**REVISED REPORT:**

# STAGE 1 & 2 ARCHAEOLOGICAL ASSESSMENT THUNDERING WATERS SECONDARY PLAN, LOT 214 AND PART LOTS 195, 196, 197, 212, 213, 215 AND 216, TOWNSHIP OF STAMFORD, COUNTY OF WELLAND, NOW LOCATED IN THE CITY OF NIAGARA FALLS, ONTARIO

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**THE ONTARIO MINISTRY OF TOURISM, CULTURE AND SPORT**

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**P.I.F. # P141-0239-2015**
**Amec Foster Wheeler Project # TB155005**
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Distribution:

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## EXECUTIVE SUMMARY

Amec Foster Wheeler Environment & Infrastructure, a Division of Amec Foster Wheeler America Limited ("Amec Foster Wheeler") was retained by GR (CAN) Investment Co., LTD. (the "CLIENT") to conduct a Stage 1 and Stage 2 archaeological assessment of Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216, Township of Stamford, County of Welland, now located in the City of Niagara Falls, Ontario (Appendix A: Figures 1, 2 and 3). The study area is approximately 200.34 hectares (495 acres) in size, of which approximately 114.5 hectares (283 acres) are developable. The balance of 81.3 hectares (201 acres) have been defined as Provincially Significant Wetlands.

The City has a initiated a Secondary Plan process for the Thundering Waters area north of the Welland River, east of the Hydro Canal, south of the Hydro Corridor and west of the Thundering Waters Golf Course and the Stanley Avenue Business Park. A Secondary Plan is a land use, transportation and servicing policy plan for a sub-area of a city. It details how the policies and land use designations of the Official Plan are to be implemented. The Thundering Waters Secondary Plan, when completed, will be approved under the Planning Act as an amendment to the Official Plan. This Stage 1 and 2 archaeological assessment was therefore triggered under the Planning Act prior to any development activities.

The Stage 1 background study and Stage 2 archaeological assessment were conducted under Ontario Professional Licence to Conduct Archaeological Fieldwork (P141) held by Dr. Shaun Austin, Associate Archaeologist at Amec Foster Wheeler. The project information was acknowledged by the Ministry of Tourism, Culture and Sport on 15 September, 2015 with the approval of PIF number P141-0237-2015. The background research was conducted by Mr. Jason Seguin (P354) and Ms. Cara Howell (R180), Staff Archaeologists at Amec Foster Wheeler. The background research included a property inspection conducted by Ms. Howell and Mr. Seguin on 17 September, 2015. The temperature that day was approximately 26 degrees Celsius with clear to partly overcast skies. These weather conditions did not impede the property inspection in any way. Advance permission to enter for the property inspection was received by the CLIENT on 16 September, 2015. Additional archival research was conducted on 10 and 24th of November, 2015.

The Stage 2 archaeological assessment was conducted under the Co-Field Direction of Dr. Austin and Ms. Cara Howell (R180). Field assistance was provided by Mr. Jason Seguin (P354) and Ms. Devon Brusey (R410). The Stage 2 property assessment took place on 3, 4, 9 and 11 of November, 2015. The temperatures varied from 10 to 15 degrees Celsius with clear to partly overcast skies. These weather conditions did not impede the assessment in any way. Advance permission to enter the lands for the Stage

2 archaeological assessment, including the recovery and removal of artifacts, was granted to Amec Foster Wheeler by the CLIENT on 02 November, 2015.

All aspects of the Stage 1 and 2 assessment were conducted in accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (2011).

The Stage 1 background study indicated that undisturbed and flat to gently rolling dry uplands within the subject property have archaeological potential and warranted Stage 2 property assessment for three principal reasons: 1) there are 12 registered archaeological sites within a 1-km radius; 2) there are several water sources in close proximity, including the Welland River and an unnamed tributary that runs through the south west section of the study area and empties into the Welland River; and 3) there were historically documented structures within the study area in the late 19th century.

It was calculated that areas of low archaeological potential, or where potential has been removed, comprised approximately 88% of the study area (176.3 hectares): 35.87% or 71.86 ha consisted of observed wetlands; 33.62% or 67.35 ha south of the railway tracks had reportedly been subjected to extensive topsoil removal and infilling during the 19th and early 20th centuries; 18.36% or 36.79 ha contained roadways, construction areas and railways; and 0.17% or 0.34 ha were excessive slopes.

With regard to the land south of the railway tracks, several previous environmental test pits and geotechnical boreholes had revealed the presence of a deeply buried dark soil layer. It was known at the outset that the placement of hand shovel test pits at judgmental intervals to investigate the cultural heritage value or interest of this layer would be an ineffective strategy because the layer in question was observed at depths of three to five metres or more. After attempting unsuccessfully to access and evaluate the integrity of this layer by means of wider hand dug sondages, it was decided instead to have a licensed archaeologist present as additional boreholes were drilled in four separate locations south of the railway tracks.

In sum, remnants of a severely compromised deeply buried layer of former topsoil measuring from 10 cm–30 cm in thickness were observed in: Location 2 ("BH 29") and Location 4 ("BH 31"). In both locations this former topsoil was extremely degraded and all archaeological potential had been removed. Therefore it is reasonable to infer that none of the deeply buried dark soils identified in previous geotechnical boreholes south of the railway tracks represent a capped and intact buried topsoil layer with cultural heritage value or interest.

The remainder of the property (approximately 12% or 24.04 ha) consisted of woodlots exhibiting archaeological potential (Appendix A: Figure 9a and 9b and Appendix B: Photographs 1-38) and warranting Stage 2 assessment by means of hand shovel test pitting at five-metre intervals as the ploughing of woodlots is not viable.

In the course of the Stage 2 test pitting programme, foundation ruins were observed in one location in the northwest. Five-metre interval test pit survey around the ruins, supplemented by an examination of the ground surface wherever it was visible, resulted in the recovery of historic Euro-Canadian artifacts. The location of the ruins does not correspond to any of the structures depicted in the historic mapping of 1862 and 1876, but some of the recovered artifacts, and the mortared limestone block foundation itself, may denote a pre-1870s occupation. As such, this area was assigned the Borden Number AgGs-387 on 7 December 2015. Figure 12, Supplementary Documentation Section One indicates the location of AgGs-387.

Seven artifacts were recovered from the surface in a single location; the remainder came from test pits and one test unit. When the first positive test pit was encountered, it was surrounded by eight additional units at a radius of approximately two metres (distances were adjusted slightly to avoid trees). Following this, a one-by-one-metre test unit was hand excavated over the first positive test pit. From top to bottom, Test Unit 1 presented 15 cm of very dark brown (10YR 2/2) homogenous loam (Layer 1), followed by approximately 15 cm of very dark brown (10YR 2/2) loam mottled with mortar and containing historic artifacts (Layer 2). The underlying subsoil consisted of brown (10YR 4/3) homogenous clay loam.

The Stage 2 assessment of Site AgGs-387 yielded 170 historic Euro-Canadian artifacts. Architectural items make up the majority of the collection (n=93), followed by kitchen and food-related items (n=49), personal items (n=8), tools and equipment (n=7), household furnishings (n=7), organic material (n=4), and indeterminate artifacts (n=2). Among the kitchen/food-related items, sherds of datable ceramic ware types were recovered, including refined white earthenware (“rwe’) (n=19) and ironstone (n=4), both of which were available for use prior to 1870. Moreover, certain ceramic decorative types, such as transfer print-general (n=1) and moulded rwe (n=1), could date to as early as the 1820s. The recovery of two shell buttons, a clay marble (1820–1940), two wrought nails (used until approximately 1820), and the presence of the mortared limestone block foundation itself, provide additional indications that Site AgGs-387 may contain a pre-1870s component.

In light of the Stage 1 and 2 assessment results, the following recommendations are made, subject to the advice on compliance with legislation contained in Section 5.0:

1) If Site AgGs-387 cannot be avoided and protected, Stage 3 assessment should be conducted in compliance with the MTCS *Standards and Guidelines for Consultant Archaeologists* (2011). As this is a small post-contact site where it is not yet evident that the level of cultural heritage value or interest will result in the recommendation to proceed to Stage 4 mitigation, the Stage 3 assessment should consist of 1x1 m units placed in a 5 m grid around the foundation ruins with an additional 20% of the grid total excavated in areas of interest within the site extent.

2) Until the Stage 3 assessment is carried out, any future development related activities on the property must respect a 20-m radius buffer of no disturbance around the positive Stage 2 test pits, test unit and foundation ruins as noted on Figure 13, Section 1, Supplementary Documentation. Prior to any development activities, the 20-m radius zone should be enclosed by fencing and no-go orders issued for machinery and people inside the fencing. The installation of the protective fencing should be monitored by a licensed archeologist to ensure the protection of Site AgGs-387. A licensed archaeologist should also visit the site area at the outset of construction activities, during construction and after construction is completed in order to document the effectiveness of the avoidance and protection measures for Site AgGs-387.

   In addition, a 50-m monitoring zone should be respected around the 20-m protective zone as noted on Figure 13, Section 1, Supplementary Documentation. Any future invasive activities with the 50-m zone must be monitored by a licensed archaeologist.

   The proponent has provided a letter (Section 3, Supplementary Documentation) referencing the above Stage 3 recommendations and site protection strategies and committing to implement these measures during any future ground alterations. The proponent specifically commits in their letter to respect the requirements of the site protection and monitoring zones as shown on Figure 13, Section 1, Supplementary Documentation.

3) The remainder of the developable portion of the property does not require further archaeological assessment.

**The above recommendations are subject to Ministry of Tourism, Culture and Sport approval, and it is an offence to alter any of the study area without Ministry of Tourism, Culture, and Sport concurrence.**

No grading or other activity that may result in the destruction or disturbance to the study area is permitted until notice of Ministry of Tourism, Culture, and Sport approval has been received.

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## PROJECT PERSONNEL

| | |
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| *Project Manager:* | Cara Howell, B.A. (R180) |
| *Co-Field Directors:* | Cara Howell, B.A.<br>Shaun Austin, Ph.D. |
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| *Report Preparation*:<br>*Historic Artifact Analysis:* | Jason Seguin, M.A.<br>Cara Howell, B.A. |
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| *Report Reviewer:* | Shaun Austin, Ph.D. |

## Acknowledgments

We would like to thank Ms. Joan Martin U.E., Coordinator of the West Lincoln Historical Society Archives for providing access to a newly restored copy of the 1862 Tremaines' map of the Counties of Lincoln and Welland.

# 1.0 PROJECT CONTEXT

## 1.1 Development Context

Amec Foster Wheeler Environment & Infrastructure, a Division of Amec Foster Wheeler America Limited ("Amec Foster Wheeler") was retained by GR (CAN) Investment Co., LTD. (the "CLIENT") to conduct a Stage 1 and Stage 2 archaeological assessment of Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216, Township of Stamford, County of Welland, now located in the City of Niagara Falls, Ontario (Appendix A: Figures 1, 2 and 3). The study area is approximately 200.34 hectares (495 acres) in size, of which approximately 114.5 hectares (283 acres) are developable. The balance of 81.3 hectares (201 acres) have been defined as Provincially Significant Wetlands.

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All aspects of the Stage 1 and 2 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 the Stage 2 property assessment, and makes pertinent recommendations.

### 1.2 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 for the Stage 1 background study consisted of the following tasks:

- Contacting the MTCS to determine if recorded archaeological sites exist in the vicinity (1-kilometre ["km"] radius) of the property, through a search of the Ontario Archaeological Sites Database maintained by that Ministry;
- Contacting the MTCS to determine if there are any known reports of previous archaeological field work within a radius of 50 metre ("m") around the study area;
- A desktop review of the study 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 “walk-through’ visual inspection of the study area in order to gather first-hand and current evidence of the property’s physical setting, and to aid in delineating areas where archaeological potential may have been impacted or removed by previous land-use practices;

- A review of the potential for historic occupation as documented in historical atlases and other archival sources; and,

- Preparing appropriate Stage 2 recommendations

The scope of work for the Stage 2 archaeological assessment consisted of the following tasks:

- Organizing public underground utility locates. In addition, Amec Foster Wheeler retained a private utility locater to clear underground utilities;

- A test pit survey conducted at five-metre intervals of areas of archaeological potential employing strategies that adhere to the technical standards for Stage 2 archaeological assessments as prescribed by the MTCS (2011);

- Mapping, photographing and other relevant graphics;

- Artifact processing and analysis, where applicable; and,

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

Sites discovered during a Stage 2 assessment that are determined to have cultural value or interest may be recommended for a Stage 3 site-specific assessment. The preferred option, however, is to avoid, and therefore protect, such sites wherever possible.

## 2.0 STAGE 1 BACKGROUND STUDY

As part of the Stage 1 archaeological assessment, Amec Foster Wheeler contacted MTCS to determine if archaeological sites have been registered within 1 km of the property, and if previous archaeological assessments have been carried out within a 50-m radius. Secondly, the principal determinants of archaeological potential–proximity to water, topography, drainage, soils, vegetation, and proximity to important resources and historically significant transportation routes–were examined in order to evaluate the property's overall archaeological potential. Thirdly, the specific potential for historic archaeological resources was assessed through an examination of available historical maps and other archival sources.

### 2.1 Archaeological Context

Prior to the Stage 2 archaeological assessment, Amec Foster Wheeler conducted the requisite Stage 1 background research. First, the MTCS was asked to search the Ontario Archaeological Sites Database in order to ascertain if previously registered archaeological sites have been identified in close proximity to the study area.

In Ontario, information concerning archaeology 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 km east to west, and approximately 18.5 km 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. The study area is located within the *AgGs* Borden Block. On the basis of a search of the OASD (inquiries made to Mr. Rob von Bitter, Database Co-ordinator of MTCS, 23 September, 2015), there are 12 registered archaeological sites located within a 1-km radius.

**Table 1: Registered Archaeological Sites within a One-Kilometre Radius**

| Borden Number | Site Name | Cultural Affiliation | Site Type | Researcher (Year Researched) |
|---|---|---|---|---|
| AgGs-4 | Fern | Unrecorded | Unrecorded | Unrecorded |
| AgGs-47 | Crawford 1 | Middle Archaic<br>Late Archaic<br>Middle Woodland<br>Early Woodland<br>Post-Contact | Campsite | William Parkins (1985-90) earlier investigation noted in 1969 |
| AgGs-48 | 14-001:3 Crawford 2 | Unrecorded | Unrecorded | Kristy O'Neal (2014) |
| AgGs-49 | Crawford 3 | Middle Archaic<br>Early Woodland | Campsite | William Parkins (1985-90) |

| Table 1: Registered Archaeological Sites within a One-Kilometre Radius | | | | |
|---|---|---|---|---|
| **Borden Number** | **Site Name** | **Cultural Affiliation** | **Site Type** | **Researcher (Year Researched)** |
| AgGs-50 | Feren | Pre-Contact Post-Contact | Unrecorded | Kristy O'Neal (2014) |
| AgGs-236 | Cabeiroi Camp 2 | Pre-Contact | Scatter/Campsite | Michael Henry (2001) |
| AgGs-292 | - | Late Woodland | Findspot | Shaun Austin (2006) |
| AgGs-293 | P23 | Unrecorded | Unrecorded | Garth Grimes (2014) |
| AgGs-294 | P017 | Unrecorded | Unrecorded | Garth Grimes (2014) |
| AgGs-295 | - | Late Woodland | Findspot | Shaun Austin (2006) |
| AgGs-296 | - | Middle Archaic | Scatter | Shaun Austin (2006) |
| AgGs-298 | - | Pre-Contact | Scatter | Shaun Austin (2006) |

Of the 12 registered sites, further work was recommended for AgGs-296 and AgGs-298.

Four of the sites have no information recorded (AgGs-4, AgGs-48, AgGs-293 and AgGs-294). There are two multicomponent sites (AgGs-47 and AgGs-50); two pre-contact sites (AgGs-236 and AgGs-298); two Middle Archaic sites (AgGs-49 and AgGs-296); and two Late Woodland sites (AgGs-292 and AgGs-295).

Additionally, a request for relevant archaeological reports within 50 m of the study area was also placed with the Data Coordinator at MTCS. There were no reports that came back from the request.

### 2.1.1 Environmental Context

The study area is situated in the Iroquois Plain physiographic region of southern Ontario (Chapman and Putnam 1984:113). This physiographic region encompasses lowlands bordering Lake Ontario, from the Niagara River to the Trent River. The Iroquois Plain was inundated in the late Pleistocene by glacial Lake Iroquois (Chapman and Putnam 1984: 190).

The *Quaternary Geology of Ontario, Southern Sheet, Map 2556*, indicates that the geology of the area consists of glaciolacustrine stratified clay, deposits of silt and sand, with minor sand (i.e., basin and quiet water deposits) (AMEC 2005b).

The *Bedrock Geology of Ontario, Southern Sheet, Map 2544*, describes the bedrock in the area to be of Middle and Lower Silurian consisting of shale, sandstone, dolostone and siltstone of the Guelph Formation (AMEC 2005b).

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 Welland River is currently located approximately 100 m to the south of the study area. The south portion of the study area contains what was once the original path of a portion of the Welland River or Chippawa Creek in the early 19th century.

The Welland River drains part of the back slope of the Niagara cuesta east of Hamilton. It rises on the side of the sandy moraine near Ancaster at an elevation of approximately 244 m above sea level, and takes a meandering course across the clay plain to the Niagara River at Chippawa. It falls 73 m in 116 km, an average gradient of a little over 0.9 m per-1.6 km. Approximately 61 m of the total fall occurs in the first 24 km. There the stream is small and only a shallow channel is made in the clay plain south of Mount Hope. The Welland River no longer runs into the Niagara River, but out of it. For the last 6.4 km it serves as the intake of the Chippawa-Queenston power canal and it has been forced to crawl through beneath the Welland Canal through two inverted siphons in the City of Welland. Upstream from Welland the river retains its original character (Chapman and Putnam 1984:99)

Currently, the study area lands are comprised of Provincially Significant Wetlands, areas of previous grading and infilling, railway lines, roadways, construction areas, inactive industrial buildings, as well as densely forested areas in close proximity to the significant wetlands.

### *Subsurface Conditions*

In order to gain an understanding of the subsurface conditions, a review of previous Phase I and Phase II Environmental Site Assessments within the study area was completed. Summaries of the relevant date are provided bellow.

A Phase I ESA report entitled "Confidential Phase1 Environmental Site Assessment Vacant Parcel of Land North of Chippawa Parkway and East of Dorchester Road Niagara Falls, Ontario" dated April 2003 was completed by AMEC (predecessor to Amec Foster Wheeler) for 11449962 Ontario Limited for the southwestern quarter of the property (Phase I ESA, AMEC 2003). Relevant to this Stage 1 and 2 archaeological assessment, this report indicated:

- The property was described as vacant and undeveloped since prior to the mid-1930s, with the exception of one or two small buildings situated along a former roadway which traversed the property from east to west.

- It appeared that the property had been in-filled prior to the mid-1930s with a fill material of unknown source and composition. Observations indicated that the site is generally graded at a higher elevation than the surrounding properties. The McGlone Geotechnical Report (1989) indicated that the fill material at the Site is inferred to have originated from the construction of the Queenston-Chippawa Power Canal and/or dredging activities in the Welland River.

A Phase I ESA report entitled *"Phase I Environmental Assessment, Former Washington Mills Limited Facility"* dated March 2004 was completed by AMEC for Fallsview Golf Inc. in March 2004 on the former Washington Mills Ltd. Facility located at 6225 Progress Street (Phase I ESA Washington Mills, AMEC 2004). Relevant to this Stage 1 and 2 archaeological assessment, this report indicated:

- The property appeared to be developed for industrial land use since 1980.

- The former Montrose Railway Yard at 6061 Ramsey Road, located north of the property was utilized as a train marshalling yard since at least 1904 until 2003 and is located inferred topographically upgradient from the property, upon which a drainage ditch originates and traverses the central area of the site.

A Phase II ESA report entitled *"Phase II Environmental Site Assessment Update, Former Washington Mills Limited"* dated 2005 was completed by AMEC for Fallsview Gold Inc. on the former Washington Mills Ltd. Facility locate at 6225 Progress Street (Phase II ESA Washington Mills, AMEC 2005). Relevant to this Stage 1 and 2 archaeological assessment, this report indicated:

- Twenty-three boreholes were drilled and twenty-three test pits were excavated in target areas in order to characterize fills and assess ground water across the property.

Table 2 provides a summary of borehole and test pits advanced by Golder Associates 2003/2004, while Appendix A, Figure 7 indicates the location of the 2003/2004 boreholes and test pit excavations advanced by Golder Associates. Appendix E provides a copy of each of the logs.

**Table 2: Summary of Borehole and Test Pit Logs (Golder Associates 2003)**

| Borehole / Test Pit ID Number | Summary of Observations |
|---|---|
| Record of Borehole 1 | 0- 5.79 m of stiff to firm reddish-brown silty clay to clayey silt, trace sand, with occasional zones of organics, rootlets and wood fiber fill was present. At a depth of 5.79 m to 6.10 m a dark brown topsoil was encountered. From a depth of 6.10 m to 12.65 m, a very stiff to stiff reddish-brown to brown silty clay with trace fine sand. The water level in the open borehole was encountered at a depth of 11.6 m upon completion of drilling. The borehole was completed at a depth of 12.65 m. |
| Record of Borehole 2 | Indicated from ground surface to 0.03 m a dark brown topsoil fill was present. From 0.03 m to 2.74 m a firm to very soft brown silty clay, trace sand, trace gravel fill was present. From 2.74 m to 3.30 m a greenish-brown clayey silt, with some sand and some organics was present. From 3.20 m to a depth of 9.60 m a very stiff to firm greenish-brown to reddish-brown silty clay, trace fine sand was present. The water level in the open borehole was encountered at a depth of 6.1 m upon completion of drilling. The borehole was completed at a depth of 9.60 m. |
| Record of Test Pit 1 | Indicated 0.05 m of topsoil from ground surface. From 0.05 m to 1.22 m a brown silty sand with some gravel was present. From 1.22m to 1.83 m a reddish-brown clayey silt with some sand was present. A reddish-brown silty clay, with trace fine sand was present from 183m to 4.57 m. Water was noted to begin to seep through at a depth of 0.91 m to 1.22 m during test pit excavations. The test pit was completed at a depth of 4.57 m. |
| Record of Test Pit 2 | Indicated a dark brown topsoil fill from ground surface to 1.82 m. At 1.82 m a brown clayey silt, some sand (noted to be fill) was present till 2.13 m in depth. From 2.13 m to 4.57 m a brown to reddish-brown silty clay, trace fine sand was present. The test pit was completed at a depth of 4.57 m. |
| Record of Test Pit 3 | Indicated from the ground surface to a depth of 0.08 m, a dark brown topsoil fill was present. A brown to reddish-brown silty clay, trace fine sand and trace gravel fill was present from 0.08 m to 1.52 m. At a depth of 1.52 m to approximately 3 m a reddish-brown silty clay, trace sand, and trace gravel, trace rootlets, organics and shell fragments (fill) was present. From 3 m to 3.20 m dark brown topsoil were present. At 3.20 m a dark greyish-brown sandy silt, some clay, some organics were present until 3.96m. At a depth of 3.96 m to 5.79 m a reddish-brown clayey silt, trace fine sand was present. Water seepage occurred from a depth of 3.05 m to 3.20 m during excavations. The test pit was completed at a depth of 5.79 m. |

| Table 2: Summary of Borehole and Test Pit Logs (Golder Associates 2003) | |
|---|---|
| **Borehole / Test Pit ID Number** | **Summary of Observations** |
| Record of Test Pit 4 | Indicated from the ground surface to a depth 0.03 m, a dark brown topsoil fill was present. This was followed by a brown silty clay, trace fine sands from 0.03 m to 3.35 m. From 3.35 m to 3.58 m a dark brown sandy silt, some clay and some organic were present. From 3.58 m to 5.79 m, a grey silty clay with trace fine sand was present. Water seepage occurred from 3.35 m to 3.58 m during the excavation. The test pit was completed at a depth of 5.79 m. |
| Record of Test Pit 5 | Topsoil indicated from the ground surface to a depth 0.31 m. From 0.31 m to 4.26 m a brown to reddish-brown clayey silt with some sand was present. From 4.26 m to 4.57 m a reddish-brown silty clay, with trace fine sand was present. The test pit was completed at a depth of 4.57 m. |
| Record of Test Pit 6 | Topsoil indicated from the ground surface to a depth 0.31 m. From 0.31 m to 0.76 m a brown clayey silt, some sand and trace organics were present. A reddish-brown silty clay, with trace fine sand was present from 0.76 m to 4.57 m. The test pit was completed at a depth of 4.57 m. |
| Record of Test Pit 7 | Topsoil indicated from the ground surface to a depth 0.31 m. From 0.31 m to 4.88 m, a brown to reddish-brown silty clay, with trace fine sand was present. The test pit was completed at a depth of 4.88 m. |
| Record of Test Pit 8 | Topsoil indicated from the ground surface to a depth 0.25 m. From 0.25 m to 4.88 m, a brown to reddish-brown silty clay, with trace fine sand was present. The test pit was completed at a depth of 4.88 m. |
| Record of Test Pit 9 | From ground surface to a depth of 5.49 m, a brown to black topsoil mixed with clayey silt, numerous roots and organics (fill) was present. From 5.49 m to 6.10 m, a brown silty clay with trace fine sand and trace organics was present. The test pit was completed at a depth of 6.10 m. |
| Record of Test Pit 10 | From ground surface to a depth of 5.94 m, a brown to reddish-brown clayey silt to silty clay, trace fine sand, trace gravel and trace organics (fill) was present. The test pit was completed at a depth of 5.94 m. |
| Record of Test Pit 11 | Topsoil indicated from ground surface to a depth of 0.25 m, topsoil. From 0.25 m to 2.44 m, a brown silty clay with some sand was present. At 2.44 m until 4.57 m, a reddish-brown clayey silt, with trace fine sand was present. The test pit was completed at a depth of 4.57 m. |

On January 31st and February 1st, 2005, AMEC (now Amec Foster Wheeler) retained the services of Jerry's Excavating & Backhoe Services Ltd. and excavated 23 test pits to depths between 1.0 and 3.9 mbgs (metres below ground surface). On February 9, 10 and 11th, 2005, 23 boreholes (BH) were also advanced to depths between 1.2 and 7.3 mbgs. Boreholes BH1 – BH4, BH6 – BH11, BH104 – BH105 and BH111 – BH113 were drilled using a truck-mounted CME-75 drill rig (operated by Elite Drilling), BH14, BH102 and BH106 – BH109 were drilled using a Beaver Portable drill rig (operated by Kodiak Environmental Limited), and BH103 was drilled using a Pionjar Portable drill rig (operated also by Kodiak Environmental Limited). Appendix A, Figure 8 indicates the locations of the

2005 BH and test pit excavations. Appendix E provides a copy of each of the logs. Table 3 summarizes the information.

**Table 3: Summary of Borehole and Test Pit Logs (AMEC 2005)**

| Borehole / Test Pit ID Number | Summary of Observations |
|---|---|
| BH1 | Indicated from the surface, 9 cm of asphalt over crushed limestone granular to a depth of 0.5 m (45 cm). From 0.5 m to 3. 7m, a brown silty clay, laminated wtpl, hard to very still. The borehole was terminated at 3.7 m. |
| BH/MW2 | Indicated from the surface, 20 cm of concrete over crushed limestone granular to 0.5 m. From 0.5 m to 6.9 m, a brown changing to grey at 5.5 m silty clay, laminated, apl to wtpl, very stiff to stiff. The borehole was terminated at 6.9 m. Upon completion and after 7 days the water level was present at 1.85 m. |
| BH/MW3 | Indicated from the surface to 0.5 m, a wet loose fill composed of clay and granular was present. From 0.5 to 6.9 m, was observed a brown, changing to grey at 5 m, silty clay. Laminated, api to wtpl, very stiff to soft profile was present. The borehole was terminated at 5.9 m. Upon completion and after 6 days the water level was present at 1.6 m. |
| BH4 | Indicated from the surface to 66 cm crushed limestone granular, wet to saturated over clayey topsoil, wtpl, stiff. At 1.3 m a brown silty clay, apl to dtpl, very stiff profile was present. The borehole was terminated at 2.9 m. Water was present at 1.5 m upon completion. |
| BH6 | Indicated from the surface to a depth of 73 cm, crushed limestone granular. From approximately 0.7 m to 3.9 m, a brown silty clay, laminated, dpl to apl, hard to very stiff profile was present. The borehole was terminated at 3.9m. |
| BH/MW7 | Indicated from the surface to a depth of 46 cm crushed limestone granular. From approximately 0.5m to a depth of 6.9m, a brown silty clay with occasional silt seams, laminated, fissured, dtpl to wtpl, a hard to stiff profile was present. The borehole was terminated at 6.9m. Upon completion and after 8 days, water level was present at 6.4 m. After 14 days the water level was at 6.27 m |
| BH8 | Indicated from the surface to a depth of 20 cm, concrete over crushed limestone granular, moist to saturated profile. From 0.7 m a brown silty clay, possibly fill up to 2 m, wtpl to apl, firm profile. The borehole was terminated at 3.5 m. Upon completion the water level was present at 0.58 m. |
| BH9 | Indicated 20 cm of concrete over crushed limestone granular to a depth 64 cm. From 0.5 m to 2.9 m, a brown silty clay, laminated, fissured, apl to dtpl, very stiff profile. The borehole was terminated at 2.9 m. |
| BH10 | Indicated 24 cm of concrete over crushed limestone granular to 42 cm over fill consisting mainly of clay and grey baghouse dust. From 1.1 m to 3.5 m a brown silty clay, laminated, fissured, swtpl to wtpl, a very stiff to stiff profile was present. The borehole was terminated at 3.5 m. |
| BH11 | Indicated 42 cm of crushed limestone granular. From 04 m to 2.0 m a brown silty clay, laminated, apl to dtpl, very stiff to hard profile was present. The borehole was terminated at 2.0 m. |
| BH14 | Indicated 15 cm of concrete over crushed limestone granular loose fill to 0.6 m. From 0.6 m a grey silty clay, with traces of sand, laminated from 1.8 m to 3.0 m, wtpl, with a firm to very stiff profile. The borehole was terminated at 3.0 m. |

| Table 3: Summary of Borehole and Test Pit Logs (AMEC 2005) | |
|---|---|
| **Borehole / Test Pit ID Number** | **Summary of Observations** |
| BH101 | Indicated 13 cm of concrete over fill including crushed limestone granular, with traces of slag, dense over clay fill with traces of sand, with a firm to very stiff profile t0 1.7 m. From 1.7 m to 1.8 m, a layer of black clayey fill with cinders and traces of sand and organics. From 1.8 m to 3.0 m, a grey-brown clayey fill with traces of sand, organics and gravel and pieces of glass, in a firm profile. From 3.0 m to 4.3 m, a brown to red-brown silty clay with traces of sand, silt seams, laminated, wtpl, hard profile was present. The borehole was terminated at 4.3 m. |
| BH102 | Indicated 13 cm of concrete over crushed limestone granular fill with occasional pieces of slag to a depth of 1.2 m, compact profile. From 1.2 m to 3.0 m, a brown silty clay with traces of sand and organics, laminated, dtpl, very stiff to hard profile. The borehole was terminated at 3.0 m. |
| BH103 | Indicated 13 cm of concrete over crushed limestone granular fill. At 0.3 m, a brown silty clay with traces of sand, laminated from 0.8 m to 1.2 m. The borehole was terminated at 1.2 m due to limitations of the equipment in “Tight Clay Soils”. |
| BH104 | Indicated 16 cm of concrete over crushed limestone granular to a depth of 43 cm. At 0.4 m to 7.2 m, a brown silty clay, laminated, apl to wtpl, with a very stiff to stiff profile. The borehole was terminated at 7.2 m. Upon completion and after 6 days the water level was present at 1.69 m |
| BH105 | Indicated 17 cm of concrete over crushed limestone granular to 42 cm over buried topsoil till a depth of 75 cm. At 0.8 m to 3.5 m, a brown silty clay, laminated, wtpl to apl, with a stiff to very stiff profile. The borehole was terminated at 3.5 m. |
| BH/MW106 | Indicated 18 cm of concrete over fill including crushed limestone granular to 0.5 m, over clay fill with pieces of wood and gravel, mottled. At 1.2 m to a depth of 7.3 m, a brown silty clay, laminated, mottled with reddish brown silt seams, dtpl to wtpl, with a firm to hard profile. The borehole was terminated at 7.3 m. Upon completion, after 7 days water was present at 5.32 m. After 13 days the water level was present at 4.99 m. |
| BH107 | Indicated 36 cm of concrete over crushed limestone granular fill, compact profile. From 1.2 m to 3 m, a brown silty clay with traces of sand, dtpl, very stiff to hard profile. From 3 m to 3.8 m the silt was noted to seam. The borehole was terminated at 4.3 m. |
| BH/MW108 | Indicated 20 cm of concrete over crushed limestone granular fill, with dense to very dense profile to a depth of 2.1 m. From 2.1 m to 4.9 m, a brown silty clay with silt seams, traces of organics and sand, saturated to wtpl, very stiff profile. The borehole was terminated at 4.9 m. Upon completion the water level was at 2.0 m, after 6 days it was at 1.64 m and after 12 days the water level was at 1.80 m. |
| BH109 | Indicated 15 cm of concrete over crushed limestone granular fill, over clay, dtpl, with a dense to very dense profile. From 1.8 m to 3.7 m a brown silty clay, laminated, dtpl, with a very stiff to hard profile. The borehole was terminated at 3.7 m. |
| BH111 | Indicated 16 cm of concrete over crushed limestone granular to a depth of 70 cm. From 70 cm to 3 m, a brown silty clay, laminated, apl to wtpl, with a very stiff to stiff profile. The borehole was terminated at 3.5 m. |
| BH112 | Indicated 15 cm of concrete over crushed limestone granular to 70 cm in depth. The profile was moist to saturated. From 0.7 m to 3.5 m, a brown silty clay, fissured, wtpl to apl, with a very stiff profile. The borehole was terminated at 3.5 m. Upon completion of the water level was at 0.77 m. |
| BH/MW113 | Indicated 18 cm of concrete over crushed limestone granular to a depth of 84 cm over buried topsoil. From 1.0 m to 6.7 m, brown silty clay, fissured, laminated, dtpl to wtpl, very stiff to firm prolife. The borehole was terminated at 6.7 m. |

Most often, the potential topsoil found in previous environmental test pits and geotechnical boreholes appeared at depths ranging from 3 m to over 5 m. Moreover, at BH/MW-113 and BH105 the potential topsoil layer was found below a large concrete pad related to a former building. Two other mechanical test pits (Test Pits 6 and 7) in the southeast contained a dark soil layer at or near the surface. However, the underlying strata were demonstrably redeposited and therefore the upper dark layer cannot have been native topsoil. In addition, while three other mechanical test pits (Test Pits 1, 5 and 6) did contain a deeply buried potential topsoil layer, all three are located with a protected wetland that will not be disturbed. The logs for previous mechanical testing elsewhere in the graded and infilled area indicated that the original topsoil layer had been removed.

Therefore the deeply buried potential topsoil that may be disturbed by development exists in four locations: 1) in the vicinity of Test Pit 3 at a minimum depth of 3 m; 2) in the vicinity of Borehole 1 at a minimum depth of 5.79 m; 3) in the vicinity of BH/MW-113 beneath a large concrete pad; and 4) in the vicinity of BH105 also beneath a large concrete pad.

However, as argued in Section 2.3.2., all deeply buried dark soils on this property have been severely compromised and have no cultural heritage value or interest.

## 2.2 Historical Context

Historically, the study area was situated on Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216, Township of Stamford, County of Welland. The village of Drummondville was approximately 4 km to the northeast.

When the American Revolution ended, in 1783, the Niagara River was established as part of the boundary between the United States and Canada. Those remaining loyal to the British cause during the revolution were compelled to seek new homes in Canada, or elsewhere under the British flag (Seibel 1967:29). On the west bank of the Niagara River, land was secured by Treaty from the Indians in order to provide homes for the new settlers. The land was laid out in Townships and what is now the City of Niagara Falls was originally named Mount Dorchester or Township Number 2. The name Dorchester originally came from “from Sir Guy Carleton, the Earl of Dorchester, and the distinguishing number was given because this was the second township surveyed in this part of the country” (Ibid 1967:29).

The lands within Stamford Township were partly acquired by the British from the Mississaugas in 1764, while the remainder was purchased in 1781. The Township of Stamford was first settled in 1784, by members of Col. John Butler’s rangers, following the end of the American Revolutionary War, and by other United Empire Loyalists (Page 1876:14).

The original settlers in the area were almost all members of Butler's Rangers or United Empire Loyalists. Butler's Rangers was a "corps of soldiers, initially organized in 1777 and commanded by Colonel John Butler. These men used Fort Niagara as the base for their numerous raids into the Cherry and Wyoming Valleys in New York State during the American Revolution, and when the hostilities ceased in 1783 they were disbanded" (Seibel 1967:29). The men who had fought with Butler's Rangers were given preference when the lands on the west bank of the Niagara were distributed for settlement.

In 1782, the arrival of the first two families of permanent settlers in Stamford Township occurred. The first was Philip George Bender, accompanied by his wife and three children. The second was Thomas McMicken (or McMicking), accompanied by his wife, two children and an [African-American] slave (Ibid 1967:29). The August 25, 1782 census indicated that between the two families they had "four horses, three cows and one heifer, the first livestock in the township. By 1784, each family had cleared six acres of land" (Ibid 1967:29).

By 1783, eight additional families settled in Stamford, including the families of; John Reilly, John Coon, Peter Thompson, John Burch, James Forsyth, John Chisholm, Francis Ellsworth, and Thomas Millard. They were closely followed by the families of Lundy, Cook, Durham, Biggar, and Corwin. Much of the settlement took place on lands prior to surveys having been completed as the first survey of the Township was made by Phillip Frey in 1787 and the first map was not produced until 1791 (Ibid 1967:29).

John Graves Simcoe (1791) was appointed the First Lieutenant Governor of the newly created Province of Upper Canada and in 1792 he gave the name Stamford to the Township, after the Town of Stamford in Lincolnshire, England (Ibid 1967:29). In 1973, Stamford Township had a municipal government. The first clerk was Ezekiel Woodruff; the first assessors, John Willson and Benjamin Skinner; the first two Town Wardens were John Willson and Thomas McMicking.

The first roads used by the early settlers were the Indian trails which ran through the dense forests, with several of these trails still used as major traffic arteries in the City today. Portage Road still follows the route first used by local Indians in their portage around the Falls; and the Mountain and Beaverdams Roads likewise follow their original courses. Lundy's Lane, the road westerly from the Portage Road to the Lundy's Clearing, was made a public road in 1803. Portage Road is one of the earliest roads in the Province, opened by United Empire Loyalists in 1788. It was a major road in the Province until the opening of the Welland Canal in 1829 and the installation of the railways in the 1850s (Ibid 1967:32).

***The War of 1812 and the Township of Stamford****:*

In June of 1812, when the United States declared war on Great Britain, it was fought largely along the Niagara River. As Stamford was a "water-fronting" Township, it suffered heavy damage during the War (Ibid 1967:33). "It is safe to say that almost every able-bodied man in Stamford fought in the Lincoln Militia throughout the War's direction, as officer or private. Many of these men were the descendants (sons and grandsons) of the men who have fought the Americans during the Revolution" (Ibid 1967:33). One of the major battles that took place within the Township occurred on the afternoon and evening of July 25, 1814 and is known as the Battle of Lundy's Lane.

From approximately 6 p.m. until midnight, "some 2,200 British, Canadians, and Indians engaged a formidable force of some 5,000 Americans. The fighting centred on Drummond Hill and the area north of it. The casualties were extremely heavy on both sides and the result of the battle was indecisive" (Ibid 1967:33). It was indecisive due to the fact that both sides had claimed a victory, although "the Americans retreated to Chippawa and…up the river to Fort Erie, leaving the…British in possession of the hill" (Ibid 1967:33). However, during the American retreat from Lundy's Lane they burned the extensive Bridgewater Mills located on the Niagara River (now Dufferin Islands). At the time the mills were destroyed, they were part of the largest industry in the Niagara Peninsula. Numerous settlers' homes were burned or damaged by the war. Additionally, crops suffered from war (both by way of ravaging and neglect). By the time the war had ended "Stamford Township was the scene of fire-blackened ruins and desolation" (Ibid 1967:33).

It took a considerable amount of time for the Township of Stamford to recover after the War. The mills at Bridgewater that had been burnt were rebuilt, however on a much smaller scale. Many of the settlers returned to their homes, found them in ruins and sought to rebuild them. By 1817, population increased in the Township to 1,200 and there were now two saw mills and a grist mill in operation. Land increased in value from one shilling an acre (the existing cost at the time of first settlement) to fifty shillings an acre. In Stamford, almost all the residents lived on farms and depended greatly on the land for their livelihood and sustenance.

Niagara Falls, located in the Township of Stamford, was first seen by Europeans in 1678 (Father Louis Hennepin and René-Robert Cavelier, Sieur de La Salle), but has been visited, described, and painted and drawn by artists, writers and military personnel ever since. Tourists began arriving to the Falls in large numbers around 1820, spawning the start of an industry that remains today a very important driver for the local economy.

The first hotel in the Township was built in 1822. It was the Pavilion Hotel and was built by William Forsyth who has been noted as "an enterprising and aggressive, wealthy and competitive personage" (Ibid 1967:33). He attempted to monopolize the tourist industry at the Falls by enclosing a chain reserve abutting his property and thus excluding the public

from free access to the Falls. This resulted in government intervention with costly law suits which Forsyth lost, causing his removal to Bertie Township in 1832. In 1827, Hermanus Crysler built the Prospect House (Brick Tavern, Ellis House, Ward's Hotel) on Main Street and this became a major stop for stage coaches on the Portage Road. In 1833, Crysler began construction on the Clifton House. The Clifton House was expanded over the years into the "show place of the Niagara Frontier" (Ibid 1967:34), however it burned down in what has been noted as "Niagara's most spectacular fire" (June 28, 1898) (Ibid 1967:34).

In 1822, the Township became the summer residence of Lieutenant Governor of Upper Canada, Sir Peregrine Maitland (1818-1828). For the last six years he was in office, he spent summers at his home "Stamford Park" located atop the Ravine Hill near St. Davids. Originally, it was to be a small summer cottage, however it was expanded into a twenty-two room residence. It burned down in 1828, following the return of the Maitlands to England. A number of stones from its foundation form part of a nearby large cairn. Additionally, this cairn "commemorates the largest Indian ossuary…uncovered in the Province, located directly across the highway from the Maitland home" (Ibid 1967:34). This was discovered in 1828 (Ibid 1967:34).

In 1831, railways were proposed for the area. The Erie and Ontario railway (commonly known as the Chippawa-Queenston Railway as it ran between these two points) "was proposed to off-set the loss of business in the area created by the construction and opening of the Welland Canal (Ibid 1976:34). This was the first horse-drawn railroad in Upper Canada and was located almost entirely within Stamford Township. Construction on the line did not take place until 1835 due to opposition from the Welland Canal Company. Completed in 1841, it followed a path almost parallel to Stanley Street for almost 13 years before it was 'modernized' for steam locomotion and relocated closer to the communities of Elgin and Clifton. A stone cairn commemorating this early railroad is located on the railroad's first right-of-way, located at Morrison and Stanley Streets (Ibid 1967:34).

By the 1840s the population of the Township consisted of a mixture of Canadian, American, English, Irish and Scottish settlers (Boulton 1805:89; Smith 1846:176; Armstrong 1985:147; Rayburn 1997:328). Page (1876:14) indicates that the soils within the 23,132 acres of the township are "well adapted to raise most of the crops found throughout Ontario, and are mostly loamy in nature." He reports in 1876 that local forests then consisted of beech, maple and oak, with a little pine. He also noted that Stamford had many fine schools and churches.

The village of Drummondville was approximately 4 km northeast of the study area. In 1876, it had approximately 800 inhabitants and included much of the Lundy's Lane Battleground. Overlooking its violent past, Drummondville was reportedly "one of the pleasantest places

in the Counties of Lincoln and Welland." (Ibid 1876:15). Even the association with the battle paid dividends as, "the attraction of the battle field annually [brought] thousands of sight seers (Ibid 1876:15).

Early Reeves of the Township of Stamford included: Thomas C. Street (1850 – 1859), W.A. Booth (1860 to October 13, 1860); J. Lemon (October 13, 1860 to 1861); W. Woodruff (1862); L. McPherson (1863 – 1864); J. Pew (1865 – 1867); G. Taylor (1868); J. Wynn (1869 – 1870); W. Reavely (1871 – 1872); L. Lundy (1873); W. Reavely (1874); A. Garner (1875); G. Duncan (1876 – 1881); A. Garner (1882 – 1883); J. Orchard (1884 – 1887); C. Emmett (1888 – 1889); J. Jones (1890 – 1892); J. Pew (1893 – 1896); J. Gallinger (1897)0; J. Johnston (1898); T. Berriman (1899 – 1900); J. Depew (1901 – 1905); C. Monroe (1906 – 1908); G. Rysdale (1909); T. Berriman (1910 – 1911); F. Boulter (1912); G. Rysdale (1913 – 1996); J. Nichol (1917); F. Gallinger (1918 – 1921); T. Watson (1922 – 1923); H. Garner (1924); and C. Monroe (1925 – 1929).

Early Clerks of the Township of Stamford included: Richard Henley (1850 – 1869); John A. Orchard (1869 – 1882); Fred A. Hutt (1882 – 1903); J. E. Jones (1903 – 1911); C.F. Monroe (1911 – 1919); and Thos. R. Stokes (1919 – 1925).

### 2.2.1 Review of Historical Records

Historically, the study area is located on is located on Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216 in the Township of Stamford, County of Welland, Ontario. Historical mapping was reviewed, including the *1862 Tremaines' Map of the Counties of Lincoln and Welland, Canada West* and the *1876 Illustrated Atlas of the Counties of Lincoln & Welland, Ontario.* Although these maps depict domestic houses and other structures, it should be noted that both of these maps were sold by subscription, and if a landowner did not purchase a subscription, there was no assurance given that any or all of the structures / features on their property would be depicted.

An examination of the copy of the 1862 Tremaines' map housed at Brock University revealed that a small segment of the northern third of our study area was tattered and elements were missing. This undoubtedly corresponds to the area where the original paper map had been folded. Fortunately, the West Lincoln Historical Society had recently obtained a restored copy of the map and allowed us to view and photograph it. Although the restored map contained more information than the one at Brock University, comparisons with the Historic Atlas map of 1876 (see Appendix A: Figure 5) showed that a small sliver of the Tremaines' map was still missing at "the fold" and that the two restored sections had been misaligned by approximately 1 cm when they were joined. Because of the missing sliver, we did not attempt to realign the map sections when we superimposed our study area (see Appendix A: Figure 4). However, an approximate realignment done informally showed that the proper placement of the northern third of our study area would

still only affect Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216, and no additional depicted structures would be impacted.

The restored 1862 Tremaines' map was reviewed to determine the potential for the presence of historic Euro-Canadian archaeological remains within the study area. As discussed above, Figure 4, Appendix A superimposes the study area onto the restored 1862 map housed at the West Lincoln Historical Society. In reality the northern third of the study area should be shifted to the east by approximately 1 cm to account for the misalignment of the two map sections. Table 2 lists the property owner(s) and historic feature(s) illustrated within or adjacent to the proper location of the study area.

**Table 4**: **Property Owner(s) and Historic Feature(s) Illustrated Within or Adjacent to the Study Corridor - 1862 Tremaines' Map**

| Township | Lot | Owner(s) | Illustrated Feature(s) |
|---|---|---|---|
| Stamford | Part Lot 195.This part lot does not appear to be affected on the restored map but is affected if the northern third of the map is properly aligned. | Thomas C. Street MPP | There is one structure illustrated on the northeast corner of the lot, outside of the study area. |
| Stamford | Part Lot 196 | East ½, William Hendric; West ½, Estate of late Thomas McClelland | No features are illustrated. |
| Stamford | Part Lot 197 | Henry Spence | There is a structure illustrated near the centre of the lot, well to the west of the study area when the map sections are properly aligned. |
| Stamford | Part Lot 212 | D.W. Metler | No features are illustrated. |
| Stamford | Part Lot 213 | West ½ of lot – Peter DeWitt, east ½ of lot – Henry DeWitt | East ½ has one structure illustrated immediately south of a former roadway (Chippewa Creek Road). |
| Stamford | Lot 214 | Thomas C. Street | No features are illustrated. |
| Stamford | Part Lot 215 | James Anderson | No features are illustrated |
| Stamford | Part Lot 216 | John McClive | No features are illustrated. |

*The 1876 Illustrated Historical Atlas of the Counties of Lincoln & Welland, Ontario* was also reviewed to determine the potential for the presence of historic Euro-Canadian archaeological remains within the study area. Figure 5, Appendix A shows the approximate placement of the study area on the 1876 map, while Table 3 lists the property owner(s) and historic feature(s) illustrated within or adjacent to the study area.

| Table 5: Property Owner(s) and Historic Feature(s) Illustrated Within or Adjacent to the Study Corridor - 1876 Illustrated Atlas of Lincoln & Welland | | | |
|---|---|---|---|
| **Township** | **Lot** | **Owner(s)** | **Illustrated Feature(s)** |
| Stamford | Part Lot 195 | Street Estate | One structure is illustrated in the east corner of the lot, not within the study area. |
| Stamford | Part Lot 196 | Western fringe of East ½, Street Estate; West ½, Jonas Green | No features are illustrated. |
| Stamford | Part Lot 197 | J. Walch | One structure and one orchard are illustrated in the northwest corner, outside of the study area. |
| Stamford | Part Lot 212 | North ¼ of the lot – Henry DeWitt, south ¾ – James Dell | A structure is illustrated just west of the study area on James Dell's property. |
| Stamford | Part Lot 213 | West ½ – Peter DeWitt, east ½ – Henry DeWitt | West ½ has one structure south of a former roadway (Chippawa Creek Road); east ½ has structures on either side of the former roadway and an orchard south of the roadway. |
| Stamford | Lot 214 | Street Estate | No features are illustrated. |
| Stamford | Part Lot 215 | James Anderson | One structure and one orchard are illustrated at the south end of the lot near Chippawa Creek. |
| Stamford | Part Lot 216 | Robert M$^{c}$Clive | Two structures and one orchard are illustrated in the southeast, outside of the study area. |

In addition, we conducted a search of the 1861 Census Records for the District of Welland, Sub-district of Stamford for names that appear on the 1862 Tremaines' map (see Table 2, Figure 4, Appendix A), and a search of the 1881 Census Records for the District of Welland, Sub-district of Stamford for names that appear on the 1876 *Historical Atlas* map (see Table 3, Figure 5, Appendix A). These data are summarized below.

***The 1861 Census Review:***

Under the name of "Thomas C. Street", Lot 195, census records indicate that Street was 47 years of age at the time of the census. He was noted as being born in Upper Canada. He was single at the time and belonged to the Church of England. No occupation is recorded.

Under the name of "William Hendric" East ½, Lot 196, no census data was been recorded.

Under the name of "Thomas McClelland" West ½, Lot 196, no census data was been recorded.

Under the name of "Henry Spence", Lot 197, census records indicate that Spence was 51 years of age at time of the census. He was born in England. He was married at the time and a Methodist. No occupation is recorded.

Under the name of “D.W. Metler”, Lot 212, no census data was recorded.

Under the name of “Peter DeWitt”, Lot 213, west ½, census records indicate that DeWitt was 47 years of age at the time of the census. He was noted as being born in Canada West. He was single at the time and a Baptist. No occupation is recorded.

Under the name of Henry DeWitt”, Lot 213, east ½, census records indicate that DeWitt was 53 years of age at the time of the census. He was noted as being born in Canada West. He was a married Baptist at the time. No occupation is recorded.

Under the name of “Thomas C. Street”, Lot 214, census records indicate that Street was 47 years of age at the time of the census. He was noted as being born in Upper Canada. He was single at the time and belonged to the Church of England. No occupation is recorded.

Under the name of “James Anderson”, Lot 215, census records indicate that Anderson was 65 years of age at the time of the census. He was noted as being born in England. He was married at the time and belonged to the Church of England. No occupation is recorded.

Under the name of “John M$^{c}$Clive”, Lot 216, no census data was recorded.

***The 1881 Census Review:***

Under the name of Street Estate, East ½, Lot 196, “Thomas C. Street” was researched as his name appears on the 1862 Tremaines’ Map. No census data has been recorded.

Under the name of “Jonas Green”, West ½, Lot 196, no census data has been recorded.

Under the name of “J. Walch”, Lot 197, no census data has been recorded.

Under the name of “Henry DeWitt”, Lot 213 North quarter and the East ½ of Lot 213, census records indicate that DeWitt was 72 years of age at the time of the census. He was born in 1809 in the United States of America (hereafter U.S.A), and Dutch. He was married, a Presbyterian and a farmer.

Under the name of “James Dell”, Lot 212, census records indicate that Dell was 53 years of age at the time of the census. He was born in 1828 in Ontario, Canada. He was English, a Methodist and a married farmer.

Under the name of “Peter DeWitt”, Lot 213, West ½, census records indicate that P. DeWitt was 66 years of age at the time of the census. He was born in 1815 in the U.S.A. He was Dutch, a Baptist, and a married farmer.

Under the name of “James Anderson”, Lot 215, no census data has been recorded.

Under the name of “Robert McClive”, Lot 216, census records indicate that McClive was 37 years of age at the time of the census. He was born in 1844 in Ontario. He was English, Presbyterian and a farmer.

In summary, a review of the historical context supports a conclusion of overall archaeological potential and the need for a Stage 2 assessment. The study area is in close proximity to the Welland River and its feeder creeks. The south portion of the study area contains what was once the original path of a portion of the Welland River or Chippawa Creek in the early 19th century.

On the 1862 map, structures are illustrated within the northeast corner of Lot 195, a structure is illustrated on the west section of Lot 197 just bordering the study area, and the East ½ of Lot 213 has one structure and orchard at the south end of the lot near “Chippawa Creek”.

On the 1876 Historical Map, a structure is illustrated in the east corner of Lot 195. On Lot 196 there has been a change in ownership. The East ½ is now under “Street Estate”, and the West ½ is now under the name of “Jonas Green”. Although a change in ownership has occurred no additional features are illustrated. Lot 197 had also undergone a change in ownership to “J. Walch.” A structure and orchard are shown in the northwest corner of the property. The North ¼ of Lot 212 is now under the ownership of “Henry DeWitt”, and the South ¾ of the lot are under the ownership of “James Dell”. There is a structure on James Dell’s property. Ownership of the West and East ½ of Lot 213 remains the same; however there is one structure shown on the West ½ and another on East ½ along with an orchard. Lastly, Lot 216 is now under the name of “Robert M$^{c}$Clive” and, there are two structures and one orchard illustrated in the east section of the property (outside the study area).

Thomas C. Street, noted in Section 2.2, was one of the Early Reeves of the Township of Stamford (1850–1859). According to the 1862 map, he is illustrated on Lot 214, and according to the 1876 map he is illustrated on Lot 195, the east part of Lot 196, and Lot 214. Part of Lot 195, 196 and Lot 214 are within the boundaries of the study area.

## 2.3 Stage 1 Property Inspection

### 2.3.1 Methodology

The background research included a property inspection conducted by Ms. Howell and Mr. Seguin on 17 September, 2015. The temperature that day was approximately 26 degrees Celsius with clear to partly overcast skies. These weather conditions did not impede the property inspection in any way. Permission to enter the lands for the Stage 1

property inspection was granted to Amec Foster Wheeler by the CLIENT on 16 September, 2015. Additional archival research was conducted on 10 and 24th of November, 2015.

The Stage 1 assessment was conducted in accordance with the *Standards and Guidelines for Consultant Archaeologists* (2011).

The property inspection included a walk through at roughly 30-m intervals. The inspection was thoroughly photo-documented and all land conditions were recorded (Appendix A: Figures 9a and 9b; and Appendix B: Photographs 1-38). Field observations were recorded on aerial maps and field forms.

### 2.3.2 Field Observations

The Stage 1 property inspection identified that 88% of the study area (176.3 hectares) comprised of areas of low archaeological potential, or areas where potential has been removed: 35.87% or 71.86 ha consisted of observed wetlands; 33.62% or 67.35 ha south of the railway tracks had reportedly been subjected to extensive topsoil removal and infilling during the 19th and early 20th centuries; 18.36% or 36.79 ha contained roadways, construction areas and railways; and 0.17% or 0.34 ha were excessive slopes (see Appendix A: Figures 6, 7 and 8; and Figures 9a and 9b, Appendix B: Photographs 1-38). The remainder of the property (approximately 12% or 24.04 ha) consisted of woodlots exhibiting archaeological potential (Appendix A: Figure 9a and 9b and Appendix B: Photographs 1-38) and warranting Stage 2 assessment by means of hand shovel test pitting at 5-m intervals as the ploughing of woodlots is not viable.

It was known at the outset that the placement of hand shovel test pits at judgmental intervals to confirm disturbance related to previous grading and infilling south of the railway tracks would be an ineffective strategy given that dark soil layers observed in previous environmental test pits and geotechnical BH had been found at depths ranging from 3 m to over 5 m. In response to a request to MTCS for clarification as to how to address the possibility of deeply buried topsoil horizons south of the railway tracks, Mr. John Dunlop wrote on March 10, 2016 that such horizons must be thoroughly tested as set out in in the 2011 *Standards and Guidelines*, Section 2.1.7. However, because this area encompasses 67.35 hectares of densely wooded terrain, it is impractical to use backhoes or equivalent heavy machinery to excavate test trenches in accordance with 2011 *Standards and Guidelines*, Section 2.1.7, Standard 3. Further clarification as to how to proceed was provided by Mr. Dunlop during a telephone conversation on March 31, 2016. Given that the area of interest had been extensively graded and filled in the past, it was decided that it would be prudent first to evaluate the integrity of any deeply buried topsoil horizon by attempting to access it at least two locations via the hand excavation of sondages. This

information could then be extrapolated to the remainder of the area south of the railway tracks.

On April 12, 2016, the Amec Foster Wheeler field crew excavated two sondages, each measuring approximately one metre by one metre, in the southwest corner of the property immediately north of Chippawa Parkway (Appendix A: Figure 14). In both locations the crew was only able to dig to a depth of 2.1 metres, which was insufficient to confirm the presence or absence of a deeply buried topsoil layer[1]. From top to bottom, the crew observed 15 cm of dark brown forest duff consisting of decomposed vegetative material above a light to medium brown mottled clay.

As it was not physically possible to access the buried topsoil layer by hand, we elected instead to follow 2011 *Standards and Guidelines*, Section 2.1.7, Guideline 2 and have an archaeologist present as additional geotechnical boreholes were advanced mechanically in four locations south of the railway tracks (Appendix A: Figure 14, Appendix B: Photographs 62-65).

At each BH location (BH logs are currently in preparation), the track-mounted CME-75 drill rig alternated between removing soil with an auger and retrieving soil samples with a split spoon. Both the soil on the 8-inch diameter auger and that from the 1.5-inch diameter by 2-foot length split spoon samples were observed by Dr. Shaun Austin on May 4 and 6, 2016. On both days the weather was sunny and mild, with temperatures ranging from 15$^{o}$ –20$^{o}$ Celsius.

Location 1 (“BH 15”) was situated at the east end of the property approximately 130 m west of the Progress Street cul-de-sac (Appendix A: Figure 14, Appendix B: Photograph 62). From the ground surface to a depth of 5.3 m, the soils consisted of light brown clay and sand with trace gravel. Below this was a layer of homogeneous soft clay extending at least to the maximum required depth of BH 15 (9.1 m). No evidence of a deeply buried dark soil layer was observed in BH 15.

Location 2 (“BH 29”) was situated in the south-central portion of the property, evidently within the former alignment of the Welland River (see Appendix A: Figures 4 and 5). From the ground surface to a depth of 15 cm was a dark brown organic layer (forest duff). Below this was a layer of light brown clay and sand with trace gravel to a depth of 5.03 m below surface. From 5.03 m to 5.13 m below surface, the light brown clay contained thin seams of dark loamy soil (remnant topsoil) (Appendix A: Figure 14, Appendix B: Photograph 63).

[1] The deeply buried former topsoil layer had been identified in previous geotechnical boreholes at depths of up to 5.79 m.

Below this was a layer of homogeneous soft clay extending at least to the maximum required depth of BH 29 (9.1 m).

Location 3 ("BH 14") was situated in the south-eastern portion of the property (Appendix A: Figure 14, Appendix B: Photograph 64). From the ground surface to a depth of 6.1 m was a layer of medium brown clay mottled with light brown clay and silt with trace sand. A homogenous soft grey clay was recorded extending from 6.1 m depth below surface to at least the required depth of BH 14 (9.1 m). No evidence of a deeply buried dark soil layer was observed in BH 14.

Location 4 ("BH 31") was also situated in the south-eastern portion of the property (Appendix A: Figure 14). From the ground surface to a depth of 1.5 m was a layer of medium brown clay mottled with light brown to pink clay and silt with trace sand. Between 1.5 m and 1.8 m below surface was a dark brown clay loam with rootlets (remnant topsoil) mottled with medium brown clay (Appendix B: Photograph 65). Under this, to a depth of 6.1 m below surface, was a medium brown clay mottled with light brown clay/silt with trace sand. From 6.1 m to 6.4 m below surface was a light brown clay with silt with trace sand. And, finally, a homogenous soft grey clay was recorded at 6.4 m below surface, extending at least to the required depth of BH 31 (9.1 m).

In sum, remnants of a severely compromised deeply buried layer of former topsoil measuring from 10 cm–30 cm in thickness were observed in: Location 2 ("BH 29") and Location 4 ("BH 31"). In both locations this former topsoil was extremely degraded and all archaeological potential had been removed. Therefore it is reasonable to infer that none of the deeply buried dark soils identified in previous geotechnical boreholes south of the railway tracks represent a capped and intact buried topsoil layer with cultural heritage value or interest.

### 2.4 Stage 1 Analysis and Conclusions

The Stage 1 background study indicated that undisturbed and flat to gently rolling dry uplands within the subject property have archaeological potential and warranted Stage 2 property assessment for three principal reasons: 1) there are 12 registered archaeological sites within a 1-km radius; 2) there are several water sources in close proximity, including the Welland River and an unnamed tributary that runs through the south west section of the study area and empties into the Welland River; and 3) there were historically documented structures within the study area in the late 19$^{th}$ century.

It was calculated that areas of low archaeological potential, or where potential has been removed, comprised approximately 88% of the study area (176.3 hectares): 35.87% or 71.86 ha consisted of observed wetlands; 33.62% or 67.35 ha south of the railway tracks

had reportedly been subjected to extensive topsoil removal and infilling during the 19th and early 20th centuries; 18.36% or 36.79 ha contained roadways, construction areas and railways; and 0.17% or 0.34 ha were excessive slopes.

With regard to the land south of the railway tracks, several previous environmental and geotechnical boreholes had revealed the presence of a deeply buried dark soil layer. It was known at the outset that the placement of hand shovel test pits at judgmental intervals to investigate the cultural heritage value or interest of this layer would be an ineffective strategy given that the layer in question was observed at depths ranging up to more than 5 m. After attempting unsuccessfully to access and evaluate this layer by means of wider hand dug sondages, it was decided instead to have a licensed archaeologist present as additional boreholes were drilled in four separate locations south of the railway tracks.

In sum, remnants of a severely compromised deeply buried layer of former topsoil measuring from 10 cm–30 cm in thickness were observed in: Location 2 (“BH 29”) and Location 4 (“BH 31”). In both locations this former topsoil was extremely degraded and all archaeological potential had been removed. Therefore it is reasonable to infer that none of the deeply buried dark soils identified in previous geotechnical boreholes south of the railway tracks represent a capped and intact buried topsoil layer with cultural heritage value or interest.

The remainder of the property (approximately 12% or 24.04 ha) consisted of woodlots exhibiting archaeological potential (Appendix A: Figure 9a and 9b and Appendix B: Photographs 1-38) and warranting Stage 2 assessment by means of hand shovel test pitting at 5-m intervals as the ploughing of woodlots is not viable.

# 3.0 STAGE 2 PROPERTY ASSESSMENT

## 3.1 Methodology

The Stage 2 archaeological assessment was conducted under the Co-Field Direction of Dr. Austin and Ms. Cara Howell (R180). Field assistance was provided by Mr. Jason Seguin (P354) and Ms. Devon Brusey (R410). The Stage 2 property assessment took place on 3, 4, 9 and 11 of November, 2015. The temperatures varied from 10 to 15 degrees Celsius with clear to partly overcast skies. These weather conditions did not impede the assessment in any way. Advance permission to enter the lands for the Stage 2 archaeological assessment, including the recovery and removal of artifacts, was granted to Amec Foster Wheeler by the CLIENT on 02 November, 2015.

All aspects of the Stage 2 assessment were conducted in accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (2011).

The portions of the property identified as having archaeological potential (12% corresponding to 24.04 ha) were systematically test pitted at 5-m intervals (see Appendix A: Figures 10 and 11). The Stage 2 assessment was conducted by means of a shovel-testing programme as the study area consisted of unploughable forests.

As per Amec Foster Wheeler's safety standards, test pits were not advanced within 1 m of any buried utility services; however, the Amec Foster Wheeler crew was able to conform to a 5-m interval grid within all areas of archaeological potential. All test pits were a minimum of 30 cm in diameter and dug to a minimum of 5 cm into the subsoil. Soil fills were screened through 6-mm mesh screens in order to facilitate artifact recovery. The stratigraphy of soils excavated during test pitting was examined in order to detect cultural soil horizons. All test pits were completely backfilled.

The Amec Foster Wheeler field crew photo-documented the Stage 2 assessment (Appendix A: Figures 10 and 11, and Appendix B: Photographs 39-57).

## 3.2 Record of Finds

### 3.2.1 Assessment of Areas of Archaeological Potential

Undisturbed soil conditions encountered during the test pit survey consisted of approximately 5 cm of organic growth over approximately 20 to 25 cm of very dark brown (10 YR 2/2) homogenous loam topsoil over a brown (10 YR 4/3) homogenous clay loam subsoil.

In the course of the Stage 2 test pitting programme, foundation ruins were observed in the northwestern portion of the study area (Supplementary Documentation: Figure 12). Five-

metre interval test pit survey around the ruins, supplemented by an examination of the ground surface wherever it was visible, resulted in the recovery of historic Euro-Canadian artifacts from one location on the surface (n=7) and from one test pit (TP#1) (n=6) located approximately 5 m from the northwest corner of the structure (see Figure 11, Appendix A and Figure 12, Section 1, Supplementary Documentation, Appendix B: Photographs 54 - 57).

Although the location of the ruins does not correspond to any of the structures depicted in the historic mapping of 1862 and 1876, some of the recovered artifacts, and the mortared limestone block foundation itself, may denote a pre-1870s occupation. As such, this area was assigned the Borden Number AgGs-387 on 7 December 2015. Figure 12, Supplementary Documentation Section One indicates the location of AgGs-387.

Upon initial discovery of cultural materials in TP#1, the survey grid was continued to determine whether there were enough archaeological resources to meet the criteria for making a recommendation to carry out a Stage 3 assessment. In this case, insufficient archaeological resources were recovered. As a result, eight additional test-pits were dug in a two to 2.5 metre radius (depending on tree locations) around TP#1 (see Appendix A: Figure 11). Seven of these test pits contained artifacts (Table 6). This was followed by the excavation of a one-metre by one-metre test unit over TP#1 (Supplementary Documentation: Figure 12 and Appendix B: Photographs 46-57). The test unit, too, contained artifacts (Table 6). As with the test pits, the test unit was also completely backfilled upon completion of the required documentation. Cultural artifacts were collected and bagged according to provenience. The location of the original positive test pit was recorded by a Global Positioning System (“GPS”) waypoint. GPS coordinates for each original positive test pit were recorded using a GarminTM GPSMAP 62s GPS set to the NAD 83 with a minimum accuracy of plus or minus three metres. GPS readings were also taken for other significant locations at the site and for the railway intersection at Dorchester Road (Supplementary Documentation: Section 2). Table 6 provides a summary of the positive test pits and test unit soil compositions, layer depths, and types of artifacts recovered. A full artifact catalogue can be found in Appendix D.

The stratigraphy of the test pits consisted of 15 cm of very dark brown (10YR 2/2) homogenous loam, followed by approximately 15 cm of very dark brown (10YR 2/2) loam mottled with mortar and containing cultural remains. The subsoil consisted of brown (10YR 4/3) homogenous clay loam at a depth of approximately 30 cm below surface.

The stratigraphy of the test unit (see Figure C1, Appendix C, South Wall Profile) also consisted of very dark brown (10YR 2/2) homogenous loam, followed by approximately 15 cm of very dark brown (10YR 2/2) loam mottled with mortar and containing cultural remains. The subsoil consisted of brown (10YR 4/3) homogenous clay loam at a depth of

approximately 30 cm below surface. Excavation continued 10 cm into the subsoil (for a total unit depth of 40 cm). Similar to the positive test pits, all cultural materials were recovered from Layer 2, as noted in Table 6.

**Table 6: Positive Test-Pit & Test Unit Soil Compositions, Layer Depths and Artifacts Recovered**

| Positive Test-Pit No. | Layer | Soil Composition | Depth (cm) | Artifacts Recovered in Layer 2 | Material Not Retained |
|---|---|---|---|---|---|
| 1 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | Ceramic n=5, Glass n=1 | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 35 | | |
| 2 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | Glass n=1,Red Brick n=1 | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 35 | | |
| 3 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | | N/A |

| Table 6: Positive Test-Pit & Test Unit Soil Compositions, Layer Depths and Artifacts Recovered | | | | | |
|---|---|---|---|---|---|
| **Positive Test-Pit No.** | **Layer** | **Soil Composition** | **Depth (cm)** | **Artifacts Recovered in Layer 2** | **Material Not Retained** |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | Ceramic n=14, Glass n=7, Nail n=8, Plastic n=1 | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 35 | | |
| 4 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | Glass n=1, Porcelain n=1 | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 35 | | |
| 5 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | Ceramic n=4, Glass n=7, Metal n=1, Faunal n=3 | |

| Table 6: Positive Test-Pit & Test Unit Soil Compositions, Layer Depths and Artifacts Recovered | | | | | |
|---|---|---|---|---|---|
| **Positive Test-Pit No.** | **Layer** | **Soil Composition** | **Depth (cm)** | **Artifacts Recovered in Layer 2** | **Material Not Retained** |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth:35 | | |
| 6 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | Ceramic n=12, Glass n=1 | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 35 | | |
| 7 | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | Ceramic n=1, Glass n=1 | N/A |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth:35 | | |
| Test Unit 1 (over Positive Test Pit 1) | Layer 1 | Very dark brown (10YR 2/2) homogenous loam | 15 | | N/A |

| Table 6: Positive Test-Pit & Test Unit Soil Compositions, Layer Depths and Artifacts Recovered | | | | | |
|---|---|---|---|---|---|
| **Positive Test-Pit No.** | **Layer** | **Soil Composition** | **Depth (cm)** | **Artifacts Recovered in Layer 2** | **Material Not Retained** |
| | Layer 2 (Cultural) | Very dark brown (10YR 2/2) mottled w/mortar containing cultural materials | 15 | Ceramic n=1, Glass n=38, Semi-Porcelain n=1, Brick n=3, Clay Marble n=1, Shell Button n=2, Plastic Button n=1, Metal n=5, Nail n=40, Faunal n=6, Shell n=1 | |
| | Subsoil | Brown (10 YR 4/3) homogenous clay loam | Total depth: 40 | | |

The limestone foundation walls were partially exposed in an effort to acquire more information about this structure (Appendix B: Photographs: 54 – 57). A small section of the south wall was cleared to approximately 1.2 m in depth (Figure C1 Profile C – D, Appendix C) and a small section of the north wall was cleared to approximately 55 cm in depth (Figure C1 Profile A – B, Appendix C). The exposed south portion of the foundation is made of cut limestone with a layer of lime mortar between the cut stones (Profile C – B, Figure C1). The same structural evidence was observed on the exposed north portion of the foundation, with the addition of red clay handmade bricks that appear to have originally formed the superstructure atop the limestone blocks (Profile A – B, Figure C1). The north wall of the foundation is approximately 13 m in length; the east, approximately 8 m in length; the south, approximately 13 m in length with a rounded section close to the southwest edge of the wall; and the west section of the wall is approximately 8 m in length. The only apparent entrance into the foundation is located on the north wall as depicted in Figure 11, Appendix A and Figure 12, Section 1, Supplementary Documentation. Located less than 0.5 m from the east wall of the foundation feature is a poured concrete cistern with embedded rebar (Appendix B: Photographs 49 – 5, Appendix A: Figure 11). The cistern is square in planview and encompasses roughly 4 $m^{2.}$ Upon investigation, it was

noted that north wall of the cistern was inscribed with the names of “Helen Waters” and “Arthur Waters” and a date of “1954.”

According to the Tremaines’ map, the portion of the property where the site is located was ascribed to “D.W. Metler” in 1862, but no structure is depicted near the site area. According to the 1876 Illustrated Historical Atlas, the South ¾ of Lot 212 (near the site) was then under the ownership of James Dell. A structure is illustrated on Dell’s property but it appears to be just west of the site and outside of our study area.

According to title records for Lot 212 (where the site is located) the Crown patent was issued on 16 May, 1798 to Robert McKindlay (148 acres). The next transaction was a will registered on 29 November, 1845 indicating that John McKindlay roughly divided the lot in half, and 75 acres were thereafter used by George Theult (sp ?) and James McKindlay (the rest of the entry is illegible). On 27 September, 1845 a will was registered by Robert McKindlay giving John and Ruben (sp ?) 148 acres to be equally divided between them. Another will registered by Robert McKindlay on 6 March, 1846 subdivided half the lot among his mother (Margaret McKindlay), his brother (Solin McKindlay) and his sisters (Jane, Margaret, and Susan McKindlay). The next barely legible transaction occurred on 5 August, 1847 and records Philip Metler as acquiring 148 acres. In 1848, Philip Metler sold 114 acres to Daniel W. Metler and Albert G. Metler (the rest of the entry is illegible). The next transaction was not until 1856 and involved the sale by Daniel Metler to Mealum Swayze of 114 acres of the south part of the lot for $125. This mortgage was discharged on 7 September 1861.

In 1858 a mortgage of $750 was registered by Daniel W. Metler to Eliza Donaldson for 114 acres in the south part of Lot 212. This mortgage was discharged by Eliza Donaldson on 7 September, 1861. A mortgage of $500 dated 11 August, 1860 between Albert Arthur Metler as the buyer and Thomas B. Fuller as the seller involved 30 acres on the north part of the lot. A mortgage for $500 dated 7 September, 1861 by Daniel W. Metler as the buyer and Mealum (?) Swayze as the seller involved 114 acres on the south part of the lot. Daniel W. Metler appears on the 1862 Tremaines’ Map

The family names of McKindlay, Metler, Donaldson and Swayze are all associated with Lot 212, with various mortgages and discharges occurring until 28 December, 1864, when James Dell purchased 114 acres of the south part of the lot for $3,100.00 from M. Swayze. It is James Dell who is associated with Lot 212 on the 1876 Illustrated Historical Map.

The surname “Waters,” as inscribed on the mid-20$^{th}$ century poured concrete cistern adjacent to the older looking house foundation, does not appear on historical mapping or in land title records.

GPS coordinates were recorded for: the original positive test pit (TP#1); all subsequent positive test pits and the centre of the test unit; each of the corners of the limestone block foundation; as well as for the approximate centre of this foundation and the centre of a rounded section along its south wall. These coordinates were recorded using a Garmin™ GPS Map 62s GPS set to NAD 83 (UTM Grid Zone 17) (accuracy plus or minus 3 metres (see Supplementary Documentation Section 2). Figure 12, Section 1 in Supplementary Documentation identifies the location of the site (TP#1) and foundation feature. In addition, the Supplemental Package provides GPS readings for AgGs-387 (formerly TP# 1/ Waypoint # 549) GPS readings were also taken for other significant locations at the site and for the railway intersection at Dorchester Road (Supplementary Documentation: Section 2). The elevation of the site is 177 m above mean sea level.

The following table provides the inventory of documentary records accumulated as part of this assessment:

| Table 7: Inventory of Documentary Record | | |
|---|---|---|
| **Study Area** | **Map and Photographs** | **Field Notes** |
| Lot 214 and Part Lots 195, 196, 197, 212, 213, 215 and 216, in the Township of Stamford, County of Welland, (now in the City of Niagara Falls, Ontario | 2 Field Maps (Stage 1 & 2), 57 Stage 1 & 2 Photographs and 4 Historic Euro-Canadian Artifact Photographs | Stage 1 & 2 Survey Forms, Stage 2 Feature Form, Photo Logs and Field Notes |

Documentation related to the archaeological assessment of this project will be curated by Amec Foster Wheeler until such time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the MTCS and any other legitimate interest groups.

### 3.2.2 Site AgGs-387: Artifact Analysis

A total of 170 historic Euro-Canadian artifacts (Table 8) were recovered during the Stage 2 assessment. There was no evidence of thermal alteration. A complete artifact catalogue is located in Appendix D, selected photographs are located in Appendix B: Photographs 58-61. The “Classification System for Historical Collections” (Canadian Parks Services 1992) was used to organize the data into seven classes[2].

| Table 8: Historic Euro-Canadian Artifact Classes | | |
|---|---|---|
| **Class** | **Frequency** | **Percentage** |
| Architectural | 93 | 54.70 |

[2] The Parks Canada system was modified with the addition of an Organic Class.

| Table 8: Historic Euro-Canadian Artifact Classes | | |
|---|---|---|
| **Class** | **Frequency** | **Percentage** |
| Kitchen/Food-Related | 49 | 28.82 |
| Personal | 8 | 4.70 |
| Tools and Equipment | 7 | 4.12 |
| Furnishings | 7 | 4.12 |
| Organic | 4 | 2.35 |
| Indeterminate | 2 | 1.18 |
| **Total** | **170** | **99.99%** |

### Architectural Class

This class includes 93 artifacts, all within the building equipment subclass.

#### *Building Equipment Subclass*

This subclass includes window glass shards (n=40), wrought nails (n=2), machine cut nails (n=12), wire nails (n=31), roofing nails (n=4), brick fragments (n=3), and one complete brick (Appendix B, Photograph: 61).

Hand forged or wrought nails were in use until approximately 1820 when they were gradually replaced by nails individually cut from flat sheets of metal (machine cut nails). Wire nails came into use after the turn of the 20th century, by which time a stronger wire stock had been developed (Wells 1998).

### Kitchen/Food-Related Class

The 49 artifacts in this class comprise 28.82% of the total assemblage. Kitchen/food-related artifacts are subdivided into three functional subclasses: i) beverage consumption (comprised mainly of ceramic teaware fragments) (n=26); ii) beverage service, made up of 11 pitcher body fragments; and, iii) food storage, made up of 10 mason jar fragments.

Two of the datable ceramic ware types (Table 9)–refined white earthenware (“rwe”) and ironstone–were first available for use as in the early to mid-19th century[3].

| Table 9: Datable Ceramic Ware Types | | |
|---|---|---|
| **Ware Type and Date Range for Use in Southern Ontario** | **Sherd Frequency** | **Percentage** |
| Refined white earthenware (1820s onward) | 19 | 82.61 |
| Ironstone (1840s onward) | 4 | 17.39 |

[3] All availability dates for ceramic wares and decorative patterns follow Kenyon (1980, 1995).

| Table 9: Datable Ceramic Ware Types | | |
|---|---|---|
| **Ware Type and Date Range for Use in Southern Ontario** | **Sherd Frequency** | **Percentage** |
| **Total (datable ware types only)** | **23** | **100** |

The highest frequencies of ceramic decorative types (Table 10) are: plain rwe, ironstone, semi-porcelain and Decalcomania (Appendix B: Photograph 58). Other decorative types include transfer print, moulded and gilt (representing 10% of the assemblage). Two of the decorative types observed–transfer print-general (n=1) and moulded rwe (n=1)–could date to as early as the 1820s.

| Table 10: Ceramic Decorative Types | | |
|---|---|---|
| **Decorative Style and Date Range** | **Sherd Frequency** | **Percentage** |
| Plain (rwe, ironstone, semi-porcelain, buff earthenware) (see respective ware type dates provided above) | 20 | 51 |
| Decalcomania (post 1900) | 15 | 39 |
| Gilt (ironstone, semi-porcelain) (see respective ware type dates provided above) | 2 | 5 |
| Transfer print-general (ironstone, rwe-teal, brown, pink, blue, green, grey) (1820s/1830s–1860s/1870s; 1880s–present) | 1 | 2.5 |
| Moulded (rwe, 1820's onward) | 1 | 2.5 |
| **Total** | **39** | **100** |

**Personal Class**

This class is comprised of eight artifacts related to medicine (n=5) and clothing (n=3).

***Medicine Subclass***

The items in this subclass consist of glass medicine bottles and bottle fragments. Bottles with datable elements fall between 1850 and 1900 (Appendix B: Photograph 60).

***Clothing Subclass***

This category includes shell buttons (n=2) and a plastic button (n=1) (Appendix B: Photograph 59). The shell buttons may indicate a pre-1870s component at the site.

**Tools and Equipment Class**

The tools and equipment class includes seven artifacts divided into three subclasses: animal husbandry (n=2); specialized tools (n=3), and recreation (n=2).

***Animal Husbandry Subclass***

This subclass is comprised of two barbed wire fragments.

***Specialized Tools Subclass***

This subclass is comprised of a file fragment (n=1) and wire stakes (n=2).

***Recreation Subclass***

This subclass is comprised of a clay marble (n=1) (1800 – 1940's), and a toy tea-set saucer fragment (n=1) (Appendix B, Photograph: 59).

**Furnishings Class**

The Furnishings Class consists of seven items, including: lighting devices (n=6) and a figurine fragment (n=1).

***Lighting Devices Subclass***

The majority of the lighting devices are lamp chimney glass fragments (n=6). Oil burning lamps were replaced by gas and electricity in the early 20th century.

***Household Accessories Subclass***

This subclass contains one porcelain figurine fragment.

**Organic Class**

This class is comprised of four sheep/goat long bone fragments and one piece of a freshwater mussel shell.

**Indeterminate Class**

This class is comprised of unidentifiable plastic pieces, and one fragmentary piece of thick wavy glass.

## 3.3 Summary

The Stage 2 assessment of Site AgGs-387 yielded 170 historic Euro-Canadian artifacts. Architectural items make up the majority of the collection (n=93), followed by kitchen and food-related items (n=49), personal items (n=8), tools and equipment (n=7), household furnishings (n=7), organic material (n=4), and indeterminate artifacts (n=2). Among the kitchen/food-related items, sherds of datable ceramic ware types were recovered, including refined white earthenware ("rwe') (n=19) and ironstone (n=4), both of which were available for use in the early to mid-19th century. Moreover, certain ceramic decorative

types, such as transfer print-general (n=1) and moulded rwe (n=1), could date to as early as the 1820s. The recovery of two shell buttons, a clay marble (1820–1940), two wrought nails (used until approximately 1820), and the presence of the mortared limestone block foundation itself, provide additional indications that Site AgGs-387 may contain a pre-1870s component.

All artifacts recovered, aside from the seven found on the surface, were derived from Layer 2, which is comprised of approximately 15 cm of very dark brown (10YR 2/2) loam mottled with mortar.

### 3.4 Stage 2 Analysis and Conclusions

All areas deemed to have archaeological potential during the Stage 1 background study were systematically test pitted at 5-m intervals. Nothing of cultural heritage value or interest was encountered, except in one discrete area in the northwest, where foundation ruins were observed. Five-metre interval test pit survey around the ruins, supplemented by an examination of the ground surface wherever it was visible, resulted in the recovery of historic Euro-Canadian artifacts. The location of the ruins does not correspond to any of the structures depicted in the historic mapping of 1862 and 1876, but some of the recovered artifacts, and the mortared limestone block foundation itself, may denote a pre-1870s occupation. As such, this area was assigned the Borden Number AgGs-387 on 7 December 2015. Figure 12, Supplementary Documentation Section One indicates the location of AgGs-387.

The Stage 2 assessment of Site AgGs-387 yielded 170 historic Euro-Canadian artifacts. Among the kitchen/food-related items, sherds of datable ceramic ware types were recovered, including refined white earthenware (“rwe’) (n=19) and ironstone (n=4), both of which were available for use in the early to mid-19$^{th}$ century. Moreover, certain ceramic decorative types, such as transfer print-general (n=1) and moulded rwe (n=1), could date to as early as the 1820s. The recovery of two shell buttons, a clay marble (1820–1940), two wrought nails (used until approximately 1820), and the presence of the mortared limestone block foundation itself, provide additional indications that Site AgGs-387 may contain a pre-1870s component. Thus Site AgGs-387 has potential cultural heritage value and interest and should be subjected to Stage 3 site-specific assessment.

## 4.0 RECOMMENDATIONS

In light of the results presented above, the following recommendations are made, subject to the advice on compliance with legislation contained in Section 5.0:

1) If Site AgGs-387 cannot be avoided and protected, Stage 3 assessment should be conducted in compliance with the MTCS *Standards and Guidelines for Consultant Archaeologists* (2011). As this is a small post-contact site where it is not yet evident that the level of cultural heritage value or interest will result in the recommendation to proceed to Stage 4 mitigation, the Stage 3 assessment should consist of 1x1 m units placed in a 5 m grid around the foundation ruins with an additional 20% of the grid total excavated in areas of interest within the site extent.

2) Until the Stage 3 assessment is carried out, any future development related activities on the property must respect a 20-m radius buffer of no disturbance around the positive Stage 2 test pits, test unit and foundation ruins as noted on Figure 13, Section 1, Supplementary Documentation. Prior to any development activities, the 20-m radius zone should be enclosed by fencing and no-go orders issued for machinery and people inside the fencing. The installation of the protective fencing should be monitored by a licensed archeologist to ensure the protection of Site AgGs-387. A licensed archaeologist should also visit the site area at the outset of construction activities, during construction and after construction is completed in order to document the effectiveness of the avoidance and protection measures for Site AgGs-387.

   In addition, a 50-m monitoring zone should be respected around the 20-m protective zone as noted on Figure 13, Section 1, Supplementary Documentation. Any future invasive activities with the 50-m zone must be monitored by a licensed archaeologist.

   The proponent has provided a letter (Section 3, Supplementary Documentation) referencing the above Stage 3 recommendations and site protection strategies and committing to implement these measures during any future ground alterations. The proponent specifically commits in their letter to respect the requirements of the site protection and monitoring zones as shown on Figure 13, Section 1, Supplementary Documentation.

3) The remainder of the developable portion of the property does not require further archaeological assessment.

**The above recommendations are subject to Ministry of Tourism, Culture and Sport approval, and it is an offence to alter any of the study area without Ministry of Tourism, Culture, and Sport concurrence.**

No grading or other activity that may result in the destruction or disturbance to the study area is permitted until notice of Ministry of Tourism, Culture, and Sport approval has been received.

## 5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

a) 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 fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b) 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*.

c) 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*.

d) 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 corner and the Registrar of Cemeteries at the Ministry of Consumer Services.

e) Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Capital Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

## 6.0 ASSESSOR QUALIFICATIONS

This report was prepared and reviewed by the undersigned, employees of Amec Foster Wheeler. Amec Foster Wheeler Environment & Infrastructure 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 F.

## 7.0 CLOSURE

This report was prepared for the exclusive use of GR (CAN) Investments Co., Ltd., and is intended to provide a Stage 1 and 2 archaeological assessment of the study area. 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 Foster Wheeler Environment & Infrastructure will be required. With respect to third parties, Amec Foster Wheeler Environment & Infrastructure 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 and Stage 2 field inspection conducted by Amec Foster Wheeler Environment & Infrastructure. It is based solely a review of historical information and data obtained by Amec Foster Wheeler as described in this report. Except as otherwise maybe specified, Amec Foster Wheeler disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Amec Foster Wheeler Environment & Infrastructure after the time during which Amec Foster Wheeler Environment & Infrastructure conducted the archaeological assessment.

In evaluating the property, Amec Foster Wheeler Environment & Infrastructure has relied in good faith on information provided by other individuals noted in this report. Amec Foster Wheeler Environment & Infrastructure 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 current owner/occupant. Amec Foster Wheeler Environment & Infrastructure 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 Foster Wheeler Environment & Infrastructure 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 Foster Wheeler Environment & Infrastructure,**
**A Division of Amec Foster Wheeler Americas Limited**

Prepared by,

Jason Seguin, M.A. (P354)
Senior Archaeologist

Reviewed by,

Shaun Austin, Ph.D. (P141)
Associate Archaeologist

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http://www.bac-lac.gc.ca/eng/census/1861/Pages/item.aspx?itemid=2057353

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http://www.bac-lac.gc.ca/eng/census/1881/Pages/item.aspx?itemid=3762362

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http://www.bac-lac.gc.ca/eng/census/1881/Pages/item.aspx?itemid=3762380

"Ontario Census, 1881" District of Welland, Sub-district of Stamford– Peter Dewitt
http://www.bac-lac.gc.ca/eng/census/1881/Pages/item.aspx?itemid=3762371

"Ontario Census, 1881" District of Welland, Sub-district of Stamford
– Robert McClive
http://www.bac-lac.gc.ca/eng/census/1881/Pages/item.aspx?itemid=3762393

# APPENDIX A

# FIGURES


LEGEND

Study area

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: ESRI

CLIENT:
GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE:
**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT**
Thundering Waters, Niagara Falls

Drawn By: CH
Checked By: SA
Revision N°: 01
Scale: 1: 100,000

Location of the Study Area

PROJECT N°: TB155005
DATE: 16 Nov 2015

**FIGURE**: 1

Amec Foster Wheeler
Environment and Infrastructure
505 Woodward Ave., Hamilton, ON L8H6N6
tel: 905-312-0700 www.amecfw.com


LEGEND

Study area

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SOURCE: ESRI

CLIENT:
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PROJECT TITLE:
**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT**
Thundering Waters, Niagara Falls

Drawn By: CH
Checked By: SA
Revision N°: 01
Scale: 1: 100,000

Aerial Photograph Showing the Location of the Study Area

PROJECT N°: TB155005
DATE: 16 Nov 2015

**FIGURE**: **2**

N W E S

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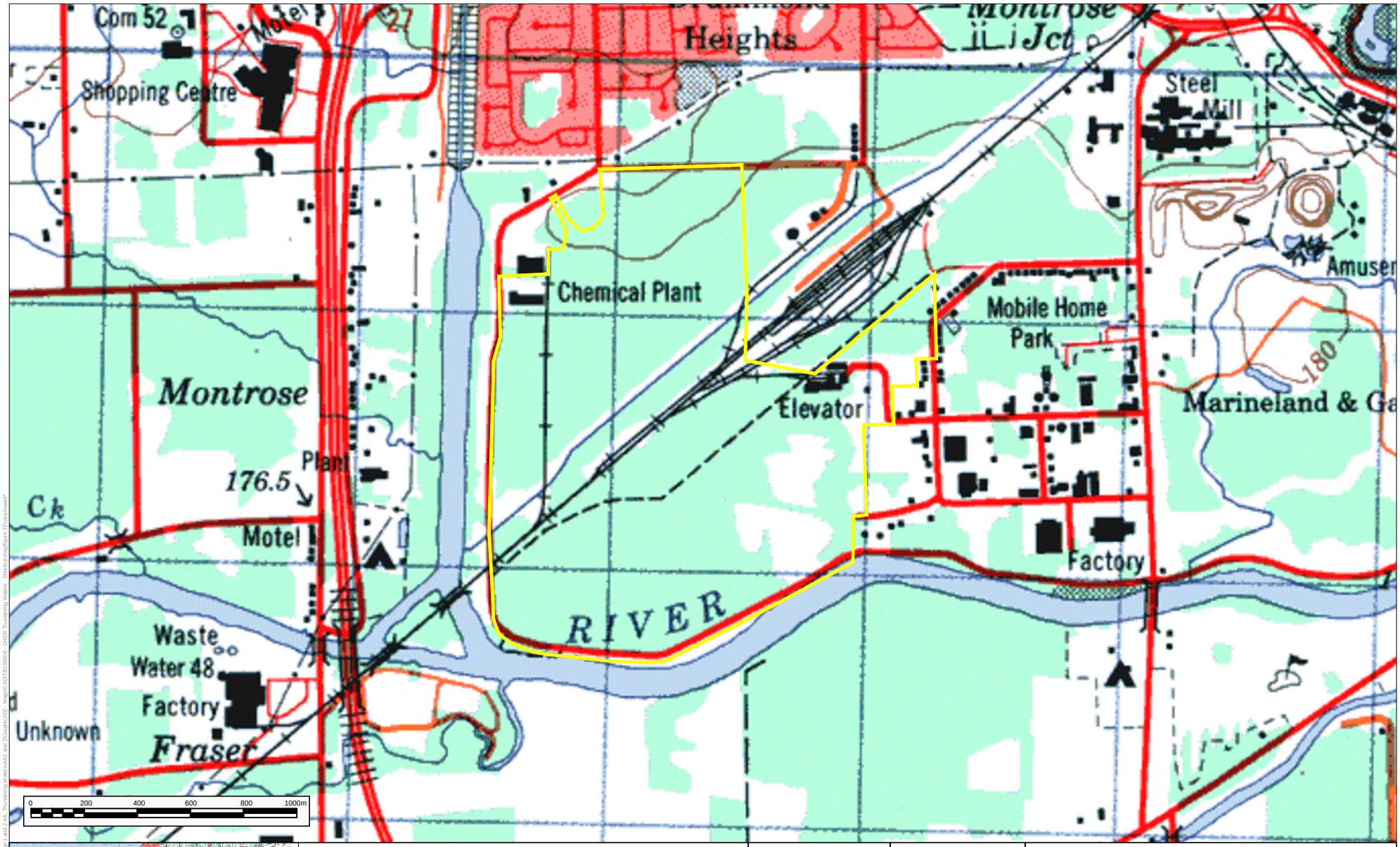


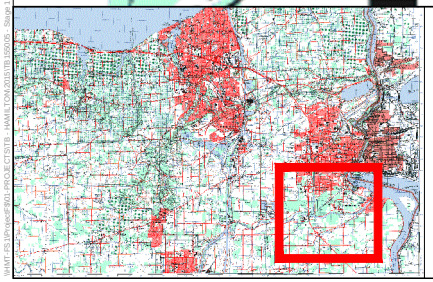

LEGEND

Study area

NOTES:
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Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Canadian Topograpghical Map, 1: 50,000

| | |
|---|---|
| CLIENT: | GR (CAN) INVESTMENT Co. LTD. |
| PROJECT TITLE: | **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls |
| Drawn By: | CH |
| Checked By: | SA |
| | Topographic Map Showing the Location of the Study Area |
| Revision N°: | 01 |
| PROJECT N°: | TB155005 |
| **FIGURE**: | **3** |
| Scale: | 1: 100,000 |
| DATE: | 16 Nov 2015 |

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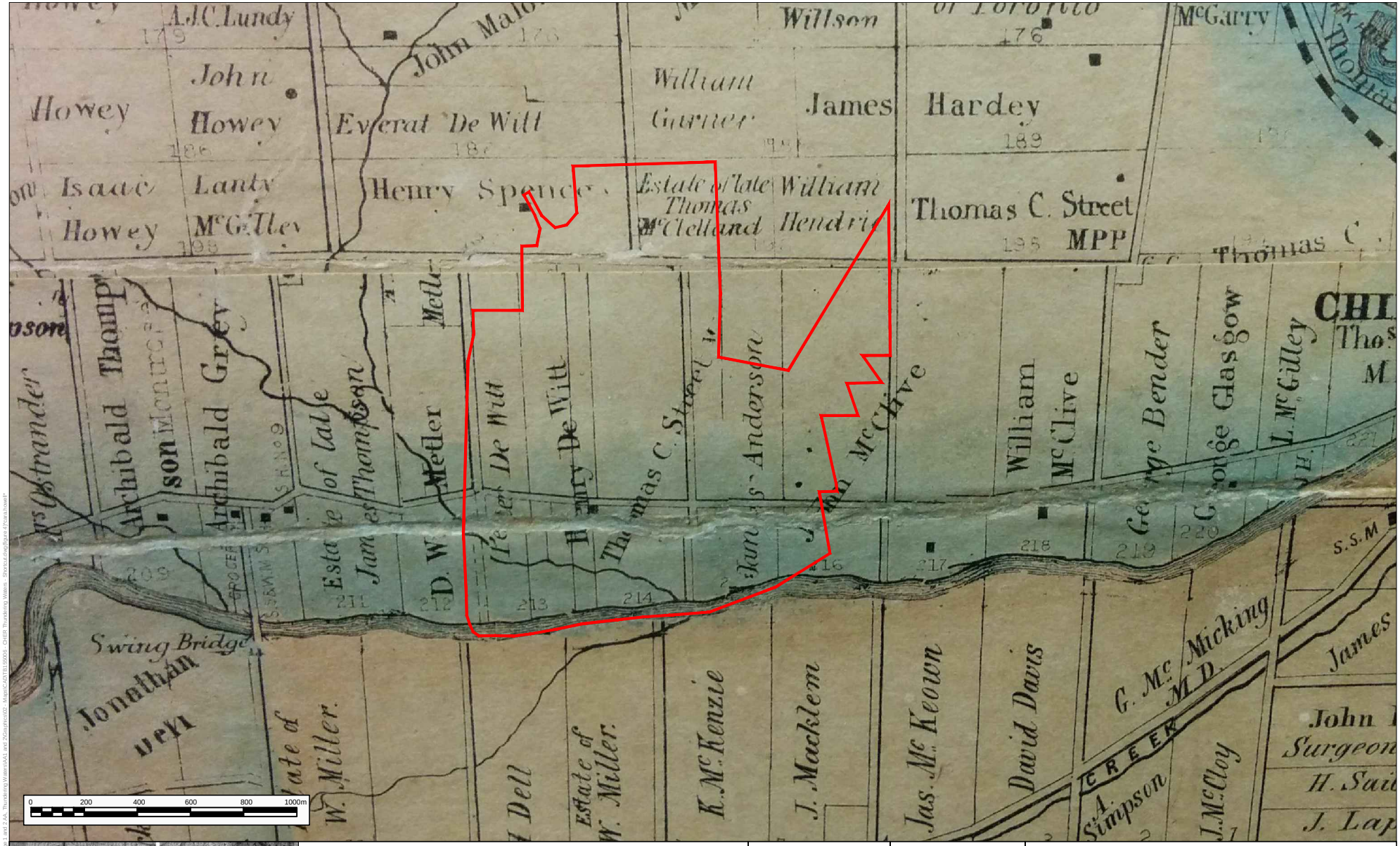


LEGEND

Approximate location of the study area

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: *1862 Tremaine Map of Stamford Township, West Lincoln Historical Society & Archives*

CLIENT: GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE: **STAGE 1 AND 1 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls

Drawn By: CH

Checked By: SA

Revision N°: 01

Scale: 1: 100,000

Section of the 1862 Tremaine Map Showing the Location of the Study Area

PROJECT N°: TB155005

**FIGURE**: 4

DATE: 10 Dec 2015

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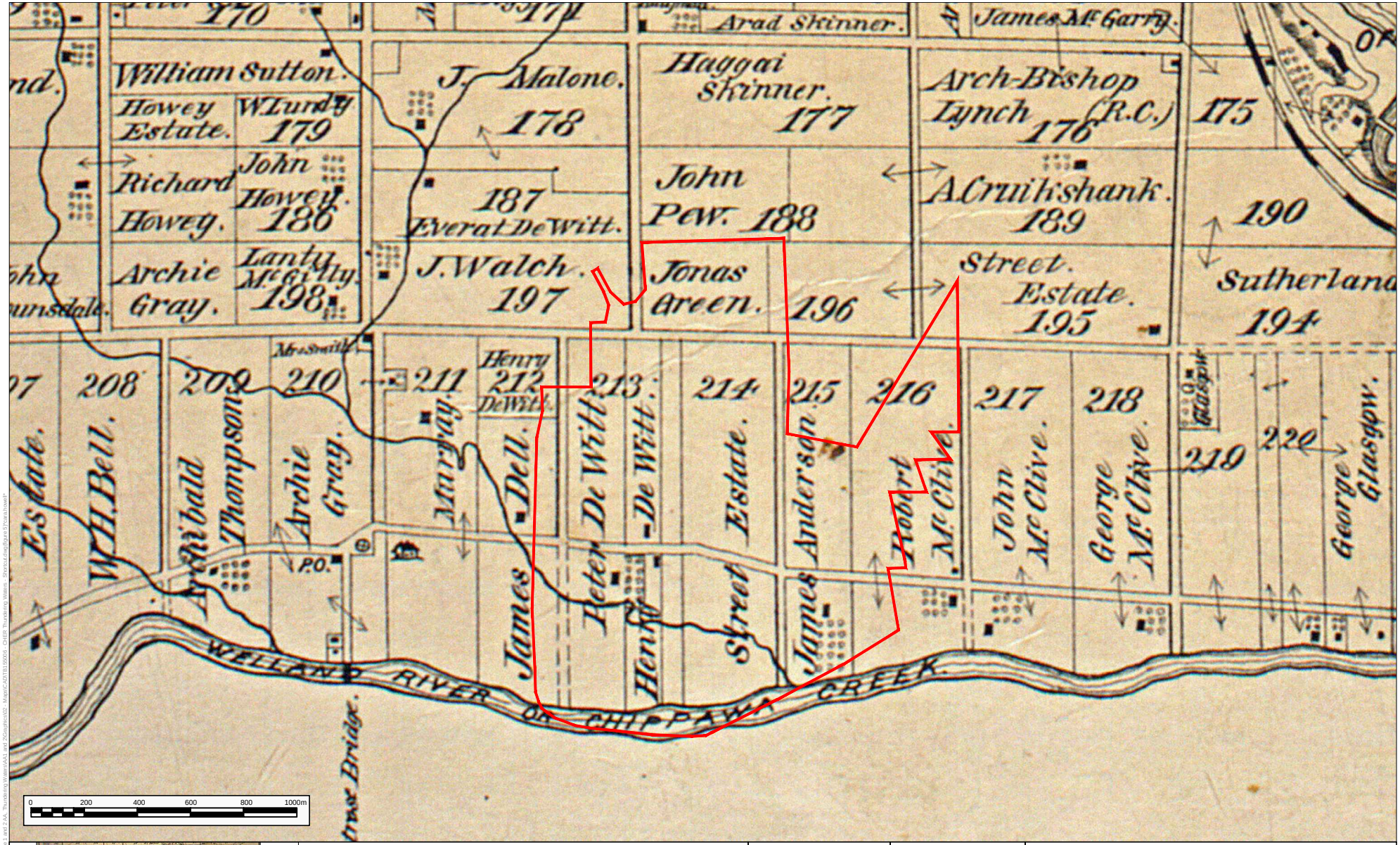
tel: 905-312-0700 www.amecfw.com




LEGEND

Approximate location of the study area

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155006.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE:
*1876 Illustrated Historical Atlas of Lincoln and Welland Counties* Showing the Location of the Study Area

| | |
|---|---|
| CLIENT: | GR (CAN) INVESTMENT Co. LTD. |
| PROJECT TITLE: | **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls |
| Drawn By: | CH |
| Checked By: | SA |
| | Section of the *1876 Illustrated Historical Atlas of Lincoln and Welland Counties* Showing the Location of the Study Area |
| Revision N°: | 01 |
| PROJECT N°: | TB155005 |
| FIGURE: | 5 |
| Scale: | 1: 100,000 |
| DATE: | 10 Dec 2015 |

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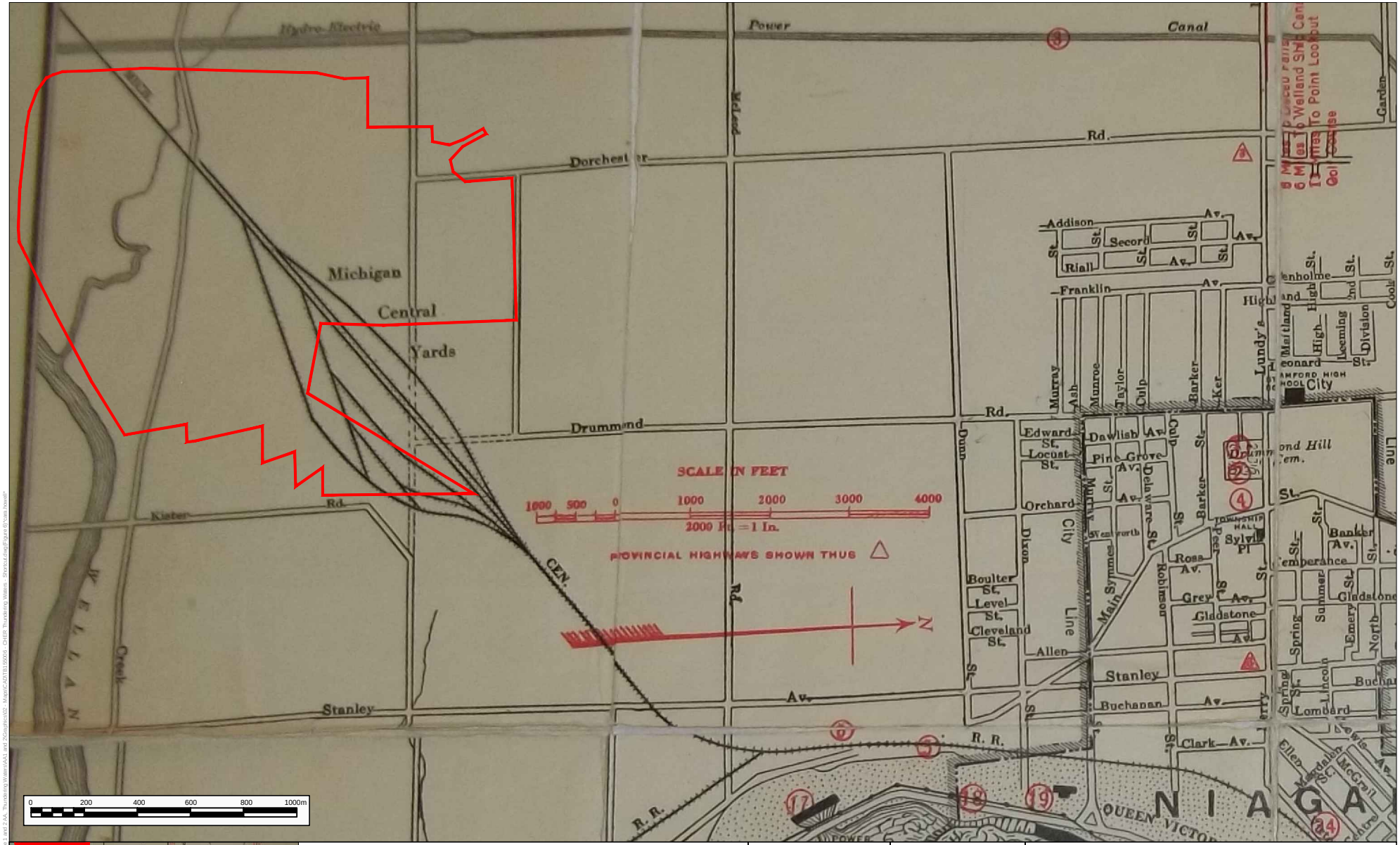


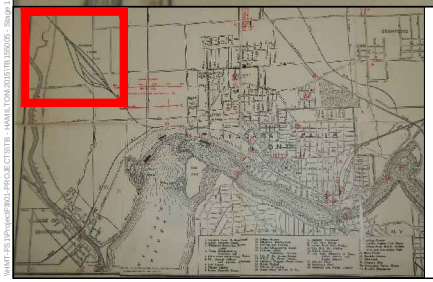

LEGEND

Study area

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: 1948 Tourist Map of Niagara Falls, Victoria Library, Niagara Falls, Ontario

| | |
|---|---|
| CLIENT: | GR (CAN) INVESTMENT Co. LTD. |
| PROJECT TITLE: | **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls |
| Drawn By: | CH |
| Checked By: | SA |
| | *1948 Tourist Map of Niagara Falls* Showing the Location of the Study Area |
| Revision N°: | 01 |
| PROJECT N°: | TB155005 |
| **FIGURE**: | **6** |
| Scale: | 1: 100,000 |
| DATE: | 16 Nov 2015 |

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LEGEND

Study area (Amec Foster Wheeler 2015)

NOTES:
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Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Golder and Associates

| | |
|---|---|
| CLIENT: | GR (CAN) INVESTMENT Co. LTD. |
| PROJECT TITLE: | **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls |
| Drawn By: | CH |
| Checked By: | SA |
| | Location of 2003 Boreholes and Test Pit Excavations (Golder Associates) |
| Revision N°: | 01 |
| PROJECT N°: | TB155005 |
| **FIGURE**: | **7** |
| Scale: | As Indicated |
| DATE: | 16 Nov 2015 |

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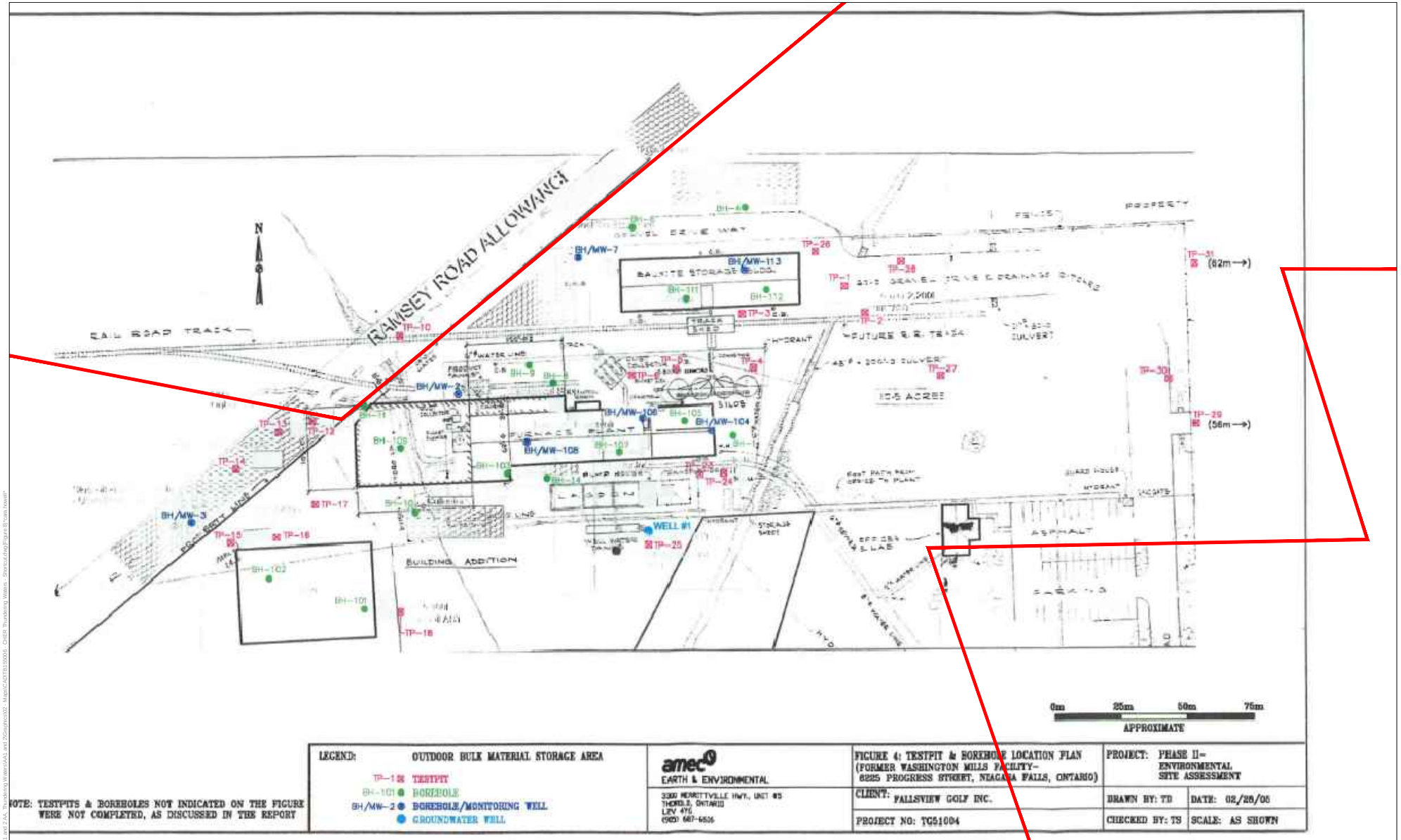


LEGEND

Study area (Amec Foster Wheeler 2015)

NOTE: Best drawing available

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Amec Foster Wheeler

CLIENT: GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE: **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls

Drawn By: CH

Checked By: SA

Revision N°: 01

Scale: As Indicated

Test Pit and Borehole Location Plan for the Former Washington Mills facility at 6225 Progress Street, Niagara Falls, Ontario (Amec Foster Wheeler 2005)

PROJECT N°: TB155005

DATE: 03 Mar 2016

**FIGURE**: **8**

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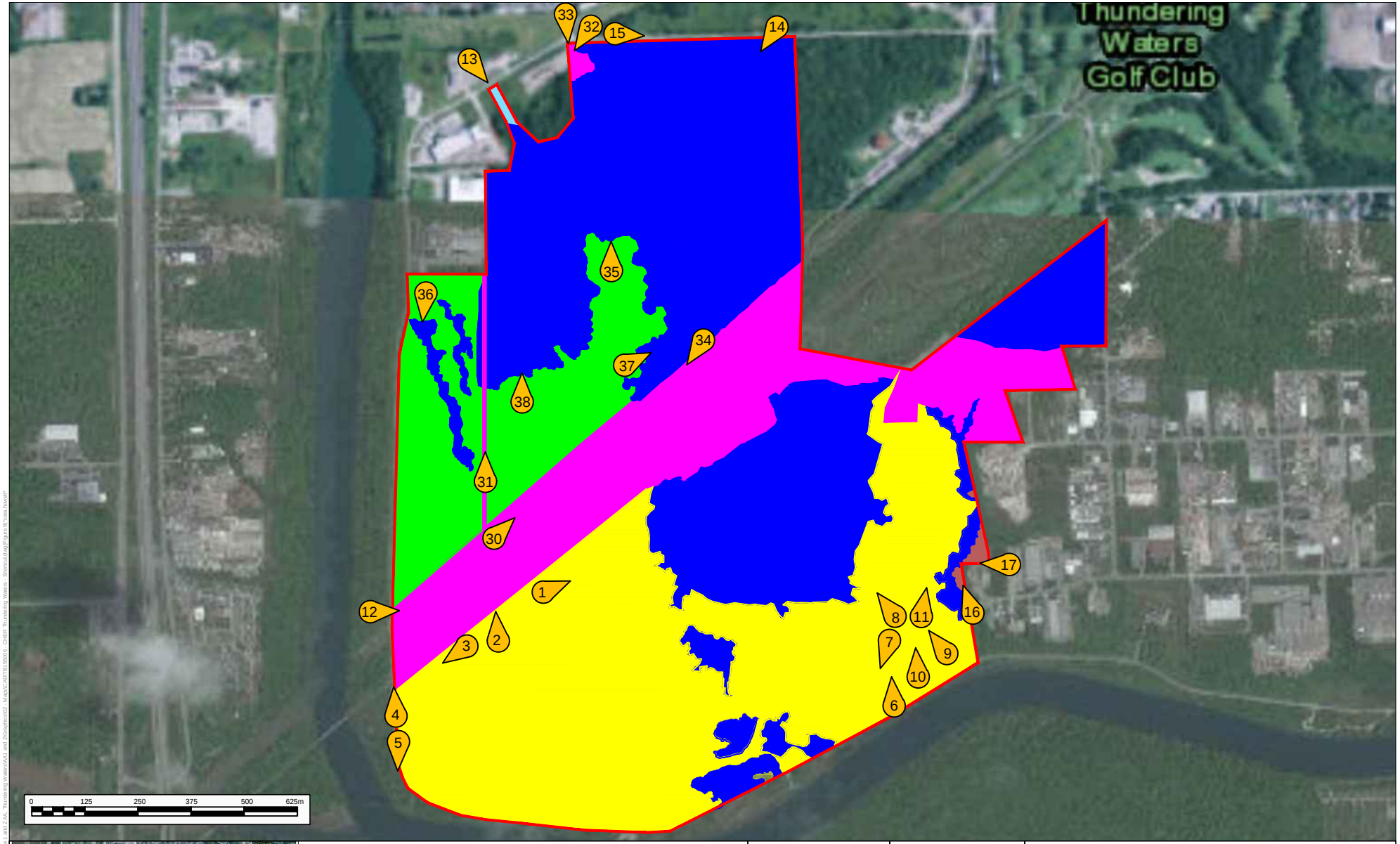


LEGEND

- Study area
- Area of archaeological potential, intensive testing required
- Archaeological potential removed due to roads, construction, railway and area capped by concrete
- Archaeological potential removed due to infilling (Amec Foster Wheeler 2015)
- Protected wetland environment, will not be developed
- Low archaeological potential due to slope (Amec Foster Wheeler 2015)
- Low archaeological potential due to low and wet conditions
- 1 Photograph location, number and direction

NOTE: Photographs 18-29 see Figure 9b

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Canadian Topograpghical Map, 1: 50,000

CLIENT:
GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE:
**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT**
Thundering Waters, Niagara Falls

Stage 1 Results Showing Photograph Locations, Numbers and Directions

| | |
|---|---|
| Drawn By: | CH |
| Checked By: | SA |
| Revision N°: | 01 |
| Scale: | As Indicated |
| PROJECT N°: | TB155005 |
| DATE: | 07 Mar 2016 |

**FIGURE**: **9a**

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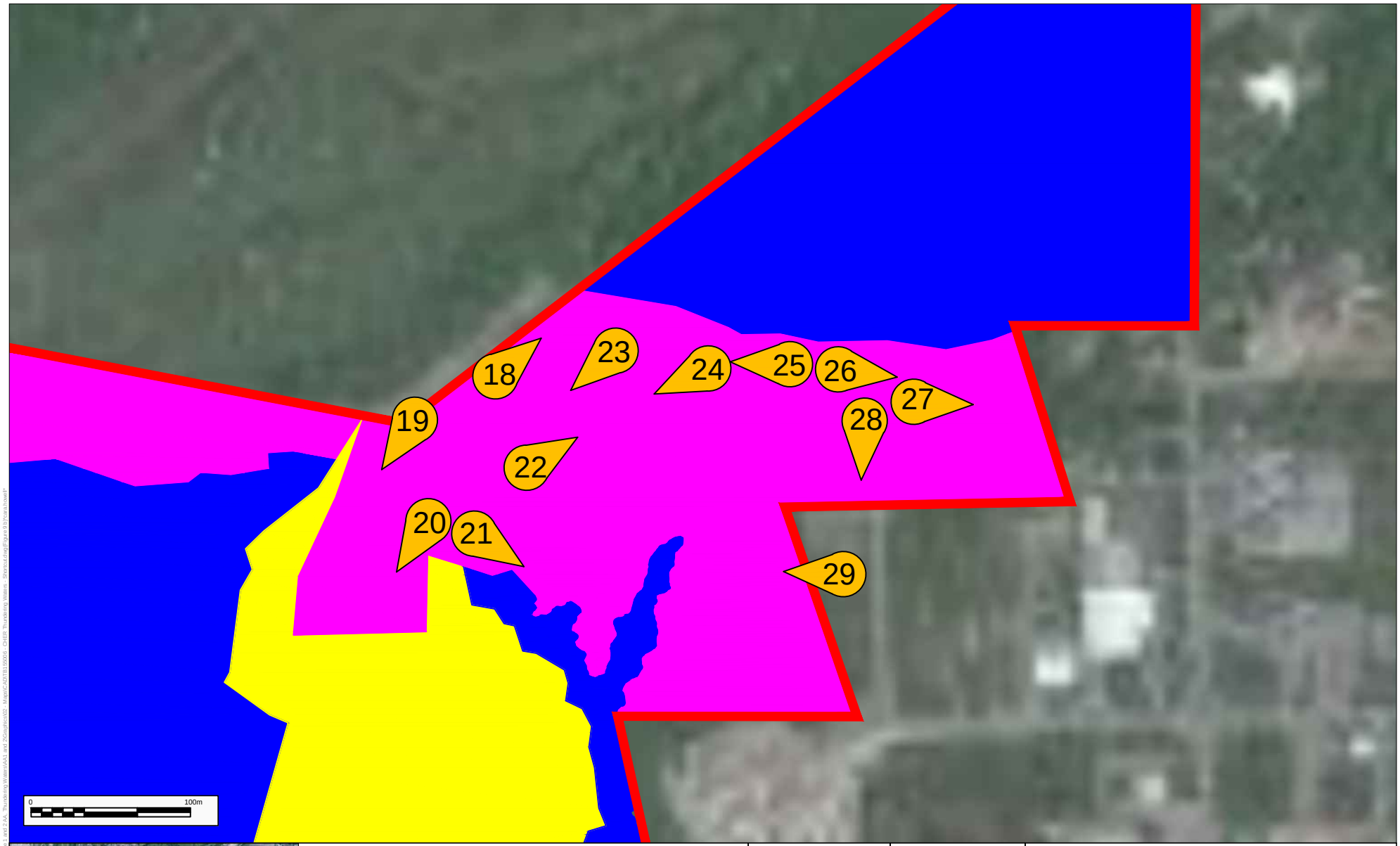
tel: 905-312-0700 www.amecfw.com




LEGEND

- Study area
- Area of archaeological potential, intensive testing required
- Archaeological potential removed due to roads, construction and railway
- Archaeological potential removed due to infilling (Amec Foster Wheeler 2015)
- Protected wetland environment, will not be delevloped
- 1 Photograph location, number and direction

NOTE: Photographs 30-38 see Figure 9a

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Canadian Topograpghical Map, 1: 50,000

CLIENT:
GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE:
**STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT**
Thundering Waters, Niagara Falls

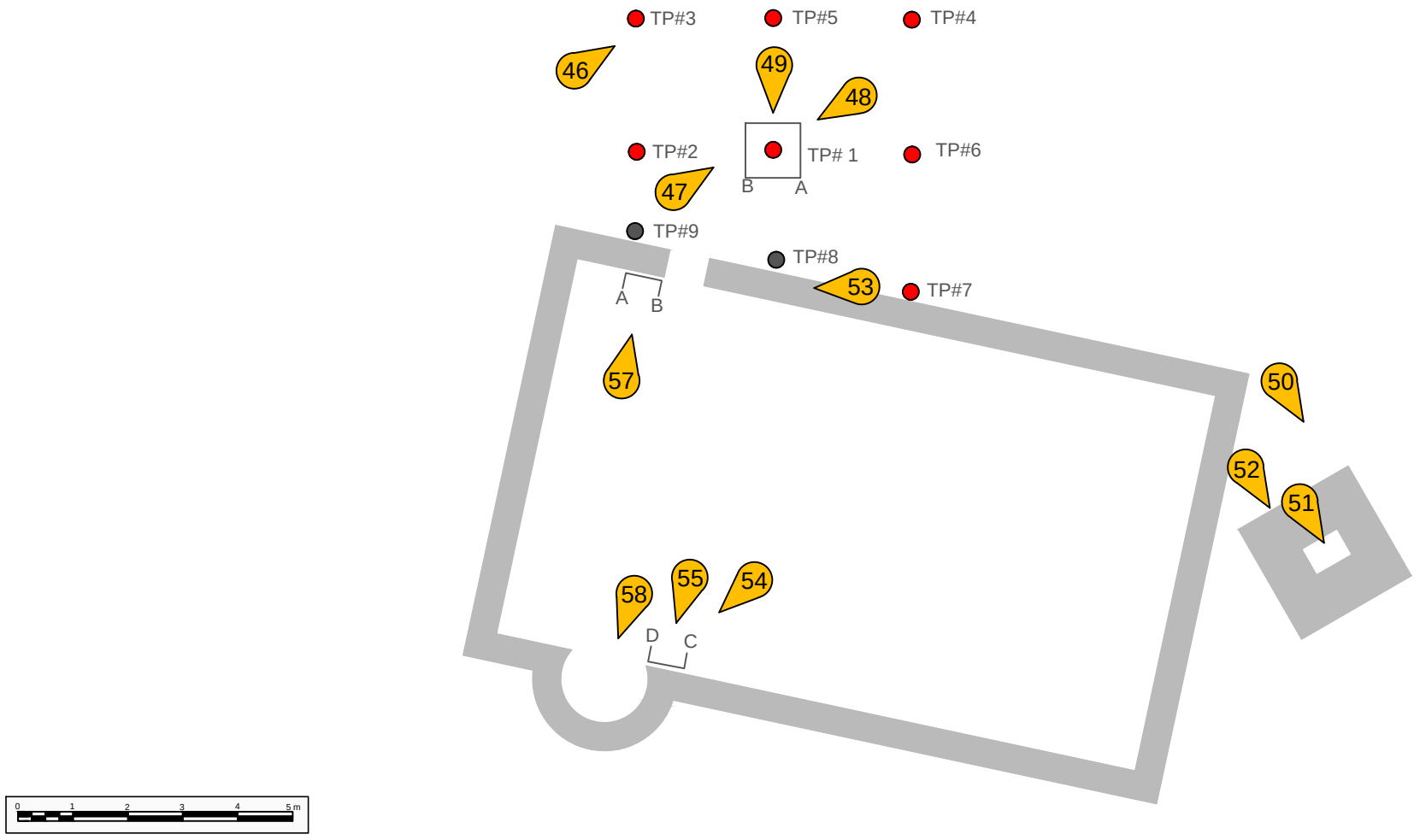
Drawn By: CH
Checked By: SA
Revision N°: 01
Scale: As Indicated

Stage 1 Results Showing Photograph Locations, Numbers and Directions

PROJECT N°: TB155005
DATE: 23 Nov 2015

**FIGURE**: **9b**

Amec Foster Wheeler
Environment and Infrastructure
505 Woodward Ave., Hamilton, ON L8H6N6
tel: 905-312-0700 www.amecfw.com





LEGEND

- Foundation feature
- Modern cistern
- Positive test pit with number
- Negative test pit with number
- Stage 2 test unit
- 1 Photograph location, number and direction
- A B Profile cut lines

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No.TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: AMEC FOSTER WHEELER 2015

CLIENT: GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE: **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls

Stage 2 Results Showing Photographic Location, Number and Direction Around Newly Discovered Site AgGs-387

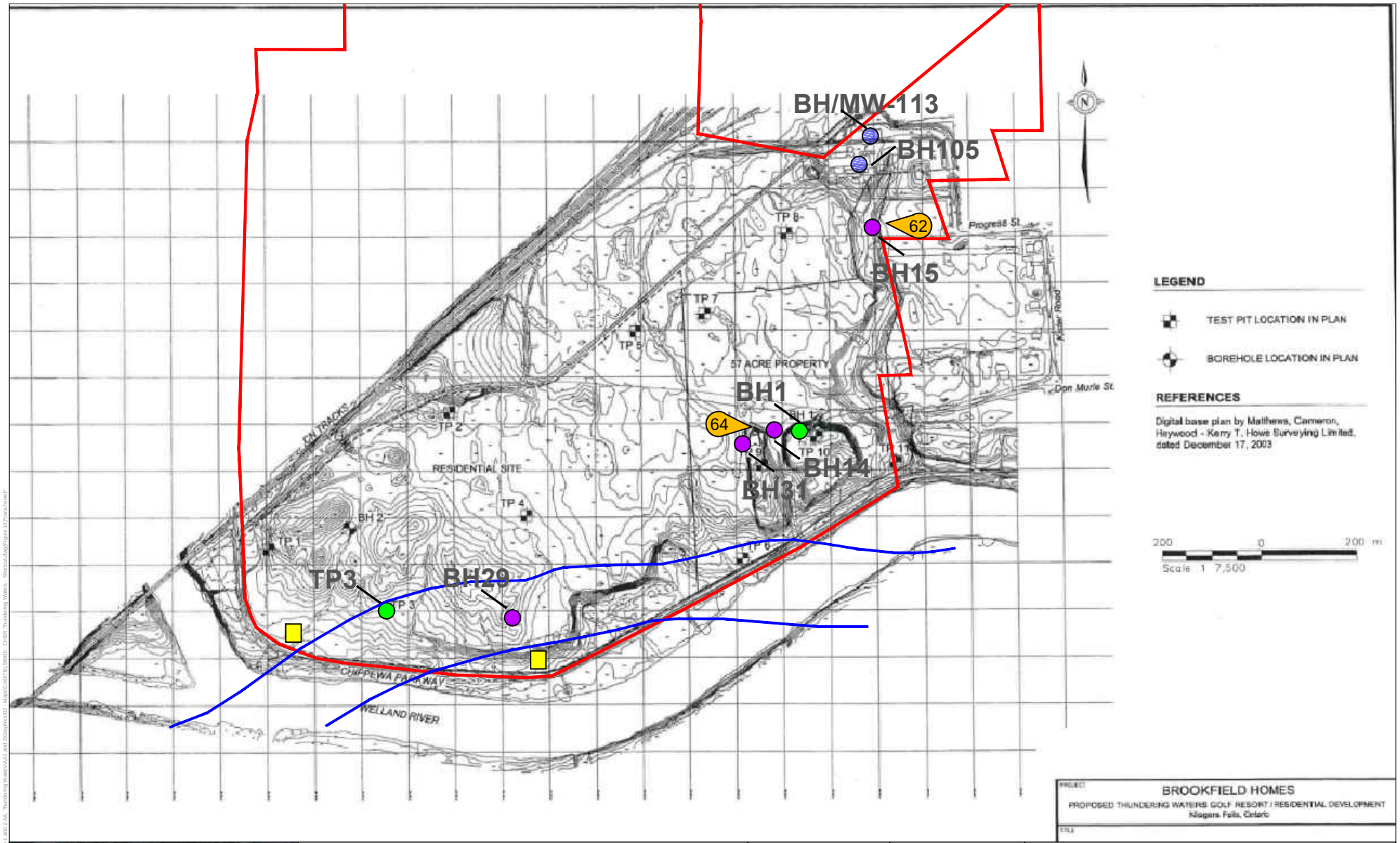
| | |
|---|---|
| Drawn By: | CH |
| Checked By: | SA |
| Revision N°: | 01 |
| Scale: | As Indicated |
| PROJECT N°: | TB155005 |
| DATE: | 29 Feb 2016 |

**FIGURE**: 11

N W E S

Amec Foster Wheeler
Environment and Infrastructure
505 Woodward Ave., Unit 1
Hamilton, Ontario

amec foster wheeler




LEGEND

- Study area (Amec Foster Wheeler 2015)
- 2003 Geotechnical test pit and borehole containing deeply buried potential topsoil
- 2005 Geotechnical borehole/monitoring well and borehole containing deeply buried potential topsoil beneath concrete
- 2016 Geotechnical borehole, monitored by Amec Foster Wheeler archaeologist
- 2016 sondage location
- 1813 alignment of the Welland River
- Photograph location, number and direction

NOTES:
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No. TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: Golder and Associates

CLIENT: GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE: **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls

Pertinent 2003, 2005 and 2016 Geotechnical Evidence Showing Photograph Location, Number and Direction

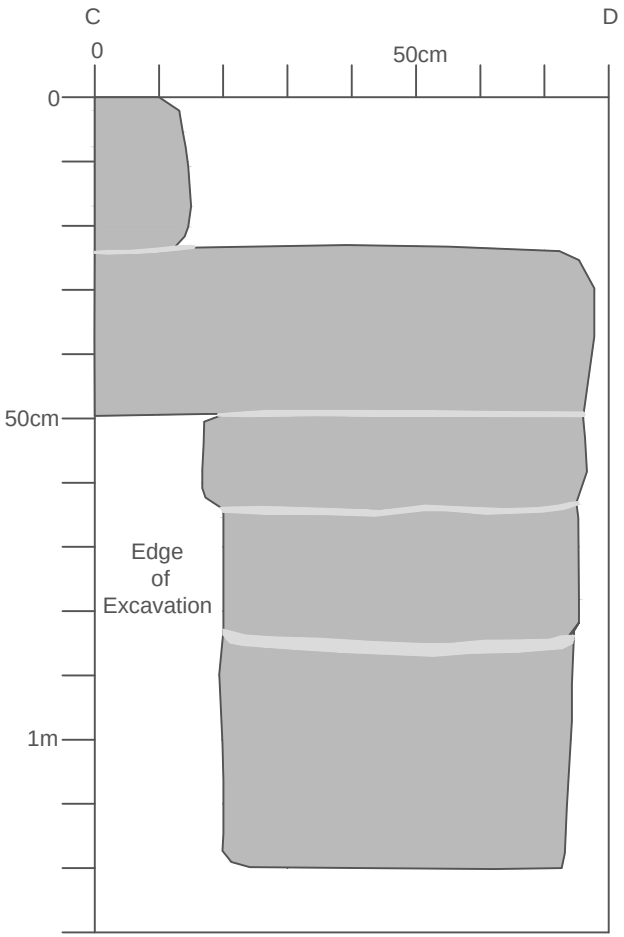
| | |
|---|---|
| Drawn By: | CH |
| Checked By: | SA |
| Revision N°: | 01 |
| Scale: | As Indicated |
| PROJECT N°: | TB155005 |
| DATE: | 17 May 2016 |

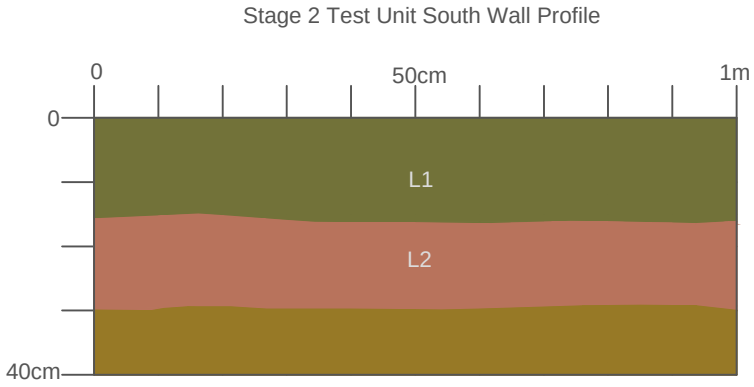
**FIGURE: 14**

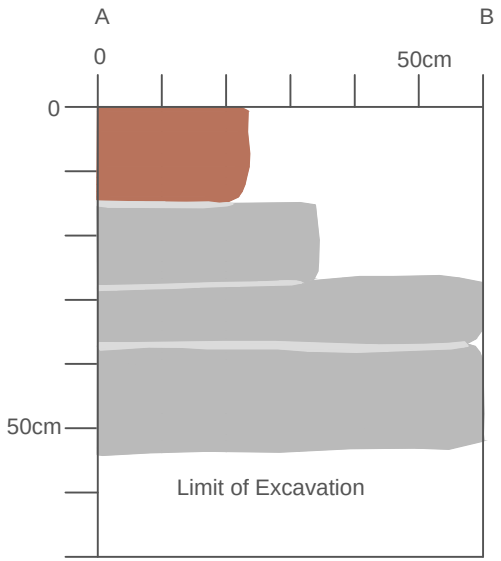
Amec Foster Wheeler
Environment and Infrastructure
505 Woodward Ave., Hamilton, ON L8H6N6
tel: 905-312-0700 www.amecfw.com

# APPENDIX C

# PROFILES





LEGEND

- Cut limestone
- Red clay handmade brick
- Lime mortar
- Layer 1, 10yr 2/1, very dark brown homogenous loam
- Layer 2, 10yr 2/2 mottled with red brick, mortar, glass, metal, bone and ceramic
- Subsoil, 10yr 4/3, brown homogenous clay loam

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE REPORT No.TB155005.

Conditions encountered in the field may be different from the interpreted information presented on this figure.

SOURCE: AMEC FOSTER WHEELER 2015

CLIENT: GR (CAN) INVESTMENT Co. LTD.

PROJECT TITLE: **STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT** Thundering Waters, Niagara Falls

Drawn By: CH

Checked By: SA

Revision N°: 01

Scale: As Indicated

Profile of South Wall of Stage 2 Test Unit and North and North Wall Sections of Foundation Feature

PROJECT N°: TB155005

DATE: 27 Nov 2015

**FIGURE**: **C1**

Amec Foster Wheeler
Environment and Infrastructure
505 Woodward Ave., Unit 1
Hamilton, Ontario

# APPENDIX D

# STAGE 2 ARTIFACT CATALOGUE

# STAGE 2 ARTIFACT CATALOGUE

| Cat. No | No. | Box No. | Test Pit No. | Way Point No. | Layer | Class | Sub-class | Type | Material | Ceramic Ware | Ceramic Motif | Ceramic Colour | Ceramic Form | Portion | Dimension | Thermal Alteration | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H1 | 1 | TB155005-1 | | 540 | Surface | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | RWE | Moulded | | Teacup | Body | | No | Fluted body |
| H2 | 1 | TB155005-1 | | 540 | Surface | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Semi-Porcelain | Gilt | | Teacup | Rim | | No | Gold band along exterior rim |
| H3 | 1 | TB155005-1 | | 540 | Surface | Personal | Medicine | Container-Medicine | Glass | | | | | Complete | Body Height=68mm Base Width=37mm Neck Height=20mm Bore Diameter=13 mm Lip Height=7mm | No | Square body and base with rounded corners, sloped down shoulders, prescription lip (Late 19th Century), two-piece vertical mould ( after 1880's), embossed "CONTENTS 2 FL.OZ" |
| H4 | 1 | TB155005-1 | | 540 | Surface | Personal | Medicine | Container-Medicine | Glass | | | | | Complete | Body Height=80mm Base Width=45mm Neck Height=18mm Bore Diameter=14 mm Lip Height=7mm | No | Cylindrical body and base, aqua, sloped down shoulders, rounded lip, two-piece vertical mould ( after 1880's) |
| H5 | 2 | TB155005-1 | | 540 | Surface | Personal | Medicine | Container-Medicine | Glass | | | | | Complete | Base Width=37mm Neck Height=15mm Bore Diameter=13 mm Lip Height=8mm | No | Square body and base with rounded corners, sloped down shoulders, prescription lip (Late 19th Century), two-piece vertical mould ( after 1880's), embossed "CONTENTS 2 FL.OZ" |
| H6 | 1 | TB155005-1 | | 540 | Surface | Personal | Medicine | Container-Medicine | Glass | | | | | Complete | Neck Height=40mm Bore Diameter=17 mm Lip Height=7mm | No | Ball neck, sloped down shoulders, rounded lip, two-piece vertical mould ( after 1880's) |
| H7 | 1 | TB155005-1 | 1 | 541 | L2 | Kitchen/ Food | Intermediate | Tableware | Ceramic | RWE | Transfer Print-General | Black | Flatware | Base | | No | Printed black makers mark "CANAD_J.M.7 C. SPORTS" |
| H8 | 1 | TB155005-1 | 1 | 541 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Ironstone | Undecorated | | Saucer | Rim | | No | |
| H9 | 3 | TB155005-1 | 1 | 541 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | RWE | Undecorated | | Saucer | Body | | No | |
| H10 | 1 | TB155005-1 | 1 | 541 | L2 | Kitchen/ Food | Food Storage | Mason Jar | Glass | | | | | Base | Base Width= 98mm | No | Aqua |
| H11 | 1 | TB155005-1 | 2 | 542 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H12 | 1 | TB155005-1 | 2 | 542 | L2 | Architectural | Building Equipment | Brick | Red Clay | | | | | Body | | No | Fragment |
| H13 | 7 | TB155005-1 | 3 | 544 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H14 | 1 | TB155005-1 | 3 | 544 | L2 | Indeterminate | Indeterminate | Unidentifiable | Plastic | | | | | Complete | | No | Black, possible cap |
| H15 | 7 | TB155005-1 | 3 | 544 | L2 | Architectural | Building Equipment | Nail-Wire | Metal-Ferrous | | | | | Complete | | No | |
| H16 | 1 | TB155005-1 | 3 | 544 | L2 | Architectural | Building Equipment | Nail-Wrought | Metal-Iron | | | | | Incomplete | | No | |
| H17 | 14 | TB155005-1 | 3 | 544 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Semi-Porcelain | Decalcomania | Pink, green | Saucer | Body | | No | |
| H18 | 1 | TB155005-1 | 4 | 545 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H19 | 1 | TB155005-1 | 4 | 545 | L2 | Furnishings | Household Accessories | Figurine | Porcelain | | | | | Incomplete | | No | Painted gold over moulded unidentifiable design |
| H20 | 1 | TB155005-1 | 5 | 546 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Ironstone | Undecorated | | Teacup | Rim | | No | |
| H21 | 1 | TB155005-1 | 5 | 546 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Ironstone | Gilt | Gold | Saucer | Rim | | No | Slightly scalloped rim, beaded trim with gold overlay |
| H22 | 2 | TB155005-1 | 5 | 546 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | RWE | Undecorated | | Teacup | Body | | No | |
| H23 | 3 | TB155005-1 | 5 | 546 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H24 | 2 | TB155005-1 | 5 | 546 | L2 | Kitchen/ Food | Food Storage | Mason Jar | Glass | | | | | Body | | No | Aqua, embossed "IMPORT_" |
| H25 | 1 | TB155005-1 | 5 | 546 | L2 | Indeterminate | Indeterminate | Unidentifiable | Glass | | | | | | | | |
| H26 | 1 | TB155005-1 | 5 | 546 | L2 | Kitchen/ Food | Food Storage | Mason Jar | Glass | | | | | Base | Base Width= 92mm | No | Aqua |

# STAGE 2 ARTIFACT CATALOGUE

| Cat. No | No. | Box No. | Test Pit No. | Way Point No. | Layer | Class | Sub-class | Type | Material | Ceramic Ware | Ceramic Motif | Ceramic Colour | Ceramic Form | Portion | Dimension | Thermal Alteration | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H27 | 1 | TB155005-1 | 5 | 546 | L2 | Architectural | Building Equipment | Nail-Machine Cut | Metal-Iron | | | | | Complete | | No | |
| H28 | 3 | TB155005-1 | 5 | 546 | L2 | Organic | Faunal - Mammal | Sheep/Goat | Bone | | | | | Incomplete | | No | |
| H29 | 1 | TB155005-1 | 6 | 547 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Semi-Porcelain | Decalcomania | Yellow, black | Teacup | Rim | | No | Think yellow band along exterior rim, thin black band just beneath |
| H30 | 11 | TB155005-1 | 6 | 547 | L2 | Kitchen/ Food | Beverage Service | Tableware | Ceramic | RWE | Undecorated | | Pitcher | Body | | No | |
| H31 | 1 | TB155005-1 | 6 | 547 | L2 | Furnishings | Lighting Device | Lamp Chimney | Glass | | | | | Body | | No | |
| H32 | 1 | TB155005-1 | 7 | 548 | L2 | Kitchen/ Food | Intermediate | Tableware | Ceramic | RWE | Undecorated | | Unidentifiable | Body | | No | |
| H33 | 1 | TB155005-1 | 7 | 548 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H34 | 1 | TB155005-1 | Test Unit | 549 | L2 | Kitchen/ Food | Beverage Consumption | Teaware | Ceramic | Ironstone | Undecorated | | Saucer | Body | | No | |
| H35 | 27 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Window Glass | Glass | | | | | Incomplete | | No | |
| H36 | 5 | TB155005-1 | Test Unit | 549 | L2 | Furnishings | Lighting Device | Lamp Chimney | Glass | | | | | Body | | No | |
| H37 | 6 | TB155005-1 | Test Unit | 549 | L2 | Kitchen/ Food | Food Storage | Mason Jar | Glass | | | | | Body | | No | Aqua |
| H38 | 1 | TB155005-1 | Test Unit | 549 | L2 | Tools/Equipment | Recreation | Toy | Semi-Porcelain | | | | | Incomplete | | No | Tea set saucer fragment |
| H39 | 2 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Brick | Red Clay | | | | | Body | | No | Fragment |
| H41 | 1 | TB155005-1 | Test Unit | 549 | L2 | Tools/Equipment | Recreation | Marble | Clay | | | | | Complete | Diameter=15mm | No | Undecorated |
| H42 | 1 | TB155005-1 | Test Unit | 549 | L2 | Personal | Clothing | Button | Plastic | | | | | Complete | Diameter=16 mm Thickness=6 mm | No | Brown, two hole sew through |
| H43 | 1 | TB155005-1 | Test Unit | 549 | L2 | Personal | Clothing | Button | Shell | | | | | Complete | Diameter=23 mm Thickness=5 mm | No | Two hole sew through |
| H44 | 1 | TB155005-1 | Test Unit | 549 | L2 | Personal | Clothing | Button | Shell | | | | | Complete | Diameter=18 mm Thickness=2 mm | No | Two hole sew through |
| H45 | 2 | TB155005-1 | Test Unit | 549 | L2 | Tools/Equipment | Animal Husbandry | Barbed Wire | Metal-Ferrous | | | | | Incomplete | | No | |
| H46 | 1 | TB155005-1 | Test Unit | 549 | L2 | Tools/Equipment | Specialized Tool | File | Metal-Iron | | | | | Incomplete | | No | |
| H47 | 4 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Nail-Roofing | Metal-Ferrous | | | | | Complete | | No | |
| H48 | 24 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Nail-Wire | Metal-Ferrous | | | | | Complete | | No | |
| H49 | 4 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Nail-Machine Cut | Metal-Iron | | | | | Complete | | No | |
| H50 | 7 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Nail-Machine Cut | Metal-Iron | | | | | Incomplete | | No | |
| H51 | 1 | TB155005-1 | Test Unit | 549 | L2 | Architectural | Building Equipment | Nail-Wrought | Metal-Iron | | | | | Incomplete | | No | |
| H52 | 2 | TB155005-1 | Test Unit | 549 | L2 | Tools/Equipment | Specialized Tool | Stake | Metal-Ferrous | | | | | Complete | | No | |
| H53 | 1 | TB155005-1 | Test Unit | 549 | L2 | Organic | Shell | Shell | Shell | | | | | Incomplete | | No | |
| H54 | 1 | TB155005-1 | Test Unit | 549 | L2 | Organic | Faunal - Mammal | Sheep/Goat | Bone | | | | | Incomplete | | No | Cranium fragment |

# APPENDIX F

# ASSESSOR QUALIFICATIONS

## ASSESSOR QUALIFICATIONS

**Shaun Austin, Ph.D., Associate Archaeologist –** Dr. Austin is the leader of Amec Foster Wheeler's cultural heritage resources group and is based in 'the Company's' Hamilton Office. He has been working in Canadian archaeology and heritage since 1976 and as an archaeological and heritage consultant in Ontario since 1987. He is a dedicated cultural heritage consultant with repeated success guiding projects through to completion to the satisfaction of the development proponent, the cultural heritage community and all other stakeholder groups. His areas of interest and expertise include pre-contact Aboriginal lithics and ceramics. Dr. Austin holds a **Professional Archaeology License** (**P141**) issued by the Ontario Ministry of Tourism, Culture and Sport, is MTO RAQs certified in Archaeology/Heritage and is a member of the Ontario Association of Professional Archaeologists.

**Cara Howell B.A., Senior Archaeologist –** Ms. Howell has been working in consulting archaeology since 1999. During this time she has acquired a full range of archaeological skills, from background research to Stage 4 excavation. She has developed a comprehensive understanding of all aspects of material culture and has a specialized interest in historic Euro-Canadian artifacts. As Laboratory Director for Amec Foster Wheeler's Archaeology Group, she was instrumental in creating and implementing cataloguing systems for all types of recovered artifacts. Mr. Howell also serves as lead liaison with First Nations communities. She holds a B.A. in Physical Anthropology and a B.A. in Classical Archaeology from McMaster University, and an **Applied Research License (R180)** issued by the Ontario Ministry of Tourism, Culture and Sport.

**Jason Seguin, M.A., Senior Archaeologist –** Mr. Seguin has been engaged in archaeology since 2004. Mr. Seguin has conducted stage 1 to 4 archaeological assessments including background searches, field surveys, and excavations, analysis of cultural artifacts, laboratory work and reporting. Mr. Seguin is involved in project management and supervision as well as being an archaeological laboratory director. Mr. Seguin's education and work experience have provided him with an extensive knowledge base, consisting of theoretical and practical experience in cultural resource management in Canada and Central America, as well as curatorial, archival and museum management experience. Mr. Seguin holds a Master's Degree in Anthropology from Trent University, and a Post-Graduate Certificate in Museum Management and Curatorship from Sir Sandford Fleming College. Mr. Seguin holds a **Professional Archaeology License (License P354)** issued by the Ontario Ministry of Tourism and Culture.

**Devon Brusey B.A. Hon., Staff Archaeologist –** Ms. Brusey has worked as a consultant archaeologist since 2007. She holds an honorary bachelors degree in Anthropology and Japanese Studies from McMaster University. Ms. Brusey has worked

on over 250 Stage 1 through Stage 4 archaeological assessments throughout Ontario, many of which have been completed as part of the environmental assessment process for the development of wind and solar farms, hydro line corridors and municipal roadway improvements. Ms. Brusey has also been instrumental in the processing and analysis of artifacts and other data in the laboratory. Recently, she acted as crew supervisor for the Stage 4 salvage excavation of an extensive multi-component pre-contact and historic site in Burlington, Ontario. She has also acted as the project manager, field director and report writer for numerous other projects. Ms. Brusey holds an **Applied Research License (R410)** issued by the Ontario Ministry of Tourism, Culture and Sport.

# APPENDIX G

# 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 Foster Wheeler Environment & Infrastructure'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 test-pitting and archival research were performed. Amec Foster Wheeler Environment & Infrastructure's work, including test-pitting and archival research 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 between areas test-pitted and in areas which were pedestrian surveyed.
6. The utilization of Amec Foster Wheeler Environment & Infrastructure's services during the implementation of any further archaeological work recommended will allow Amec Foster Wheeler Environment & Infrastructure to observe compliance with the conclusions and recommendations contained in the report. Amec Foster Wheeler Environment & Infrastructure'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 of conclusions in the report, is the sole responsibility of such third party. Amec Foster Wheeler Environment & Infrastructure 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 Foster Wheeler Environment & Infrastructure, which shall not be unreasonably withheld.