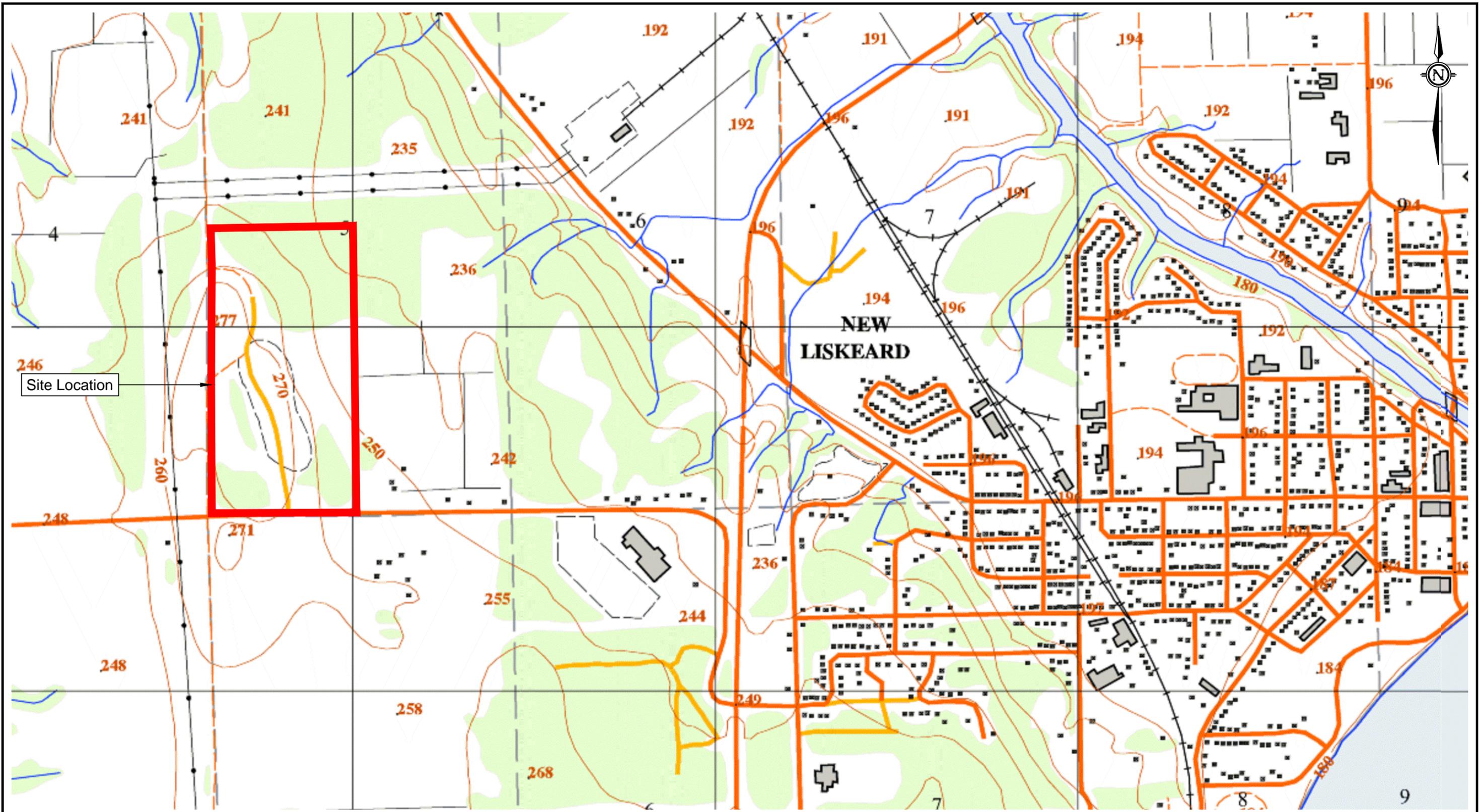


City of Temiskaming Shores

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DWN BY: MAT CHK'D BY: TIM DATUM: UTM NAD 83, ZONE 17T SCALE: as shown	PROJECT <p style="text-align: center;">Stage 1 Archaeological Assessment New Liskeard Landfill City of Temiskaming Shores</p> TITLE <p style="text-align: center;">Aerial Photograph Showing the Location of Project Area</p>	DATE <p style="text-align: center;">June 2014</p> PROJECT No. <p style="text-align: center;">TY910491</p> REV. No. <p style="text-align: center;">1</p> FIGURE No. <p style="text-align: center;">2</p>
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City of Temiskaming Shores

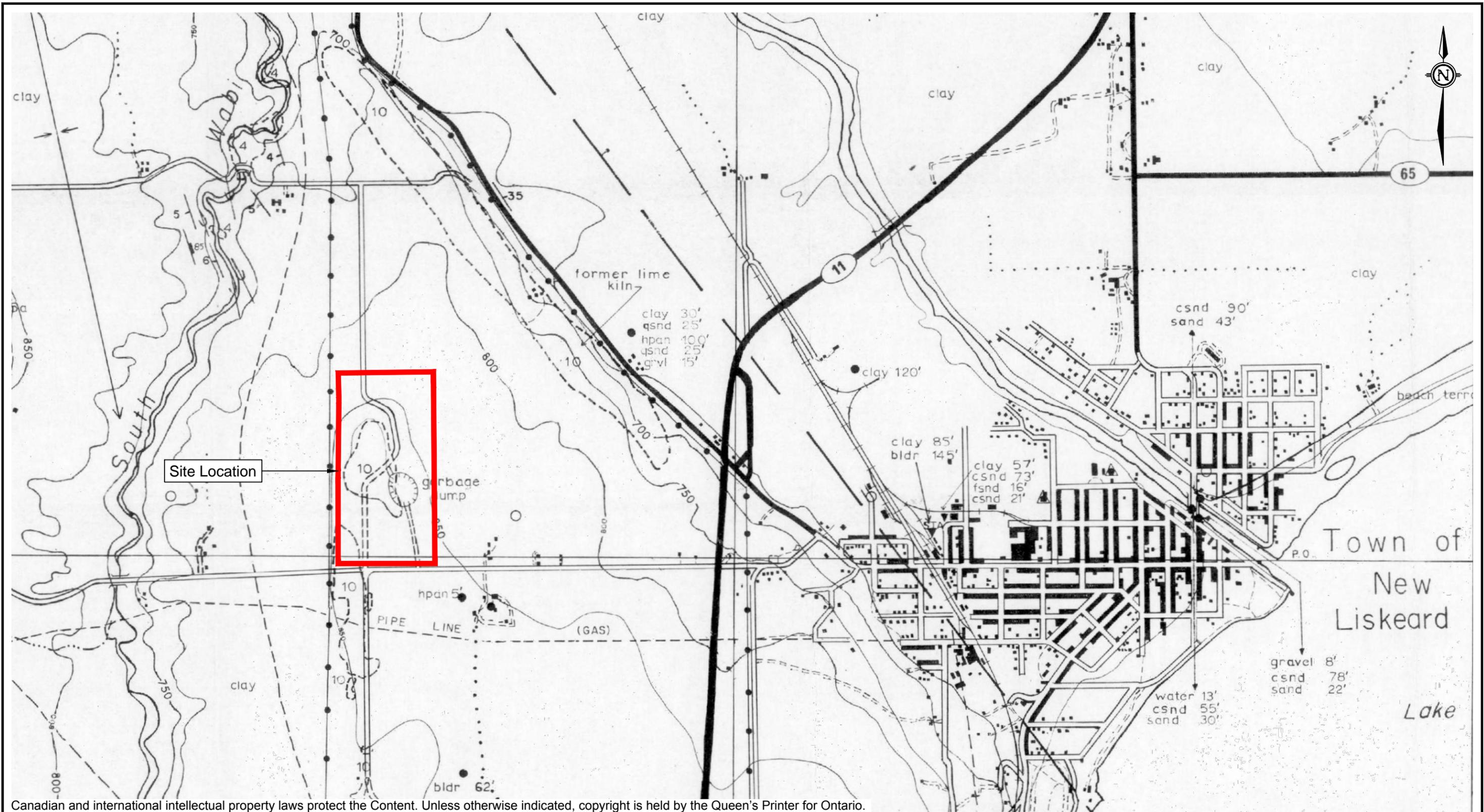
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 705-682-2632



DWN BY: MAT
 CHK'D BY: TIM
 DATUM: UTM NAD 83, ZONE 17T
 SCALE: as shown

PROJECT
 Stage 1 Archaeological Assessment
 New Liskeard Landfill
 City of Temiskaming Shores
 TITLE
 Topographic Map Showing the Location of the Project Area

DATE
 June 2014
 PROJECT No.
 TY910491
 REV. No.
 1
 FIGURE No.
 3



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PROJECT
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 New Liskeard Landfill
 City of Temiskaming Shores
 TITLE
 1972 Ontario Division of Mines Map of the Project Area

DATE
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 PROJECT No.
 TY910491
 REV. No.
 1
 FIGURE No.
 4

- Legend:**
- Approximate Study Area
 - Property Boundary
 - # Photo Location & Tag



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PROJECT
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 New Liskeard Landfill
 City of Temiskaming Shores

TITLE
 Photographic Locations, Numbers and Direction

DATE
 June 2014

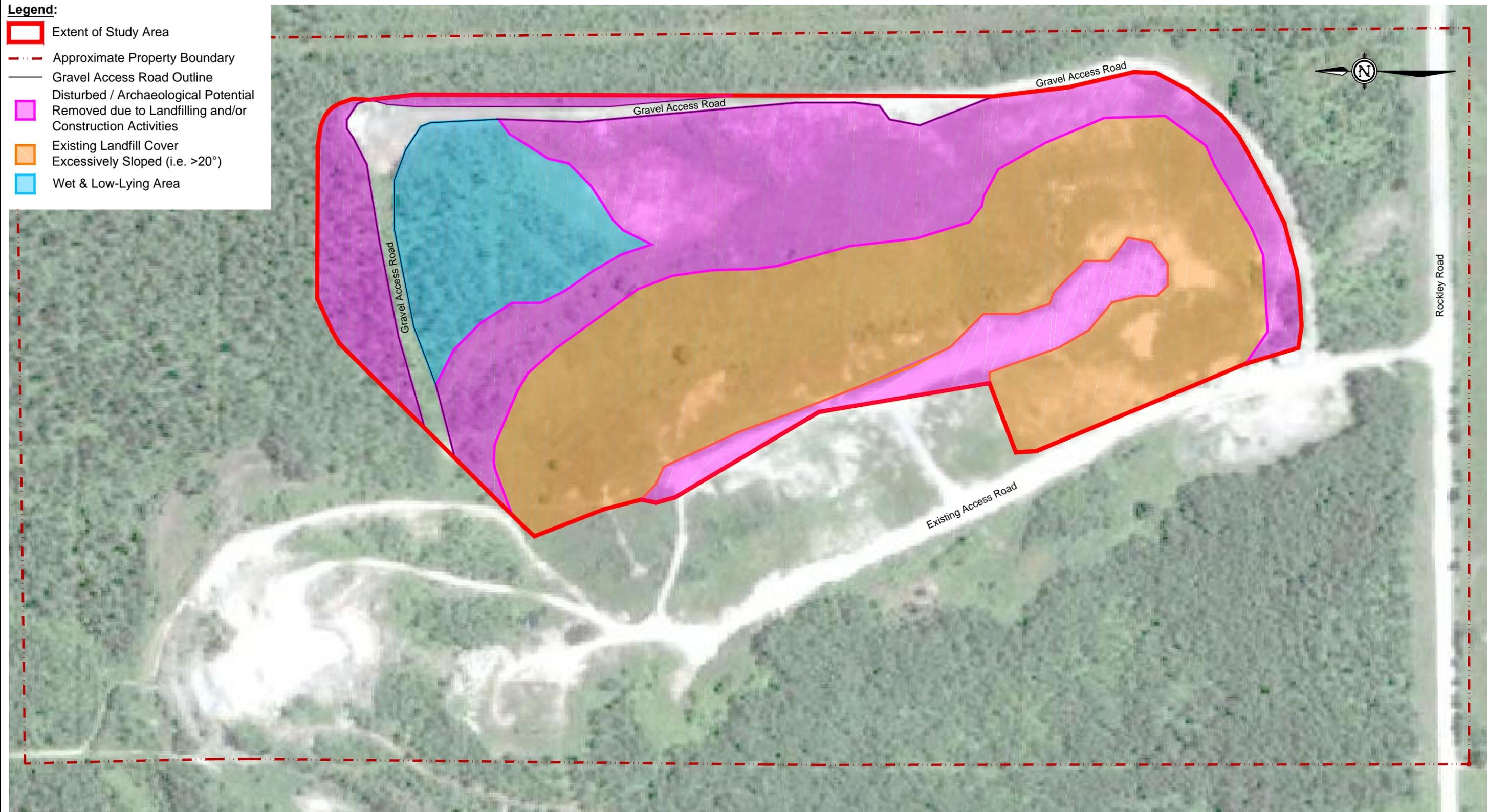
PROJECT No.
 TY910491

REV. No.
 1

FIGURE No.
 5

Legend:

- Extent of Study Area
- Approximate Property Boundary
- Gravel Access Road Outline
- Disturbed / Archaeological Potential Removed due to Landfilling and/or Construction Activities
- Existing Landfill Cover Excessively Sloped (i.e. >20°)
- Wet & Low-Lying Area



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 SCALE: as shown

PROJECT
 Stage 1 Archaeological Assessment
 New Liskeard Landfill
 City of Temiskaming Shores
 TITLE
 Stage 1 Results Showing Land Use Cover

DATE
 June 2014
 PROJECT No.
 TY910491
 REV. No.
 1
 FIGURE No.
 6

City of Temiskaming Shores
Stage 1 Archaeological Assessment
New Liskeard Landfill Expansion
City of Temiskaming Shores, Ontario
30 September 2014



APPENDIX B
PHOTOGRAPHIC RECORD



Photo 1:
North end of
existing landfill
showing
disturbed area
at north end of
study area

Direction:
Northeast



Photo 2:
North end of
existing landfill
showing
disturbed area
at north end of
study area and
adjacent solar
farm to the east

Direction:
East, Northeast



Photo 3:
On top of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East



Photo 4:
On top of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East, Southeast



Photo 5:
On top of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
Southeast



Photo 6:
On top of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East



Photo 7:
On top of
existing landfill
looking south
towards gate
entrance

Direction:
South



Photo 8:
On top of
existing landfill
looking
Northeast
towards wet and
low-lying area
with disturbed
area and solar
farm in
background

Direction:
Northeast



Photo 9:
On top of existing landfill looking south towards gate entrance

Direction:
South



Photo 10:
On top of existing landfill looking east towards lake temiskaming

Direction:
East



Photo 11:
On top of existing landfill looking west towards access road

Direction:
West, Northwest



Photo 12:
On top of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East



Photo 13:
On slope of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
Southeast



Photo 14:
On slope of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East



Photo 15:
On slope of existing landfill showing disturbed ground on the north side of study area and adjacent solar farm to the east

Direction:
Northeast



Photo 16:
On slope of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:
East



Photo 17:

On slope of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:

Southeast



Photo 18:

On slope of existing landfill showing disturbed ground on east side of study area and adjacent solar farm to the east

Direction:

East



Photo 19:
On access road looking southwest at the disturbed area at the toe of the landfill

Direction:
Southwest



Photo 20:
On access road looking west at the disturbed area at the toe of the landfill

Direction:
West



Photo 21:
On access road looking southwest at the disturbed area at the toe of the landfill

Direction:
South



Photo 22:
Permanent wet and low-lying area in the north end of the study area

Direction:
Southwest

City of Temiskaming Shores
Stage 1 Archaeological Assessment
New Liskeard Landfill Expansion
City of Temiskaming Shores, Ontario
30 September 2014



APPENDIX C
ASSESSOR QUALIFICATIONS

Shaun Austin, Ph.D., Associate Archaeologist, Role: QA/QC Review – Dr. Austin is the Leader of AMEC’s archaeology group and is based in the AMEC Hamilton Office. He has been working in Canadian Archaeology since 1976 and as an archaeological consulting in southern Ontario since 1987. He is a dedicated cultural heritage consultant with repeated success guiding archaeological projects through to completion to the satisfaction of the development proponent, the cultural heritage community and all other stakeholder groups. His areas of expertise include lithic analysis and prehistoric ceramic analysis. Dr. Austin currently holds a professional archaeology license (License P141) issued by the Ontario Ministry of Tourism, Culture and Sport, is MTO RAQs certified and is a member of the Ontario Association of Professional Archaeologists.

Jeff Stott, B.A., Staff Archaeologist, Role: Field Archaeologist, Report Writer – Mr. Stott is an archaeologist with 4 years experience in the archaeological industry in Ontario and British Columbia and is currently working within the environmental group in AMEC’s Sudbury, Ontario office. Mr. Stott has participated in Stage 1 to 4 assessments including conducting background searches, field surveys, excavations, artifact analysis, and reporting. He has worked on various projects in northern British Columbia and Ontario including oil and gas, hydroelectric, solar and wind farm investigations. Mr. Stott currently holds an applied research license (R461) issued by the Ministry of Tourism, Culture and Sport.

City of Temiskaming Shores
Stage 1 Archaeological Assessment
New Liskeard Landfill Expansion
City of Temiskaming Shores, Ontario
30 September 2014



APPENDIX D

LIMITATIONS

LIMITATIONS

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
 - (a) The Standard Terms and Conditions which form a part of our Professional Services Contract;
 - (b) The Scope of Services;
 - (c) Time and Budgetary limitations as described in our Contract; and,
 - (d) The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Study Area. Our conclusions cannot and are not extended to include those portions of the Study Area which were not reasonably available, in AMEC's opinion, for direct observation.
4. The potential for archaeological resources, and any actual archaeological resources encountered, at the Study Area were assessed, within the limitations set out above, having due regard for applicable heritage regulations as of the date of the inspection.
5. Services including a background study were performed. AMEC's work, including archival studies was conducted in a professional manner and in accordance with the Ministry of Tourism and Culture's guidelines. It is possible that unforeseen and undiscovered archaeological resources may be present at the Study Area.
6. The utilization of AMEC's services during the implementation of any further archaeological work recommended will allow AMEC to observe compliance with the conclusions and recommendations contained in the report. AMEC's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
7. This report is for the sole use of the parties to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or in part, or any reliance thereon, or decisions made based on any information or conclusions in the report, is the sole responsibility of such third party. AMEC accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
8. This report is not to be given over to any third-party other than a governmental entity, for any purpose whatsoever without the written permission of AMEC, which shall not be unreasonably withheld.