

**Stage 1/2 Archaeological Assessment of the  
McNichol's Pit Extension, 631 and 644 Buck Bay Road  
Geographic Township of Bedford, now in the  
Township of South Frontenac, County of Frontenac,  
Ontario**

**Part Lots 12 and 13, Concession 1 (west of Buck Bay  
Road) and Part Lots 12 and 13, Concession 2 (east of  
Buck Bay Road)**

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**PIF#:** P191-0140-2018  
**Development Name:** McNichol's Pit Extension  
**Development Project Designation #:** n/a  
**Date:** March 9, 2020  
**Report type:** Draft

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## Executive Summary

Over a number of days in June, September and November of 2018 Ground Truth Archaeology Limited conducted a Stage 1-2 archaeological assessment of a proposed sand and gravel pit extension located on Buck Bay Road in Frontenac County. Specifically, the study area encompasses part of Lots 12 and 13, Concession 1 (west of Buck Bay Road) and part of Lots 12 and 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario.

The major indicator of archaeological potential for the study area is its proximity to water. Property lying within 300 metres of a watercourse (the small creeks on the north and southwest) (2) is considered to have moderate to high potential for the presence of archaeological resources (MTC 2011). Additionally, the property lies in an area of sandy deposits within a surrounding of rocky land which also is an indicator of archaeological potential (MTC 2011).

The four lots in the study area have relatively late patent dates ranging from 1854 to 1873 though there is evidence that all were occupied by 1860. There is potential for an early settler cabin within the study area.

The Stage 2 study area consisted of a combination of agricultural fields and overgrown fields and wooded areas. The overgrown fields and wooded areas (comprising approximately 50% of the study area) were assessed for archaeological resources through a test pit survey conducted at 5m intervals. The active agricultural fields (comprising approximately 50% of the study area) were assessed for archaeological resources through a pedestrian survey.

Three precontact findspots were discovered during the Stage 2 assessment, all within the agricultural fields. The single find on the west side of Buck Bay Road was a projectile point, deemed to be an isolated find (BdGd-66). Two small sites consisting of one retouched flake plus a ceramic sherd (BdGd-67) and another consisting of seven flakes (BdGd-68) were found on the east side of Buck Bay Road.

As a result of the Stage 1/2 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists* and with consultation with Chief Doreen Davis of the Shabot Obaadjiwan, Ground Truth Archaeology makes the following recommendations in regards to the sites discovered:

:

- The single projectile point (TS1) registered as BdGd-66 was determined to be an isolated find, with no associated cultural resources and does not require further archaeological assessment or mitigation.
- The pre-contact site BdGd-67 has cultural heritage value or interest and requires a Stage 3 archaeological assessment. As the site produced a Woodland ceramic sherd. The Stage 3 assessment should consist of the hand excavation of 1 m<sup>2</sup> units on a ten metre interval grid with additional units amounting to 40% of the grid unit total placed in areas of interest.

- The pre-contact site BdGd-68 has cultural heritage value or interest and requires a Stage 3 archaeological assessment. The Stage 3 assessment should consist of the hand excavation of 1 m<sup>2</sup> units on a five metre interval grid with additional units amounting to 20% of the grid unit total placed in areas of interest.
- The Stage 3 archaeological assessments must adhere to the requirements of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), specifically S&G 3.2.2 (Test unit excavation) and 3.2.3 (Determining the location and number of test pits).
- The remainder of the study area (as illustrated in Figure 2) was found to have no archaeological resources and is considered to have been cleared of all archaeological concerns.

## Project Personnel

Licensee	Helen Sheldon (P191)
Field Director	Helen Sheldon
Historical Research	Helen Sheldon
Cartography	Helen Sheldon
Report Writing	Helen Sheldon
Field Technicians	Kira Brunatti, Alex Cadue, Chris Cadue, Peter Cassidy, Courtney Gifford, Nick Gromoff, Douglas Kirk, Amanda Phillips, Maggie Stewart, Ted Stewart

## Project Context

### Development Context

In May of 2018 Ground Truth Archaeology Limited was contracted by McNichol's Sand and Gravel to conduct an archaeological assessment of a proposed extension for an existing sand and gravel pit located on Buck Bay Road, north of Godfrey. The property is located on Part Lots 12 and 13, Concession 1 (west of Buck Bay Road) and Part Lots 12 and 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario

The current archaeological assessment was conducted as part of the process of preparing a licence application for an extension for the existing sand and gravel pit under the Provincial Aggregate Resources Act. The boundaries of the proposed pit extension were slightly decreased after the Stage 2 was completed, so the Stage 2 archaeological assessment area shown in Figure 4 covers some area beyond the final pit boundary. The Ministry of Natural Resources and Forestry is the approval authority for this application.

Permission to access the property was given by Glen McNichol of McNichol's Sand and Gravel prior to the start of archaeological fieldwork.

## Historical Context

BdGd-67 lies within the southern part of the Algonquins of Ontario settlement area with the closest Algonquin community being Shabot Obaadiwan (Sharbot Lake) (OL1). The Algonquin Nation are the ancestral people of the Ottawa River watershed occupying this region when European explorers extended their journeys into what is now Ontario in the early seventeenth century. While the Algonquins control of the Ottawa River had always given them an important position regarding trade with the peoples using the French River route this position became more pronounced during the fur trade era. Consequently, the French allied themselves with the Algonquins during the conflicts surrounding the fur trade. Later after the British replaced the French as the colonial power they too sought alliances with the Algonquins until their military situation in Canada became more tenable with the defeat of Napoleon and the initial treaties with the U.S. after the War of 1812. Unfortunately by 1822 the Algonquins were largely dispossessed of most of their territory by the Rideau Purchase, which had been negotiated by the neighbouring Mississauga. For a more detailed history of the Algonquins of Ontario please refer to their website (OL2).

In 2016 the Algonquins of Ontario signed an Agreement-in-Principle with the Canadian Federal government and the government of Ontario as part of an ongoing process toward reaching a modern day treaty and resolving numerous issues concerning land rights (OL3).

In the region of the study area Algonquin settlement on Bob's Lake and Wolfe Lake was well documented in the first half of the 19<sup>th</sup> century. However extensive logging and accompanying settlement of the area in the decades after the opening of the Rideau Canal (1832) led to overhunting and loss of habitat forcing the local Algonquins to move north.

Bob's Lake is shown on the 1860 Walling Map (Figure 6) as isolated from Buck Lake but subsequent damming raised water levels in the system resulting in Buck Lake becoming a southern extension of Bob's Lake now referred to as Buck Bay.

Bedford Township was initially surveyed starting in 1821 by Samuel Benson. However due to the rugged nature of the land Benson gave up after three years as he believed that the land was so bad that it could never be settled (OL4). A single brief paragraph is devoted to the history of Bedford Township in the Meacham atlas of 1878, dwelling upon its partially good land and abundant rocky elements (Mika 1977:12). Like all areas linked by waterways with the Rideau Canal, logging was the primary industry in the region until good stands of timber were exhausted and farming took over.

The proposed pit expansion is located within four different lots all with Crown patents issued in the second half of the 19<sup>th</sup> century: N½ Lot 12, Con 1 - Thomas Fitzgerald 1859; S½ of Lot 13, Con 1 - John Chaffey 1873; W½ Lot 12, Con 2 - John Chaffey 1864; W½ Lot 13, Con 2 - Thomas Fitzgerald 1855 (OLR). The latter three properties were in the hands of the McNichols family by 1900 and have remained so ever since.

The 1860 Walling Map of Frontenac County (Figure 6) shows Thomas Fitzgerald on the N½ Lot 12, Con 1 and Edward Fitzgerald on the Lot 13, Con 2. The other two lots were not yet patented

but occupants are listed. Rather than John Chaffey the eventual patentee T. Watt is noted on Lot 13, Con 1 and H. McConnell on Lot 12, Con 2. Chaffey deeded Thomas Watt Lot 13, Con 1 in 1874 but McConnell is not referenced in the land registry records for Lot 12, Con 2 and may have been a squatter.

The N ½ of Lot 12, Con 1 continued to be owned by Thomas Fitzgerald Sr. from 1859 to 1875 when it was deeded to his son Thomas, who in turn deeded it to Michael Hickey in 1895. Thomas Fitzgerald, a 60 year old farmer, appears on the 1861 census living in a log cabin with his wife of the same age Lydia, son Thomas (21) and Jane Frawley (13), who appears to be related to the neighbours. On the same census Edward Fitzgerald is listed as a 26 year old farmer living in a log cabin with his 31 year old wife Sarah (nee Scott) and four children with the last name Kelly: Terance (11), Owen (8), Patrick (6) and William (3).

Transaction	Date	Grantor	Grantee	Quantity of land
Patent	June 6, 1854	Crown	John Frawley	S ½ 100 acres
Patent	June 21, 1859	Crown	Thomas Fitzgerald	N ½ 100 acres
Deed	Nov. 18, 1875	Thomas Fitzgerald et ux	Thomas Fitzgerald	N ½
Deed	1883	Thomas Fitzgerald et ux	Thomas Fitzgerald	N ½ 100 acres
Deed	May 9, 1895	Thomas Fitzgerald	Michael Hickey	N ½ 100 acres
Grant	Sept. 15, 1923	Thomas Hickey for Michael Hickey	Margaret Coulter	N ½ 100 acres
Grant	Feb. 13, 1964	Margaret Anne Coulter	Michael John Coulter	N ½ 70 acres
Grant	June 30, 1969	Michael J Coulter et ux	Gerald R. Davey Ltd	Part Lot

**Table 1: Summary of land transactions for Lot 12, Concession 1 (Ontario Land Registry)**

The 1871 census has Thomas Sr. and Lydia living alone and Thomas Jr. living separately with his wife Bridgett (nee O'Connor) and two young children. Edward and Sarah Fitzgerald now had six children with Thomas (11) the oldest. The Kelly children were no longer living with Edward and Sarah but in their own residence, likely on the S½ of Lot 13, Con 1.

The 1878 Meacham map (Figure 7) of Bedford Township shows a Thomas Fitzgerald in a residence on the N½ Lot 12, Con 1. This would be Thomas Jr. as Thomas Sr. likely died before the property was deeded in 1875. On the same map Edward Fitzgerald is shown in a house on the W½ Lot 13, Con 2. Thomas Fitzgerald Sr. deeded this property to his son Edward in 1875 though Edward was likely living there by the 1861 census. Edward sold the property to his son Terence in 1897 who in turn sold it to Thomas McNicholas (McNichols) in 1900.

Lastly Owen Kelly is shown with a residence on the S½ of Lot 13, Con 1. Thomas Watt in 1874 by John Chaffey and the following year to Owen Kelly. Owen in turn deeded it to Edward Fitzgerald in 1879, who deeded it to Charles Coulter later the same year. Interestingly on the 1881 census the Kelly children, now adults, are living with Edward and Sarah and listed with the Fitzgerald surname possibly indicating they had been adopted. Coulter hung on to the property 1888 when he deeded it to Benson Coulter who in turn deed it to Thomas McNicholas in 1893.

Transaction	Date	Grantor	Grantee	Quantity of land
Patent	Nov. 20, 1873	Crown	John Chaffey	200 acres
Deed	Dec. 3, 1874	John Chaffey	Thomas Watt	200
Deed	Oct. 20, 1875	Thomas W. Watt et ux	Owen Kelly	Lot
Deed	April 5, 1879	Owen Kelly	Edward Fitzgerald	Lot
Deed	Oct. 30, 1879	Ed. Fitzgerald et al	Charles Coulter	Lot
Deed	Nov. 5, 1880	Charles Coulter et ux	William Sturdevant	N ½ 100 acres
Deed	May 20, 1884	Henry Cunningham et al	Edwin Chown	Lot 200
Deed	Aug. 15, 1888	Charles Coulter et ux	Benson A. Coulter	S ½
Deed	Feb. 15, 1893	Benson Coulter et ux	Thomas McNicholas	S ½ 100 acres

**Table 2: Summary of land transactions for Lot 13, Concession 1 (Ontario Land Registry)**

Transaction	Date	Grantor	Grantee	Quantity of land
Patent	June 5, 1859	Crown	John Connors	E ½ 100 acres
Patent	Dec. 20, 1864	Crown	John Chaffey et al	W ½ 100 acres
Deed	Sept. 18, 1875	J.G. McDonald et al	Anne McNichols	W ½
Deed	June 16, 1897	Anne McNichols	Terence Fitzgerald	W ½
B&S	May 10, 1900	Terence Fitzgerald et ux	Thomas McNicholas	W ½

**Table 3: Summary of land transactions for Lot 12, Concession 2 (Ontario Land Registry)**

Transaction	Date	Grantor	Grantee	Area
Patent	June 23, 1855	Crown	Thomas Fitzgerald	W ½ 100 acres
Patent	Mar. 16, 1883	Crown	John Hastings	E ½ 100 acres
Deed	Nov. 18, 1875	Thomas Fitzgerald et ux	Ed. Fitzgerald	W ½
B&S	Aug. 19, 1897	Edward Fitzgerald et ux	Terence Fitzgerald	W ½, 100 a
B&S	May 10, 1900	Terence Fitzgerald	Thomas McNicholas	W ½, 100 a

**Table 4: Summary of land transactions for Lot 13, Concession 2 (Ontario Land Registry)**

None of the three houses shown on the 1878 Meacham map are within the study area. However based on the census and map data the cabin belonging to Thomas Fitzgerald Sr. is not shown on the 1878 map and is should be located on either N½ Lot 12, Con 1 or the W½ Lot 13, Con 2. The location of Thomas Fitzgerald Jr.'s residence in 1878 corresponds to a small abandoned house with a stone cellar (Plate 31) outside of the study area.

## Archaeological Context

The Paleo-Indian Period in Eastern Ontario (here defined as east of the Trent River watershed) began during the Belleville phase of Lake Iroquois (12000 BP) when the land between the ice covered Algonquin Highlands and Lake Iroquois was exposed as far east as the Champlain Sea (Muller and Prest 1985). Later as the land rebounded from the weight of the glacier the shallows of Lake Iroquois were exposed as a lowland plain sloping to the south. Bands of hunters moved into the area after a tundra environment with Pleistocene fauna became established. Palaeo sites are rare but not unknown in Eastern Ontario as indicated by the recovery of two lanceolate points from Lanark County and a chipped stone ulu knife from the Bob's Lake area. Hi-Lo points from the Late Paleo period are known from such locations as Gananoque and Kingston Mills. There are also at least three fluted points in the Royal Ontario Museum collection recorded from Eastern Ontario.

Towards the end of the Palaeo Period during the Admiralty phase the level of the Great Lakes began to drop as the outflow switched from the Hudson River to the St. Lawrence (Anderson and Lewis 1985). The Great Lakes continued to shrink in size until 10,000 BP when the level of Lake Ontario was considerably lower than today (Anderson and Lewis 1985). After this the level of Lake Ontario steadily rose throughout the subsequent Archaic Period until about 4,000 BP when it peaked about three metres higher than the present levels (Anderson and Lewis 1985).

The Archaic Period began around 9000 BP in Eastern Ontario and was marked by the extinction of Pleistocene megafauna, an increase in deciduous trees in the forests and the transition to a broader way of life with a stronger reliance on fishing and the harvesting of nuts, wild foods. The bulk of the goods made by First Nations at the time, were of biodegradable materials, which do not generally survive in the archaeological record. Consequently the majority of the artifacts found on Archaic sites are stone tools and chipping debris, though in good soil conditions bone/shell objects are also preserved. About 6,000 years ago copper artifact began to be traded into Eastern Ontario from the Lake Superior region.

For the most part the Archaic way of life appears similar to that of historic Algonquin, Cree and Anishnabe of Upper and Lower Canada. In the spring family groups congregated into larger encampments around the mouths of rivers/creeks, rapids and waterfalls in order to harvest successive fish runs. When these encampments were located on important transportation routes trade also was an important activity. A good example of this type of site is the extensive Archaic period occupations on Allumette and Morrison Islands in the Ottawa River where Archaic period artifacts starting from the Early Archaic are found including a high frequency of copper items. Smaller but similar sites that span the entire Archaic period are located along the Rideau River including the Wught and Driscoll sites (Watson 1999).

In the late fall family groups dispersed across the landscape to individual hunting territories often located on interior lakes where they trapped and hunted. After freeze-up fish were caught through the ice by line and spear. A polished stone fish lure is known from the town of Perth and likely dates from the Archaic period. Small campsites are well known from the shores of the interior lakes of the region and many are likely winter cabins. Bob's Lake to the north which is now linked with Buck Bay has numerous small encampment sites around its shore including five from the Archaic period.

By the Late Archaic cemeteries and burial goods are first recorded in the region. The range of exotic materials increases in this period. One of the best indicators for a strong presence in the Archaic is the high proportion of Lamoka points recovered in the Ottawa watershed.

The beginning of the Woodland period was marked by the appearance of pottery on First Nation's sites. Some of the earliest pottery found in Ontario has been recovered from sites along the Ottawa River including Constance Bay. In Eastern Ontario around 3000 BP, the Meadowood Culture of Western New York State began to be present in the St Lawrence Valley and the Lake Ontario lowlands. Trade with the resident peoples, including those in the Ottawa Valley is evidenced by the common finds of Meadowood points are common in the Ottawa watershed both on sites and as isolated findspots. These points are almost always on Onondaga chert and they were likely produced finished or as cache blades by Meadowood craftsmen for trade.

Shortly after 2700 BP the Middle Woodland Period began with a steady increase in the population of Ontario. Long distance trade is evident from the continued presence of exotic materials such as marine shell, mica and exotic cherts. During the subsequent Late Woodland period Iroquoian coil made pottery is found on sites in the Ottawa watershed. Like the Meadowood points many of these pots were likely acquired through trade. Iroquoian villages appear to be absent from the Ontario portion of the Ottawa River watershed with the closest ones located near the Lake Ontario shore around Kingston.

Like the Archaic, small encampments are common around the interior lakes of the region during the Woodland period. At least nine Woodland sites or components are known from Bob's Lake and others are present on nearby Crotch, Otty and Wolfe lakes. Woodland components are present on the larger congregation sites as well, with the ones on the big rivers essentially occupied continuously.

The subject property is located within the Frontenac Axis physiographic region, an extension of the Canadian Shield. The landscape is dominated by exposed granite and metamorphic outcrops with lakes and marshes in the depressions. While conifers predominate deciduous trees are still a significant proportion of the forest cover.

First Nation's sites in the Frontenac Axis are primarily located on the waterways or former shorelines. They can be either single component representing a single occupation or multi component with more than one occupation, often from a number of time periods.

Consultation with the Ministry of Tourism Culture and Sport's Archaeological Sites Database found that there are no registered archaeological sites within the subject property and (prior to the Stage 2 assessment for pit expansion) no registered sites were located within one kilometre of the property (MTCS 2018).

No historical plaques or monuments are associated with the property and as far as can be determined no archaeological work other than that described above has been conducted within 50 metres of the subject property.

The soil of the study area consists of White Lake gravelly sandy loam (WS1), a calcareous outwash gravel that is well to rapidly drained sandwiched between areas of Rockland (RL) (Agriculture Canada 1965, Figure 8). The sand and gravel pit is located here for obvious reasons. Currently the study area consists of approximately 50% agricultural land and 50% woodland and overgrown fields on the east and west sides of Buck Bay Road (Figure 9). Behind the existing house on the N½ of Lot 12 Con 1 a previous owner had a borrow pit where 3 – 4 metres of sand and gravel had been removed from a 60 x 100m area. Consequently, there is no archaeological potential for this area.

The Stage 2 archaeological assessment was conducted on June 1, September 4, September 28 and November 7, 2018.

## Maps

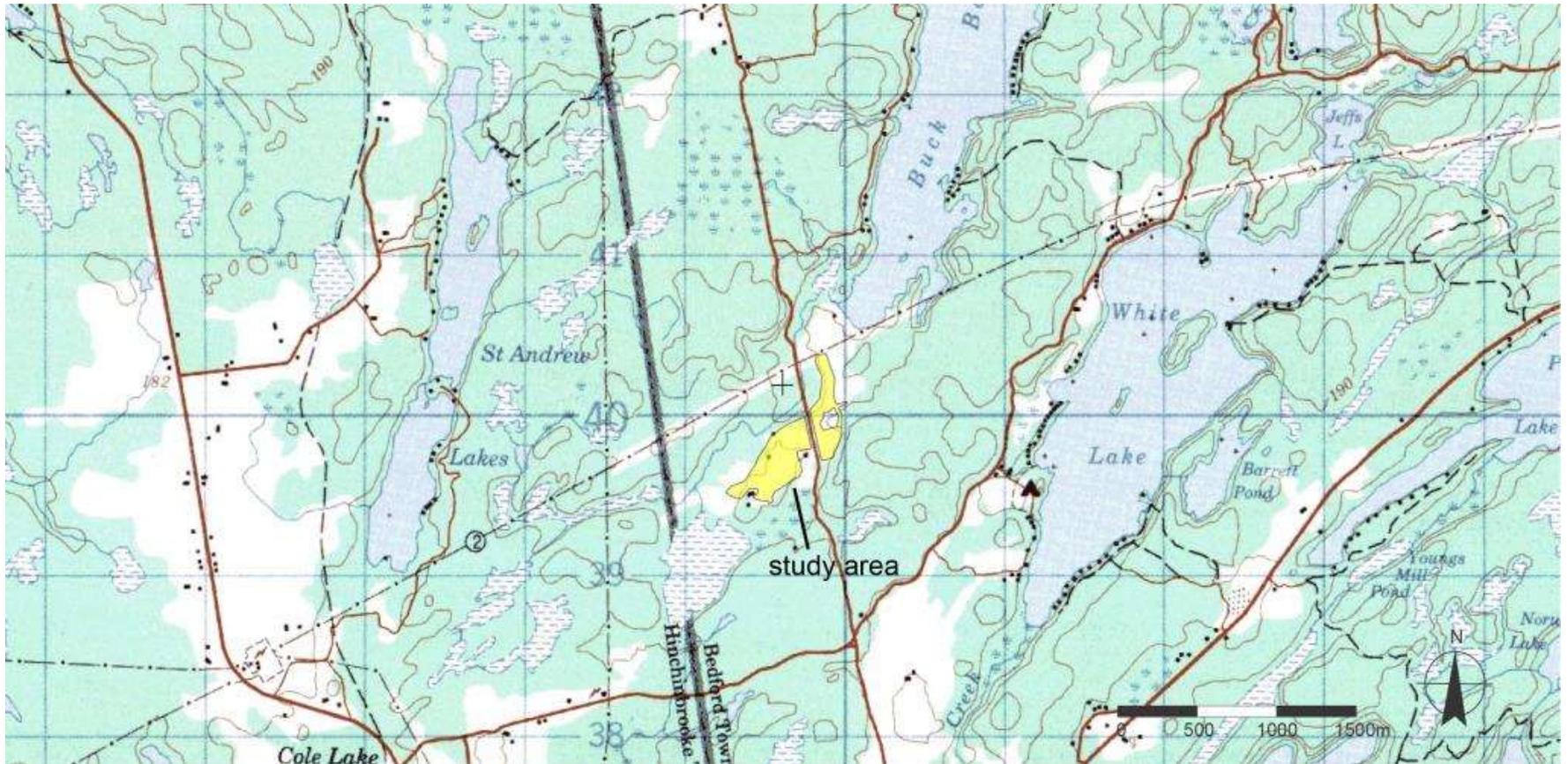


Figure 1: Stage 2 study area shown on the NTS 1:50,000 map (31C/10)

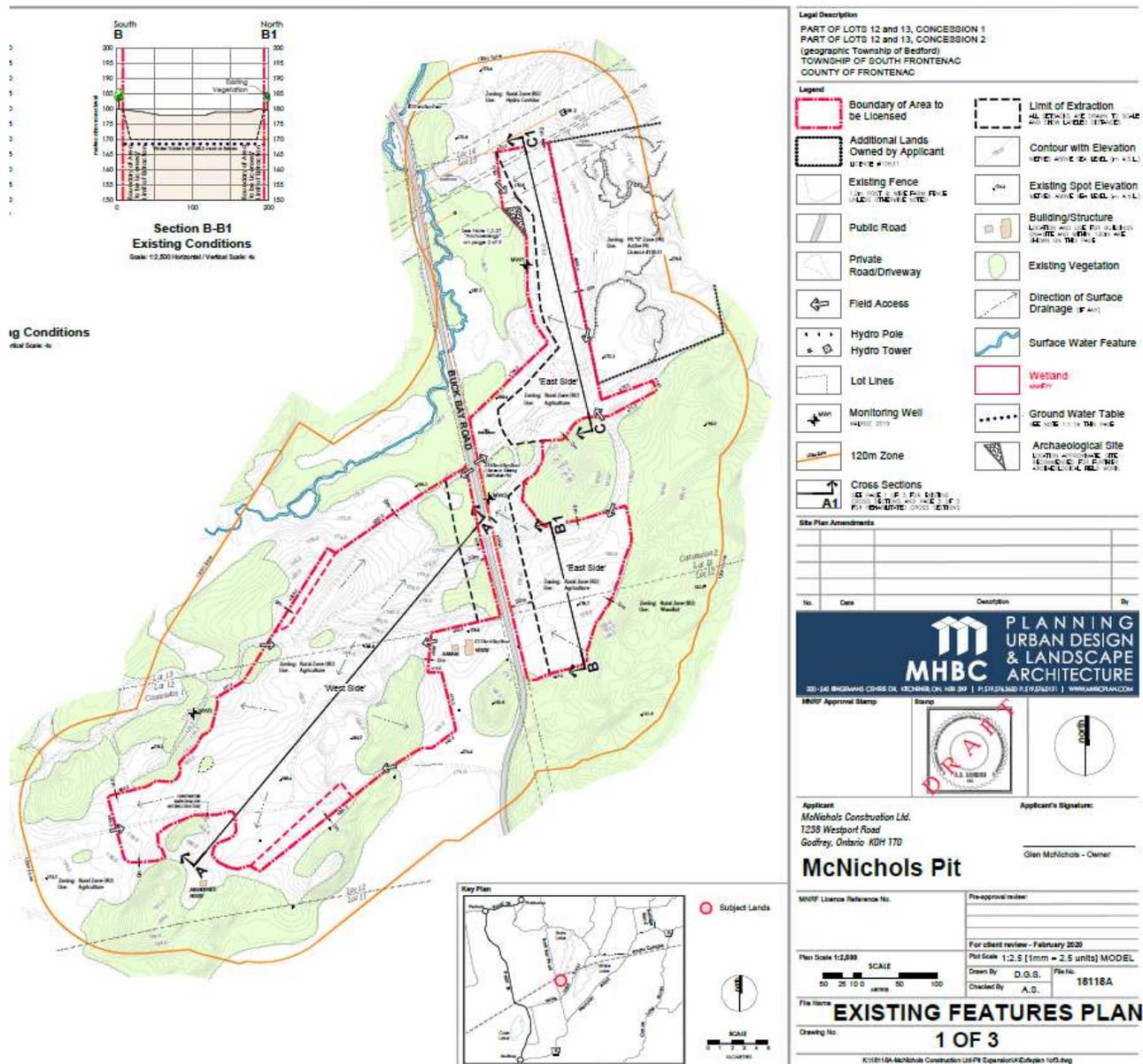
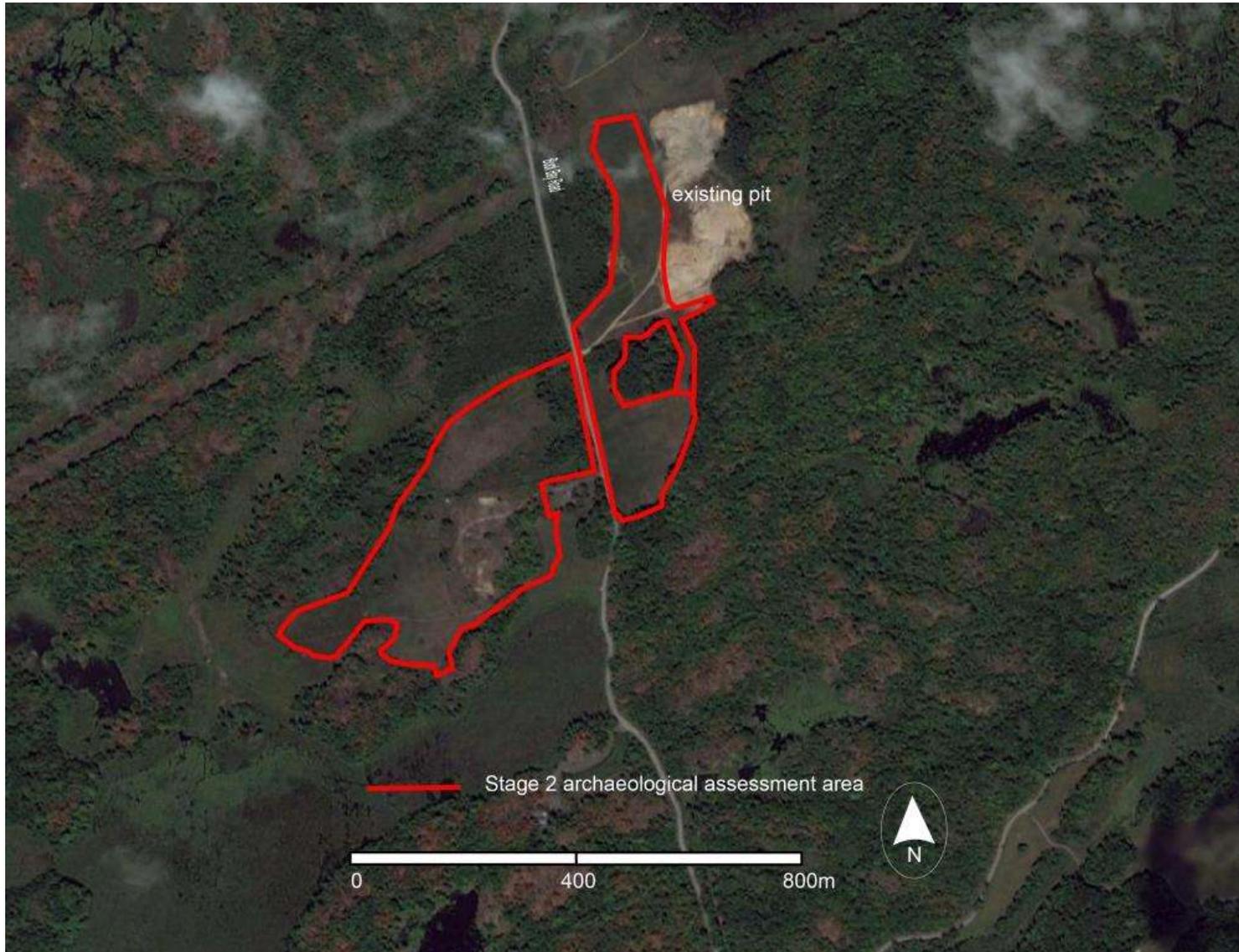


Figure 2: Development plan showing proposed pit extension license limits in red (MHBC 2020)



**Figure 3: Aerial view of Stage 2 study area (base image Google Earth)**



**Figure 2**  
**Subject Lands**

**LEGEND**  
 Subject Lands  
 Stage 2 archaeological assessment area

DATE: February 2020

FILE: 18118A

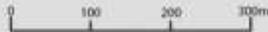
SCALE 1 : 7,500

DRAWN: DGS



**McNichols Construction Ltd.**  
 PART OF LOTS 12 and 13, CONCESSION 1  
 PART OF LOTS 12 and 13, CONCESSION 2  
 (geographic Township of Bedford)  
 TOWNSHIP OF SOUTH FRONTENAC  
 COUNTY OF FRONTENAC

Base Map Source:  
 GeoOptic drone flight, 2019 and Google Earth Imagery, 2019



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**PLANNING  
 URBAN DESIGN  
 & LANDSCAPE  
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**Figure 4: Stage 2 area in relation to proposed pit boundaries (base image MHBC 2020)**

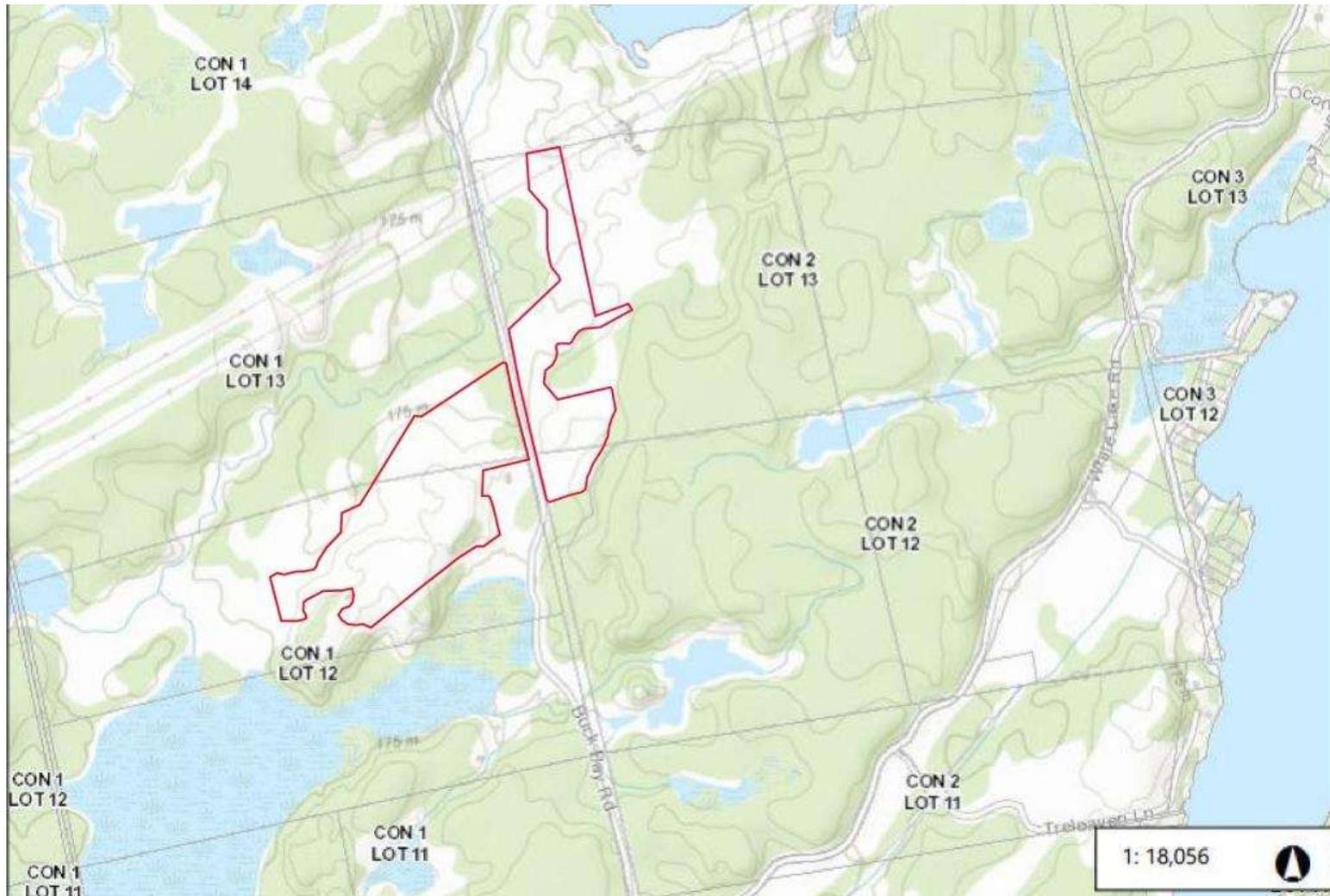


Figure 5: Proposed pit extension in red with Lots and Concessions (base image Frontenac County Public GIS)



Figure 6: Detail from 1860 Walling Map of Frontenac County with four lots (in red) where the proposed new pit is located



Figure 7: Proposed pit extension on the 1878 Meacham map, in red

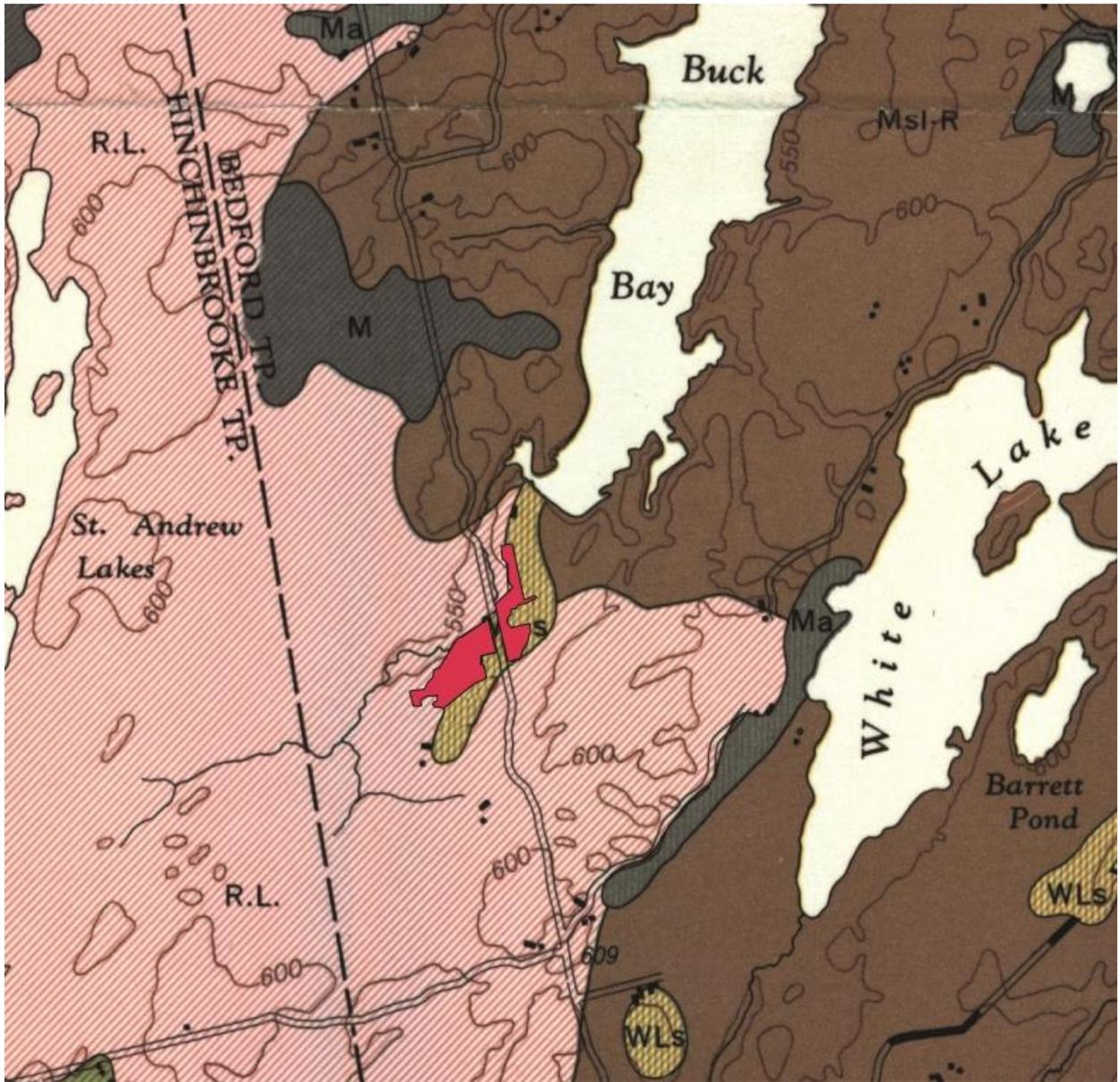
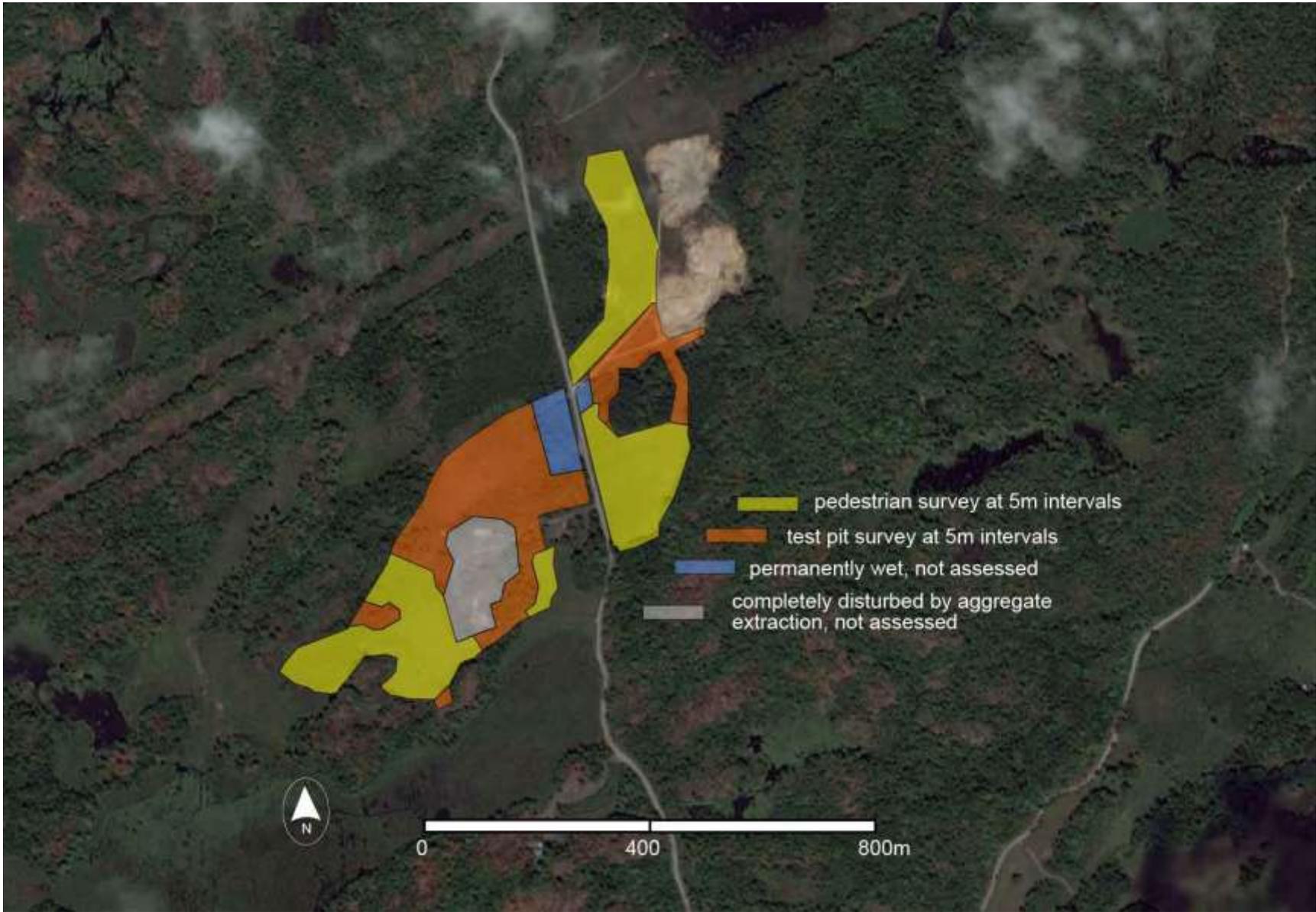
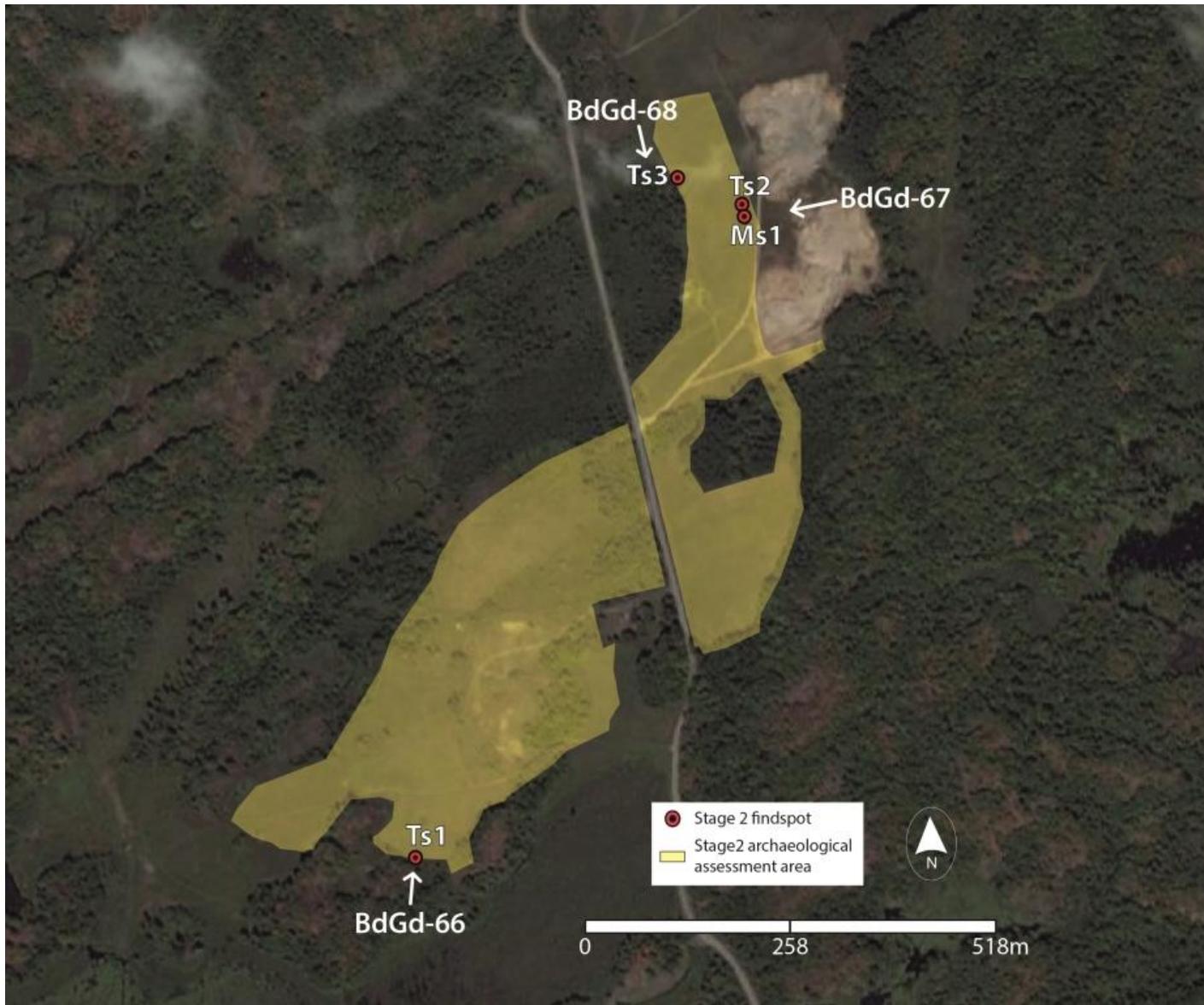


Figure 8: Proposed pit extension in red on the soil map (Agriculture Canada 1965)



**Figure 9: Stage 2 assessment methodology (base image Google Earth 2016)**



**Figure 10: Location of findspots (base image Google Earth 2016)**

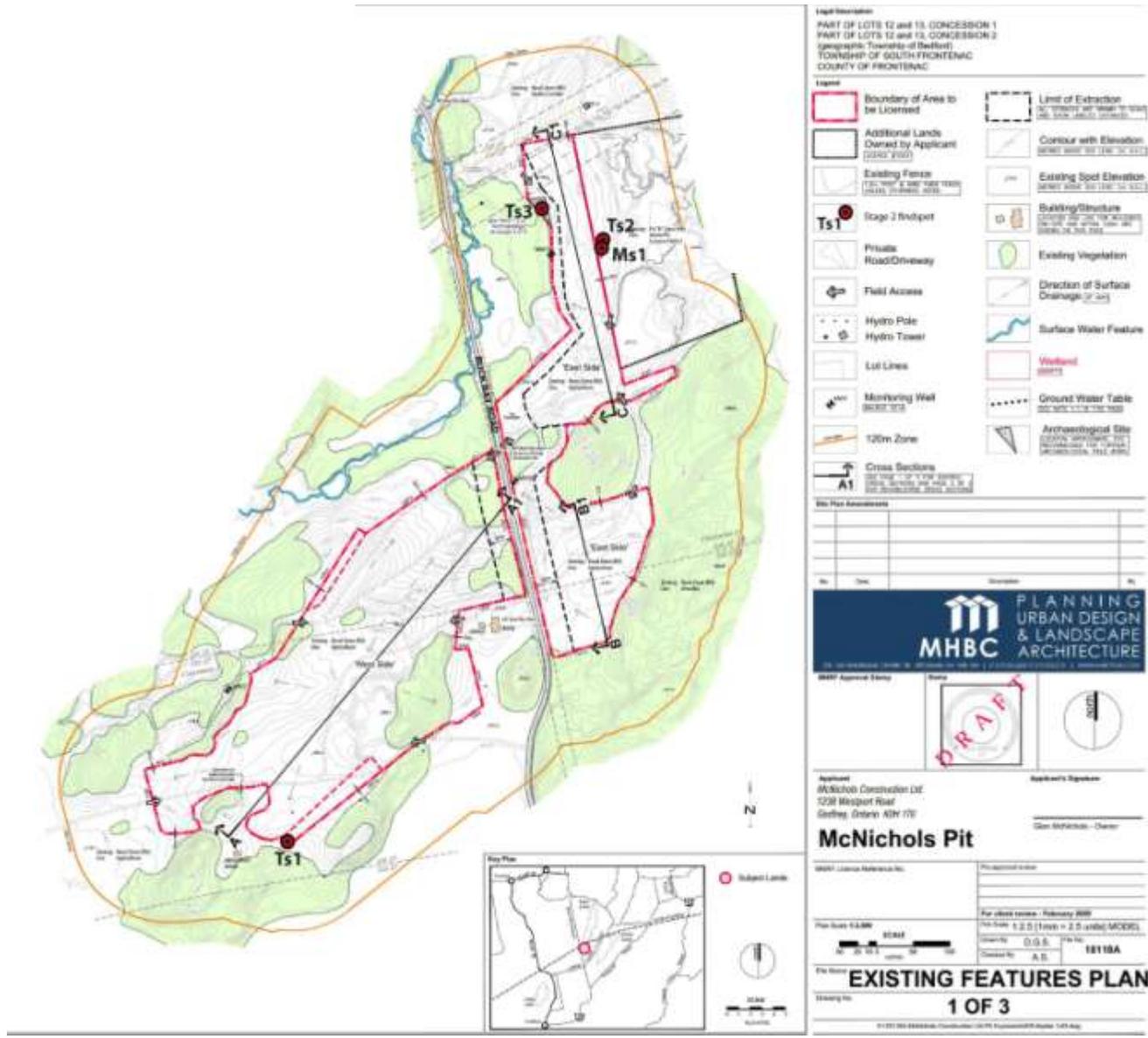


Figure 11: Location of findspots on development plan (base plan MHBC 2020)

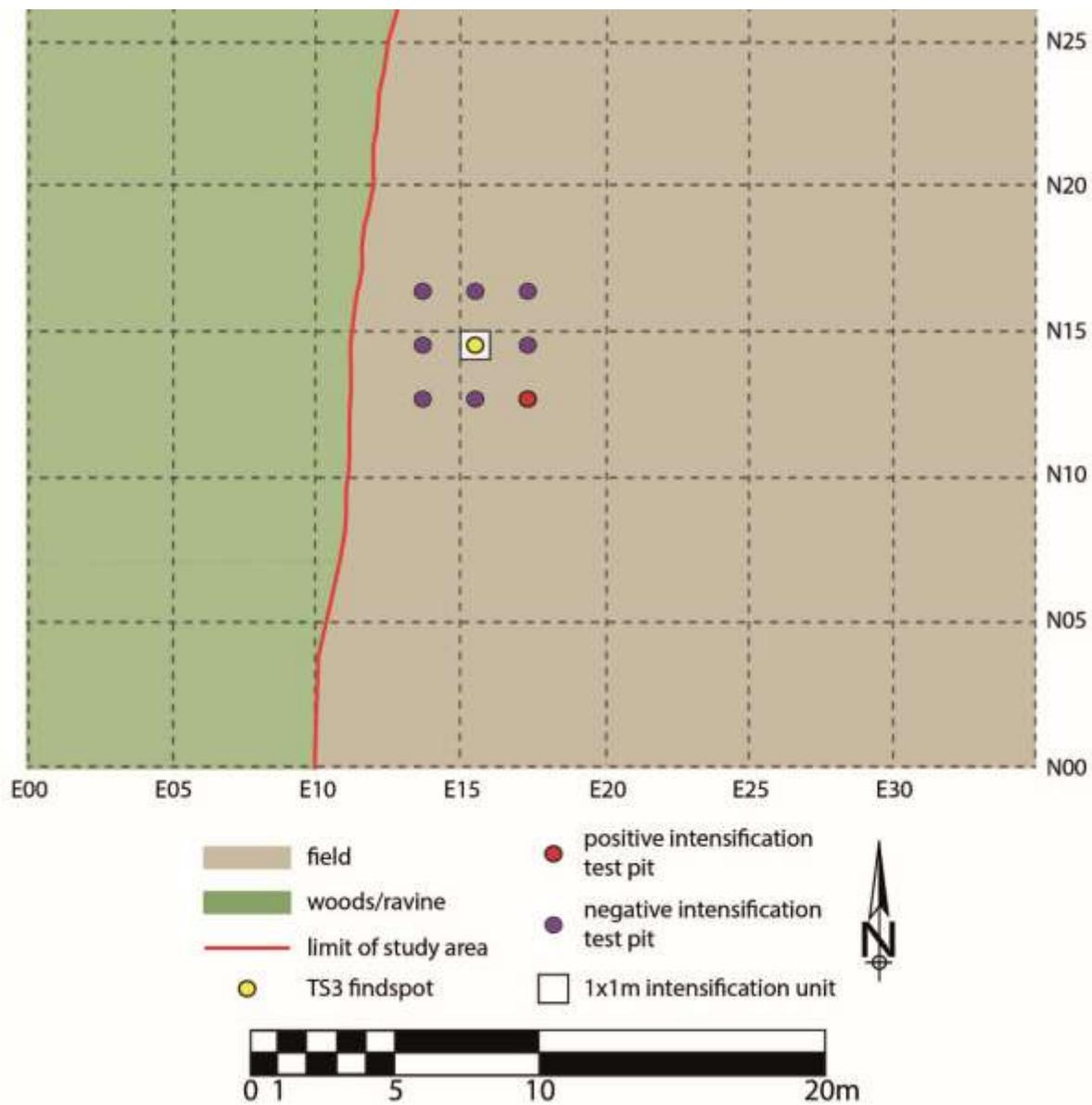


Figure 12: BdGd-68 (TS3) intensification plan

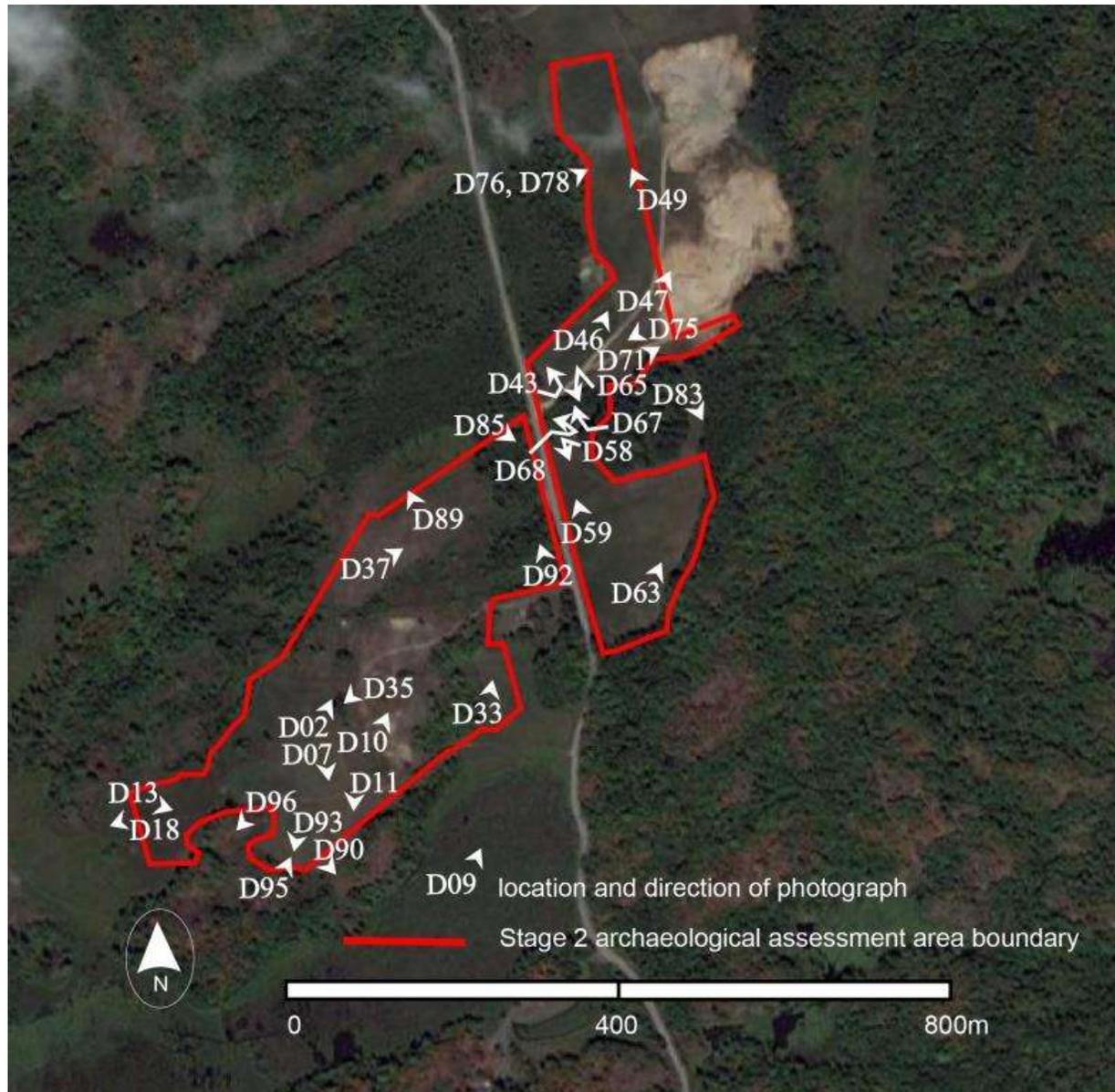


Figure 13: Photograph directions by photograph catalogue number (base map Google Earth 2016)

## Field Methods

The Stage 2 study area consisted of a combination of agricultural fields and overgrown fields and wooded areas. The overgrown fields and wooded areas (comprising approximately 50% of the study area) were assessed for archaeological resources through a test pit survey conducted at 5m intervals. Test pits measured a minimum of 30cm in diameter and were excavated at least 5cm into sterile subsoil, with all backdirt screened through 6mm steel mesh screens. Test pits were backfilled upon completion. The test pits were examined for evidence of fill, stratigraphy and cultural features. The limit of the study area corresponded to the limits of the proposed pit license area (at the time) which were marked in the field by the proponent.

The active agricultural fields (comprising approximately 50% of the study area) were assessed for archaeological resources through a pedestrian survey. The fields were ploughed with a mould board plough and subjected to a heavy rain prior to the pedestrian survey. The pedestrian survey was conducted at 5m intervals immediately following the rain, with the still damp soil giving excellent conditions for observing archaeological remains.

An area near Buck Bay Road on both the east and west sides of the road is low lying and wet and was not assessed. A large area on the west side of the property has been stripped of topsoil and underlying sand and gravels at some time in the near past and also was not included in the current archaeological assessment (Figure 9).

Positive find spots were labelled sequentially with the initials of the field technician responsible. For example the first positive test pit found by Ted Stewart was labelled TS1. Finds were flagged and geo-located using a Garmin Etrex HCX GPS with an accuracy of +/- 2 metres.

When the projectile point was discovered at TS1, and the flake discovered at TS3 during the pedestrian survey, survey transects were reduced to 1m intervals for a 20m radius around the find. As nothing else was found during the intensified survey for either location, a 1m x 1m unit was excavated over each findspot and 8 surrounding test pits located 2.5 metres from the findspot were excavated in order to gather additional data.

A 1x1 m unit was not excavated over the sherd found at TS2 as a single Woodland sherd is automatically deemed to have cultural heritage value or interest, requiring Stage 3 assessment ((S&G 2.2 S1bi).

A catalogue of the artifacts recovered during the Stage 2 assessment is included in the report as Appendix B. The artifacts were catalogued by positive test pit number.

The weather was appropriate for an archaeological assessment with sunny skies and high temperatures between 20 and 25° C on June 1 and September 4, mixed sun and cloud and a high temperature of 21° C on September 28 and mixed sun and cloud and a high temperature of 6 °C on November 7. The field records and associated documentation are stored at the offices of Ground Truth Archaeology in Quinte West, Ontario until a suitable repository is established.

## Record of Finds

Inventory of field notes: Author/recorder – Helen Sheldon

Field notes: 1910140NB1-2

Photographs: 1910140D01-96

Packed artifact inventory – located in banker's box labelled GTAB-083.

The soil in the study area consisted of 10-20 cm of medium brown loamy sand topsoil over an orange brown sand subsoil.

Three archaeological find areas were discovered during the Stage 2 survey, all located within ploughed fields and found during the pedestrian surveys. The first findspot consisted of a single projectile point (TS1) that was registered with MTCS and assigned Borden Number BdGd-66. No other artifacts were discovered during the intensified pedestrian survey or in the 1m<sup>2</sup> unit excavated over the find or in the eight test pits excavated around the findspot. The point is of Onondaga chert with the tip and the base missing. It is notched, but the missing base makes it difficult to determine whether the notches are from the corner or from the side and consequently the age of the projectile point could not be determined.

The second findspot area was on the east side of the property near the existing sand and gravel pit. These finds consisted of a single Woodland ceramic sherd (TS2) plus a relatively large retouched flake of Onondaga chert (MS1).

The single body sherd of indigenous pottery recovered from TS2 was 2cm x 2.5cm and 9 mm thick. The sherd is fragile with internal fissures parallel to the surface of the sherd indicating it would delaminate easily. The interior of the sherd had been burnished while the exterior was rugged, at least partly due to weathering. It was not clear if the exterior had been decorated but if it was ribbed paddle was the likely technique used. The sherd was coil made and should be considered broadly as Middle Woodland. This site was registered as BdGd-67.

The third findspot area (TS3) was downslope from TS2 and consisted of a single chert flake. A 1m x 1m intensification unit was placed over the findspot resulting in the recovery of five more flakes. A single flake was found in the test pit placed southeast of the 1 x 1. Two of the seven flakes were of Onondaga chert while the remaining five were of an unidentified dark grey chert. The presence of two lithic types at the sites indicates that this was not merely the location of a single knapping episode. The site was registered as BdGd-68.

## Images



**Plate 1: Pedestrian survey in west fields (1910140D02)**



**Plate 2: Pedestrian survey in west fields (1910140D07)**



**Plate 3: Excavated area on west side of property (1910140D10)**



**Plate 4: Pedestrian survey in west fields (1910140D11)**



**Plate 5: Pedestrian survey in west fields (1910140D13)**



**Plate 6: Large marsh at west end of west fields (1910140D18)**



**Plate 7: Pedestrian survey in west fields (1910140D33)**



**Plate 8: Test pit survey on west side of property (1910140D35)**



**Plate 9: Test pit survey on west side of property (1910140D37)**



**Plate 10: Pedestrian survey in east fields (1910140D43)**



**Plate 11: Pedestrian survey in east fields (1910140D46)**



**Plate 12: Existing pit (1910140D47)**



**Plate 13: Pedestrian survey in east fields (1910140D49)**



**Plate 14: Pedestrian survey in east fields (1910140D58)**



**Plate 15: Pedestrian survey in east fields (1910140D59)**



**Plate 16: Pedestrian survey in east fields (1910140D63)**



**Plate 17: Test pit survey on east side of property (1910140D65)**



**Plate 18: Test pit survey on east side of property (1910140D67)**



**Plate 19: Permanently wet area on east side of property (1910140D68)**



**Plate 20: Test pit survey on east side of property (1910140D71)**



**Plate 21: Test pit survey on east side of property (1910140D75)**



**Plate 22: Excavating 1x1 over TS3 (1910140D76)**



**Plate 23: Completed 1x1 over TS3 (1910140D78)**



**Plate 24: Test pit survey on east side of property (1910140D83)**



**Plate 25: Permanently wet area on west side of property (1910140D85)**



**Plate 26: Test pit survey on west side of property (1910140D89)**



**Plate 27: Test pit survey on west side of property (1910140D90)**



**Plate 28: Test pit survey on west side of property (1910140D92)**



**Plate 29: Excavating 1x1 over TSI (1910140D93)**



**Plate 30: Completed 1x1 over TSI (1910140D95)**



**Plate 31: Abandoned house off southwest edge of study area (1910140D96)**



**Plate 32: Point at TS1 (BdGd-66), side 1**



**Plate 33: Point at TS1 (BdGd-66), side 2**



**Plate 34: Precontact ceramic sherd TS2 (BdGd-67)**



**Plate 35: Retouched flake MS2 (BdGd-67)**



**Plate 36: Flakes from TS3 and 1x1 (BdGd-68)**



**Plate 37: Flake from SE test pit around TS3 (BdGd-68)**

## **Analysis and Conclusions**

In June, September and November of 2018 Ground Truth Archaeology Limited conducted a Stage 1-2 archaeological assessment of a proposed sand and gravel pit extension located on Buck Bay Road in Frontenac County. Specifically, the study area encompasses part of Lots 12 and 13, Concession 1 (west of Buck Bay Road) and part of Lots 12 and 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario

The study area has relatively late patent dates ranging from 1854 to 1873 for the four lots. The three houses that appear on the 1878 Meacham map of the township lie outside the boundary of the proposed pit extension (Figure 7). However, research indicated that an early cabin associated with the initial settlement of the lot by Thomas Fitzgerald may be present within the study area. In the end, no historic artifacts were recovered during the Stage 2 assessment.

The major indicator of archaeological potential for the study area is its proximity to water. Property lying within 300 metres of a watercourse (the small creeks on the north and southwest) (Figure 2) is considered to have moderate to high potential for the presence of archaeological resources (MTC 2011). Additionally, the property lies in an area of sandy deposits within a surrounding of rocky land which also is an indicator of archaeological potential (MTC 2011).

Three precontact findspots were discovered during the pedestrian survey portion of the Stage 2 assessment. On the west side of Buck Bay Road at the western limit of the study area an isolated projectile point was recovered and registered as BdGd-66. This point was non-diagnostic and not considered to have archaeological potential.

On the east side of Buck Bay Road a retouched flake of Onondaga chert and a sherd of Middle Woodland pottery were found in a location along the northern edge of the proposed pit license area. This site was registered as BdGd-67 and because of the presence of the Middle Woodland sherd has a high level of cultural heritage value and will require Stage 4 mitigation.

A chert flake was found on the southern edge of the proposed pit license area about 100m southwest of BdGd-67 on the edge of a shallow ravine. Intensified testing consisting of a 1m x 1m unit and 8 surrounding testpits turned up another six flakes from two different chert types. This site was registered as BdGd-68 and is confirmed to have cultural heritage value through consultation between Ground Truth and Chief Doreen Davis of the Shabot Obaadjiwan.

The nearest source of water to both BdGd-67 and BdGd-68 is a small creek that lies to the west in a shallow ravine (Figure 11). According to Chief Doreen Davis of the Shabot Obaadjiwan this ravine is referred to as “the gut” linking Buck Bay to waterways to the southwest.

## Recommendations

As a result of the Stage 1/2 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists* and with consultation with Chief Doreen Davis of the Shabot Obaadjiwan, Ground Truth Archaeology makes the following recommendations in regards to the sites discovered:

:

- The single projectile point (TS1) registered as BdGd-66 was determined to be an isolated find, with no associated cultural resources and does not require further archaeological assessment or mitigation (Figure 11).
- The pre-contact site BdGd-67 has cultural heritage value or interest and requires a Stage 3 archaeological assessment. As the site produced a Woodland ceramic sherd. The Stage 3 assessment should consist of the hand excavation of 1 m<sup>2</sup> units on a ten metre interval grid with additional units amounting to 40% of the grid unit total placed in areas of interest (Figure 11).
- The pre-contact site BdGd-68 has cultural heritage value or interest and requires a Stage 3 archaeological assessment. The Stage 3 assessment should consist of the hand excavation of 1 m<sup>2</sup> units on a five metre interval grid with additional units amounting to 20% of the grid unit total placed in areas of interest (Figure 11).
- The Stage 3 archaeological assessments must adhere to the requirements of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), specifically S&G 3.2.2 (Test unit excavation) and 3.2.3 (Determining the location and number of test pits).
- The remainder of the study area (as illustrated in Figure 10) was found to have no archaeological resources and is considered to have been cleared of all archaeological concerns.

## Advice on Compliance with Legislation

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

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

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

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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

## References

### Maps

NTS – 1:50,000 map (31C/10)

Google Earth base image August 25, 2016, accessed October 9, 2018

Frontenac County Public GIS, accessed May 31, 2018

### Archival Map References

Mika

1977 Frontenac, Lennox and Addington Counties (Ontario Map Ref #31 and #30)  
*Illustrated historical atlas of the counties of Frontenac, Lennox and Addington, Ontario.*  
Toronto: J.H. Meacham & Co., 1878.

Canada Department of Agriculture

1965 Soil Map of Frontenac County, Ontario, South Sheet, Soil Survey report No. 39. Ottawa.

### Primary Historic Documents

Ontario Land Registry (OLR) Records Bedford Township, Frontenac County

### On line sources

OL1: <http://bucklake.ca/about-us/history/early-history>

### Other

Crabtree, Don E.

1972 An Introduction to Flintworking. Occasional Papers of the Idaho State University  
Museum, No. 28. Potacello, Idaho.

Ellis, Christopher J.

1979 Analysis of Lithic Debitage From Fluted Point Sites in Ontario. Unpublished M.A. Thesis, Dept.  
of Anthropology, McMaster University, Hamilton, Ontario.

Emerson, J. Norman

1956 Understanding Iroquois Pottery in Ontario. *Ontario Archaeology* 3:1-66.

Fisher, Jacqueline

2008 BbGc-43 - ND2 Site, Stage 4 Report Volume II: Prehistoric Component, Part 2:  
Prehistoric Lithics Analysis. Consultant report, Cataraqui Archaeological Research  
Foundation.

Latta, Martha A.

1980 A Decorative Paradigm: The Late Iroquoian Ceramic Tradition in *Proceedings of the 1979 Iroquois Pottery Conference. Research Records No.13*. Research Division, Rochester Museum of Science pp 159-177.

Ministry of Tourism and Culture (MTC)

2011 Standards and Guidelines for Consultant Archaeologists. Ministry of Culture: Toronto.

Ministry of Tourism, Culture and Sport (MTCS)

2018 Sites within a One Kilometre Radius of the Project Area Provided from the Ontario Archaeological Sites Database, May 2018.

Ritchie, W. A., and R. S. MacNeish

1949 The Pre-Iroquoian Pottery of New York State. *American Antiquity* 15(2):97-124.

Wright, James V.

1966 *The Ontario Iroquois Tradition*. Bulletin 210, National Museum of Man. Ottawa.

## Appendix A: Photograph Catalogue

Photo #	Description	Direction	Date
1910140D01	field conditions, west side	D	June 1, 2018
1910140D02	pedestrian survey in west fields	E	June 1, 2018
1910140D03	view over western fields	W	June 1, 2018
1910140D04	view over western fields	S	June 1, 2018
1910140D05	field conditions, west side	S	June 1, 2018
1910140D06	pedestrian survey in west fields	N	June 1, 2018
1910140D07	pedestrian survey in west fields	S	June 1, 2018
1910140D08	outbuildings on edge of west fields	S	June 1, 2018
1910140D09	quarried out area on west side	S	June 1, 2018
1910140D10	edge of quarried out area on west side	NE	June 1, 2018
1910140D11	pedestrian survey in west fields	S	June 1, 2018
1910140D12	outbuilding on edge of west fields	W	June 1, 2018
1910140D13	pedestrian survey in west fields	SE	June 1, 2018
1910140D14	field conditions, west side	W	June 1, 2018
1910140D15	pedestrian survey in west fields	SW	June 1, 2018
1910140D16	pedestrian survey in west fields	W	June 1, 2018
1910140D17	pedestrian survey in west fields	NW	June 1, 2018
1910140D18	marsh beyond west edge of study area	W	June 1, 2018
1910140D19	flags marking TS1	S	June 1, 2018
1910140D20	flags marking TS1	E	June 1, 2018
1910140D21	flags marking TS1	E	June 1, 2018
1910140D22	northern edge of quarried area	NE	June 1, 2018
1910140D23	centre of quarried area	E	June 1, 2018
1910140D24	northern edge of quarried area	NE	June 1, 2018
1910140D25	centre of quarried area	SE	June 1, 2018
1910140D26	test pit survey on west side	E	June 1, 2018
1910140D27	test pit survey on west side	SW	June 1, 2018
1910140D28	test pit survey on west side	SE	June 1, 2018
1910140D29	painted turtle laying eggs in field	D	June 1, 2018
1910140D30	painted turtle laying eggs in field	D	June 1, 2018
1910140D31	pedestrian survey in west fields	NE	June 1, 2018
1910140D32	baby garter snake	D	June 1, 2018
1910140D33	pedestrian survey in west fields	N	June 1, 2018
1910140D34	field conditions, west side	D	June 1, 2018
1910140D35	test pit survey on west side	W	June 1, 2018
1910140D36	outbuilding on west side	NW	June 1, 2018
1910140D37	testing northern ridge	NE	June 1, 2018
1910140D38	view along northern ridge	NE	June 1, 2018
1910140D39	testing northern ridge	SW	June 1, 2018
1910140D40	snapping turtle laying eggs in field	D	June 1, 2018
1910140D41	testing north edge of study area	N	June 1, 2018
1910140D42	testing north edge of study area	NW	June 1, 2018
1910140D43	pedestrian survey in east fields	NW	September 4, 2018
1910140D44	field conditions in east fields	D	September 4, 2018
1910140D45	pedestrian survey in east fields	NE	September 4, 2018
1910140D46	pedestrian survey in east fields	S	September 4, 2018
1910140D47	existing pit	E	September 4, 2018

Photo #	Description	Direction	Date
1910140D48	pedestrian survey in east fields	N	September 4, 2018
1910140D49	pedestrian survey in east fields	N	September 4, 2018
1910140D50	pedestrian survey in east fields	NW	September 4, 2018
1910140D51	pedestrian survey in east fields	S	September 4, 2018
1910140D52	field conditions in east fields	D	September 4, 2018
1910140D53	pedestrian survey in east fields	N	September 4, 2018
1910140D54	pedestrian survey in east fields	N	September 4, 2018
1910140D55	pedestrian survey in east fields	NW	September 4, 2018
1910140D56	view over east fields next to existing pit	S	September 4, 2018
1910140D57	pedestrian survey in east fields	W	September 4, 2018
1910140D58	pedestrian survey in east fields	S	September 4, 2018
1910140D59	pedestrian survey along Buck Bay Road	N	September 4, 2018
1910140D60	view over east field	S	September 4, 2018
1910140D61	pedestrian survey in east fields	S	September 4, 2018
1910140D62	pedestrian survey in east fields	NE	September 4, 2018
1910140D63	pedestrian survey in east fields	N	September 4, 2018
1910140D64	pedestrian survey in east fields	W	September 4, 2018
1910140D65	test pit survey on east side	SW	September 4, 2018
1910140D66	test pit survey on east side	W	September 4, 2018
1910140D67	test pit survey on east side	NW	September 4, 2018
1910140D68	wet area near pit entrance	W	September 4, 2018
1910140D69	test pit survey on east side	SE	September 4, 2018
1910140D70	south edge of pit road	E	September 4, 2018
1910140D71	testing south edge of pit road	E	September 4, 2018
1910140D72	south edge of pit road	E	September 4, 2018
1910140D73	view over existing pit	N	September 4, 2018
1910140D74	test pit survey on east side	W	September 4, 2018
1910140D75	test pit survey on east side	W	September 4, 2018
1910140D76	intensified testing around TS3	E	September 4, 2018
1910140D77	intensified testing around TS3	S	September 4, 2018
1910140D78	completed 1x1 over TS3	E	September 4, 2018
1910140D79	completed 1x1 over TS3	E	September 4, 2018
1910140D80	excavating extra test pits around TS3	SE	September 4, 2018
1910140D81	test pit survey on east side	N	November 7, 2018
1910140D82	test pit survey on east side	SE	November 7, 2018
1910140D83	test pit survey on east side	SE	November 7, 2018
1910140D84	permanently wet area on west side of road	SE	November 7, 2018
1910140D85	permanently wet area on west side of road	SE	November 7, 2018
1910140D86	test pit survey on west side	NW	November 7, 2018
1910140D87	north edge of property	W	November 7, 2018
1910140D88	test pit survey on west side	N	November 7, 2018
1910140D89	test pit survey on west side	NW	November 7, 2018
1910140D90	test pit survey on south edge of property	S	November 7, 2018
1910140D91	test pit survey west of Buck Bay Road	NE	November 7, 2018
1910140D92	test pit survey west of Buck Bay Road	N	November 7, 2018
1910140D93	excavating 1x1 over TS1	SW	September 28, 2018
1910140D94	completed 1x1 over TS1	N	September 28, 2018
1910140D95	completed 1x1 over TS1	N	September 28, 2018
1910140D96	abandoned house on west side	SW	November 7, 2018

## Appendix B: Artifact Catalogue

### Stage 2

Artifact Catalogue #		Material	Class	Type	Variety	Item	Portion	#	Notes
Findspot	AR #								
<b>BdGd-66</b>									
TS1	AR-01	stone	chert	Onondaga	notched	point	partial	1	base and tip missing, w=26, t=7.0 mm
<b>BdGd-67</b>									
MS1	AR-01	stone	chert	Onondaga	tertiary	retouched flake	complete	1	retouch on right margin
TS2	AR-01	ceramic	grit tempered			vessel		1	
<b>BdGd-68</b>									
TS3 / 1x1	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-02	stone	chert	unid dark grey	tertiary	flake	complete	4	
	AR-03	stone	chert	unid dark grey	biface thinning	flake	complete	1	
SE test pit	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	

# **Stage 3 Archaeological Assessment of BdGd-68, McNichol's Pit Extension**

**(Part Lot 13, Concession 2 (east of Buck Bay Road),  
Geographic Township of Bedford, now in the  
Township of South Frontenac, County of Frontenac,  
Ontario)**

<b>Licensee:</b>	<b>Helen Sheldon, M.A.</b>
<b>Licence #:</b>	<b>P191</b>
<b>Company:</b>	<b>Ground Truth Archaeology Limited</b>
<b>Prepared by:</b>	<b>Helen Sheldon, M.A.</b>
<b>PIF#:</b>	<b>P191-0151-2018</b>
<b>Development Name:</b>	<b>McNichol's Pit Extension</b>
<b>Development Project Designation #:</b>	<b>n/a</b>
<b>Date:</b>	<b>March 5, 2020</b>
<b>Report type:</b>	<b>Draft</b>

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## Executive Summary

In October of 2018 Ground Truth Archaeology Limited conducted a Stage 3 archaeological assessment of a small precontact site (BdGd-68) discovered during a Stage 2 assessment of a proposed extension of a sand and gravel pit located on Buck Bay Road in Frontenac County. The site is located on part of Lot 13, Concession 2 in Bedford Township that was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the property to Thomas McNicholas, an ancestor of the McNichols family who currently own the existing sand and gravel pit on the property.

The Stage 3 archaeological assessment consisted of the hand excavation of 12 1m<sup>2</sup> units on a five metre grid centred around the Stage 2 positive find TS3. An additional two units were excavated in areas of interest, primarily in the higher artifact yielding areas surrounding the Stage 2 findspots, for a total of 14 units.

Eleven additional flakes were obtained during the Stage 3 excavations at BdGd-68, bringing the site total for the Stage 2 and 3 assessments to 16 chert flakes. All flakes were either of Onondaga chert or of an unidentified dark grey chert. Despite the small size of the site and its low frequency of artifacts it is classified as having cultural heritage value or interest as precontact archaeological sites are scarce in the area and local First Nations consider the site significant and requiring Stage 4 avoidance and protection.

As a result of the Stage 3 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists* and with consultation with Chief Doreen Davis of the Shabot Obaadjiwan, Ground Truth Archaeology makes the following recommendations in regards to BdGd-68:

- The archaeological deposits at BdGd-68 have cultural heritage value or interest and require Stage 4 mitigation (S&G 3.4 S2), which will be addressed through avoidance and long term protection.
- Avoidance and protection measures for the portion of BdGd-68 that lies within the proposed pit license extension area should be undertaken through the Aggregate Resources Act site plan and license
- The site limits and a 10 m buffer zone shall be placed on the new pit license mapping with a designation that no extraction or any other disturbance can take place within the site limits and the 10 m buffer.
- The local approval authority (Ministry of Natural Resources and Forestry) must be made aware of the site and must acknowledge the protection of the site in the final pit license agreement.
- The western part of BdGd-68, which lies outside of the proposed pit license area may require further Stage 3 assessment to determine the western limits of the site where such limits may occur beyond the proposed license area

## **Project Personnel**

Licensee	Helen Sheldon (P191)
Field Director	Helen Sheldon (P191)
Historical Research	Helen Sheldon
Cartography	Helen Sheldon
Report Writing	Helen Sheldon
Field Technicians	Kira Brunatti, Alex Cadue, Chris Cadue, Peter Cassidy, Courtney Gifford, Douglas Kirk, Amanda Phillips
First Nations Monitor	John Davis, Shabot Lake FN

## **Project Context**

### **Development Context**

In October of 2018 Ground Truth Archaeology Limited was contracted by McNichol's Sand and Gravel to conduct a Stage 3 archaeological assessment of a small precontact site located within the area of a proposed extension for an existing sand and gravel pit located on Buck Bay Road, north of Godfrey. The archaeological site is located on Part Lot 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario.

The current archaeological assessment was conducted as part of the process of preparing a licence application for an extension for the existing pit under the Provincial Aggregate Resources Act. A final development plan is not yet available for the project. The Ministry of Natural Resources and Forestry is the approval authority for this application.

Permission to access the property was given by Glen McNichol of McNichol's Sand and Gravel prior to the start of archaeological fieldwork.

### **Historical Context**

BdGd-68 lies on the southern edge of the Algonquins of Ontario settlement area with the closest Algonquin community being Shabot Obaadjiwan (Sharbot Lake) (OL1). The Algonquin people were living within the watershed of the Ottawa River at the time of the arrival of European explorers, the first known contact being with Samuel de Champlain in 1603. The French were particularly interested in the fur trade and entered into relationships with the various Algonquin tribes. Unfortunately the upheavals of European wars were reflected in the trading partnerships in the New World and resulted in a prolonged period of instability after 1614 (OL2). For a more detailed history of the Algonquins of Ontario please refer to their website (OL2).

In 2016 the Algonquins of Ontario signed an Agreement-in-Principle with the Canadian Federal government and the government of Ontario as part of an ongoing process toward reaching a modern day treaty and resolving numerous issues concerning land rights (OL3).

Bedford Township was initially surveyed starting in 1821 by Samuel Benson. However due to the rugged nature of the land Benson gave up after three years as he believed that the land was so bad that it could never be settled (OL4). A single brief paragraph is devoted to the history of Bedford Township in the Meacham atlas of 1878, dwelling upon its partially good land and abundant rocky elements (Mika 1977:12).

The Crown patents for the four lots that comprise the pit expansion area were allocated relatively late, all dating from the middle of the nineteenth century (OLR). The property came into the hands of the McNichols family in 1900 and has remained so ever since. BdGd-67 is located on the west half of Lot 13, Concession 2 which was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the west 100 acres to Thomas McNicholas (OLR).

Transaction	Date	Grantor	Grantee	Area
Patent	June 23, 1855	Crown	Thomas Fitzgerald	W ½ 100 acres
Patent	Mar. 16, 1883	Crown	John Hastings	E ½ 100 acres
Deed	Nov. 18, 1875	Thomas Fitzgerald et ux	Ed. Fitzgerald	W ½
B&S	Aug. 19, 1897	Edward Fitzgerald et ux	Terence Fitzgerald	W ½, 100 a
B&S	May 10, 1900	Terence Fitzgerald	Thomas McNicholas	W ½, 100 a

**Table 1: Summary of land transactions for Lot 13, Concession 2 (Ontario Land Registry)**

A house is shown just west of the pit expansion limits on the 1878 Meacham map (Figure 6) on Fitzgerald property and not within either the Stage 2 or the Stage 3 study area.

Currently the Stage 3 assessment area consists of a portion of an active agricultural field lying on a flat area on the east side of semi-mature low-lying woodland

### **Archaeological Context**

The Paleo-Indian Period in Eastern Ontario (here defined as east of the Trent River watershed) began during the Belleville phase of Lake Iroquois (12000 BP) when the land between the ice covered Algonquin Highlands and Lake Iroquois was exposed as far east as the Champlain Sea (Muller and Prest 1985). Later as the land rebounded from the weight of the glacier the shallows of Lake Iroquois were exposed as a lowland plain sloping to the south. Bands of hunters moved into the area after a tundra environment with Pleistocene fauna became established. Palaeo sites are rare but not unknown in Eastern Ontario as indicated by the recovery of two lanceolate points from Lanark County and a chipped stone ulu knife from the Bob's Lake area. Hi-Lo points from the Late Paleo period are known from such locations as Gananoque and Kingston Mills. There are also at least three fluted points in the Royal Ontario Museum collection recorded from Eastern Ontario.

Towards the end of the Palaeo Period during the Admiralty phase the level of the Great Lakes began to drop as the outflow switched from the Hudson River to the St. Lawrence (Anderson and Lewis 1985). The Great Lakes continued to shrink in size until 10,000 BP when the level of Lake Ontario was considerably lower than today (Anderson and Lewis 1985). After this the level of Lake Ontario steadily rose throughout the subsequent Archaic Period until about 4,000 BP when it peaked about three metres higher than the present levels (Anderson and Lewis 1985).

The Archaic Period began around 9000 BP in Eastern Ontario and was marked by the extinction of Pleistocene megafauna, an increase in deciduous trees in the forests and the transition to a broader way of life with a stronger reliance on fishing and the harvesting of nuts, wild foods. The bulk of the goods made by First Nations at the time, were of biodegradable materials, which do not generally survive in the archaeological record. Consequently the majority of the artifacts found on Archaic sites are stone tools and chipping debris, though in good soil conditions bone/shell objects are also preserved. About 6,000 years ago copper artifact began to be traded into Eastern Ontario from the Lake Superior region.

For the most part the Archaic way of life appears similar to that of historic Algonquin, Cree and Anishnabe of Upper and Lower Canada. In the spring family groups congregated into larger encampments around the mouths of rivers/creeks, rapids and waterfalls in order to harvest

successive fish runs. When these encampments were located on important transportation routes trade also was an important activity. A good example of this type of site is the extensive Archaic period occupations on Allumette and Morrison Islands in the Ottawa River where Archaic period artifacts starting from the Early Archaic are found including a high frequency of copper items. Smaller but similar sites that span the entire Archaic period are located along the Rideau River including the Wyght and Driscoll sites (Watson 1999).

In the late fall family groups dispersed across the landscape to individual hunting territories often located on interior lakes where they trapped and hunted. After freeze-up fish were caught through the ice by line and spear. A polished stone fish lure is known from the town of Perth and likely dates from the Archaic period. Small campsites are well known from the shores of the interior lakes of the region and many are likely winter cabins. Bob's Lake to the north which is now linked with Buck Bay has numerous small encampment sites around its shore including five from the Archaic period.

By the Late Archaic cemeteries and burial goods are first recorded in the region. The range of exotic materials increases in this period. One of the best indicators for a strong presence in the Archaic is the high proportion of Lamoka points recovered in the Ottawa watershed.

The beginning of the Woodland period was marked by the appearance of pottery on First Nation's sites. Some of the earliest pottery found in Ontario has been recovered from sites along the Ottawa River including Constance Bay. In Eastern Ontario around 3000 BP, the Meadowood Culture of Western New York State began to be present in the St Lawrence Valley and the Lake Ontario lowlands. Trade with the resident peoples, including those in the Ottawa Valley is evidenced by the common finds of Meadowood points are common in the Ottawa watershed both on sites and as isolated findspots. These points are almost always on Onondaga chert and they were likely produced finished or as cache blades by Meadowood craftsmen for trade.

Shortly after 2700 BP the Middle Woodland Period began with a steady increase in the population of Ontario. Long distance trade is evident from the continued presence of exotic materials such as marine shell, mica and exotic cherts. During the subsequent Late Woodland period Iroquoian coil made pottery is found on sites in the Ottawa watershed. Like the Meadowood points many of these pots were likely acquired through trade. Iroquoian villages appear to be absent from the Ontario portion of the Ottawa River watershed with the closest ones located near the Lake Ontario shore around Kingston.

Like the Archaic, small encampments are common around the interior lakes of the region during the Woodland period. At least nine Woodland sites or components are known from Bob's Lake and others are present on nearby Crotch, Otty and Wolfe lakes. Woodland components are present on the larger congregation sites as well, with the ones on the big rivers essentially occupied continuously.

The subject property is located within the Frontenac Axis physiographic region, an extension of the Canadian Shield. The landscape is dominated by exposed granite and metamorphic outcrops with lakes and marshes in the depressions. While conifers predominate deciduous trees are still a significant proportion of the forest cover. The

First Nation's sites in the Frontenac Axis are primarily located on the waterways or former shorelines. They can be either single component representing a single occupation or multi component with more than one occupation, often from a number of time periods.

Consultation with the Ministry of Tourism Culture and Sport's Archaeological Sites Database found that there are no registered archaeological sites within the subject property and (prior to the Stage 2 assessment for pit expansion) no registered sites were located within one kilometre of the property (MTCS 2018).

During the Stage 2 assessment three archaeological sites were identified. BdGd-66 consisted of an isolated find of a partial projectile point to the west of Buck Bay Road. The BdGd-67 site was a small Middle Woodland hunting camp located about 100 m southeast of BdGd-68 on a sandy side slope. BdGd-67 was subject to both a Stage 3 assessment and full Stage 4 excavation.

BdGd-68 was identified by the recovery of seven Onondaga chert flakes on the edge of a ploughed field that abutted a treed ravine. The nearest source of water is a small creek that lies approximately 20 metres to the west of BdGd-68 in the ravine (Figure 4). According to Doreen Davis of the Shabot Obaadjiwan this ravine is referred to as "the gut" linking Buck Bay to waterways to the southwest. Buck Bay lies approximately 450 metres to the northeast and is linked by a narrows to Bob's Lake to the north about 5 km from BdGd-68.

No historical plaques or monuments are associated with the property and as far as can be determined no archaeological work other than that described above has been conducted within 50 metres of the subject property.

The soil of the study area consists of White Lake gravelly sandy loam (WSI), a calcareous outwash gravel that is well to rapidly drained sandwiched between areas of Rockland (RL) (Agriculture Canada 1965, Figure 6). The sand and gravel pit is located here for obvious reasons.

The Stage 3 archaeological assessment was conducted on October 1, 2018.

## Maps

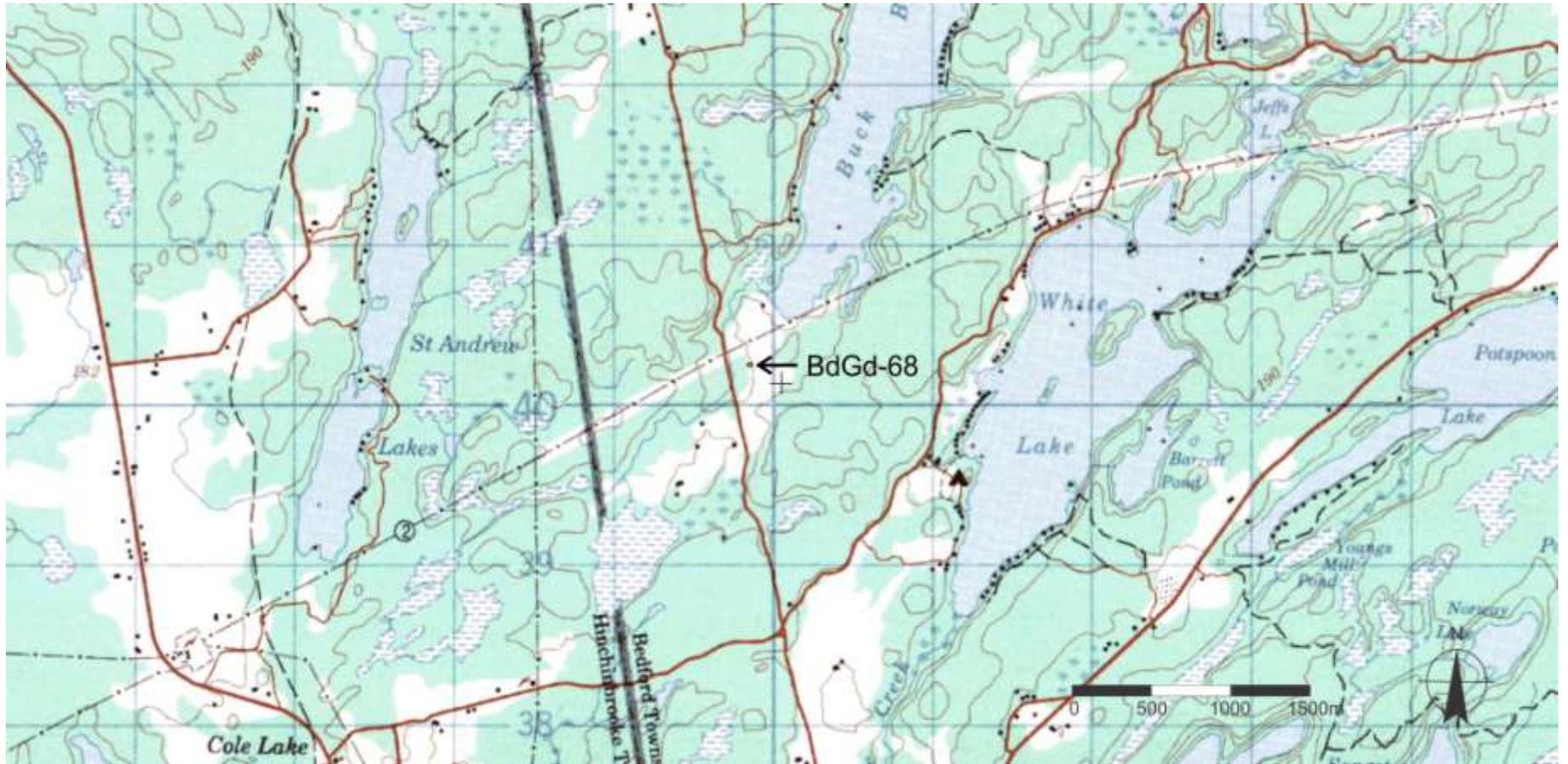


Figure 1: Study area shown on the NTS 1:50,000 map (31C/10)

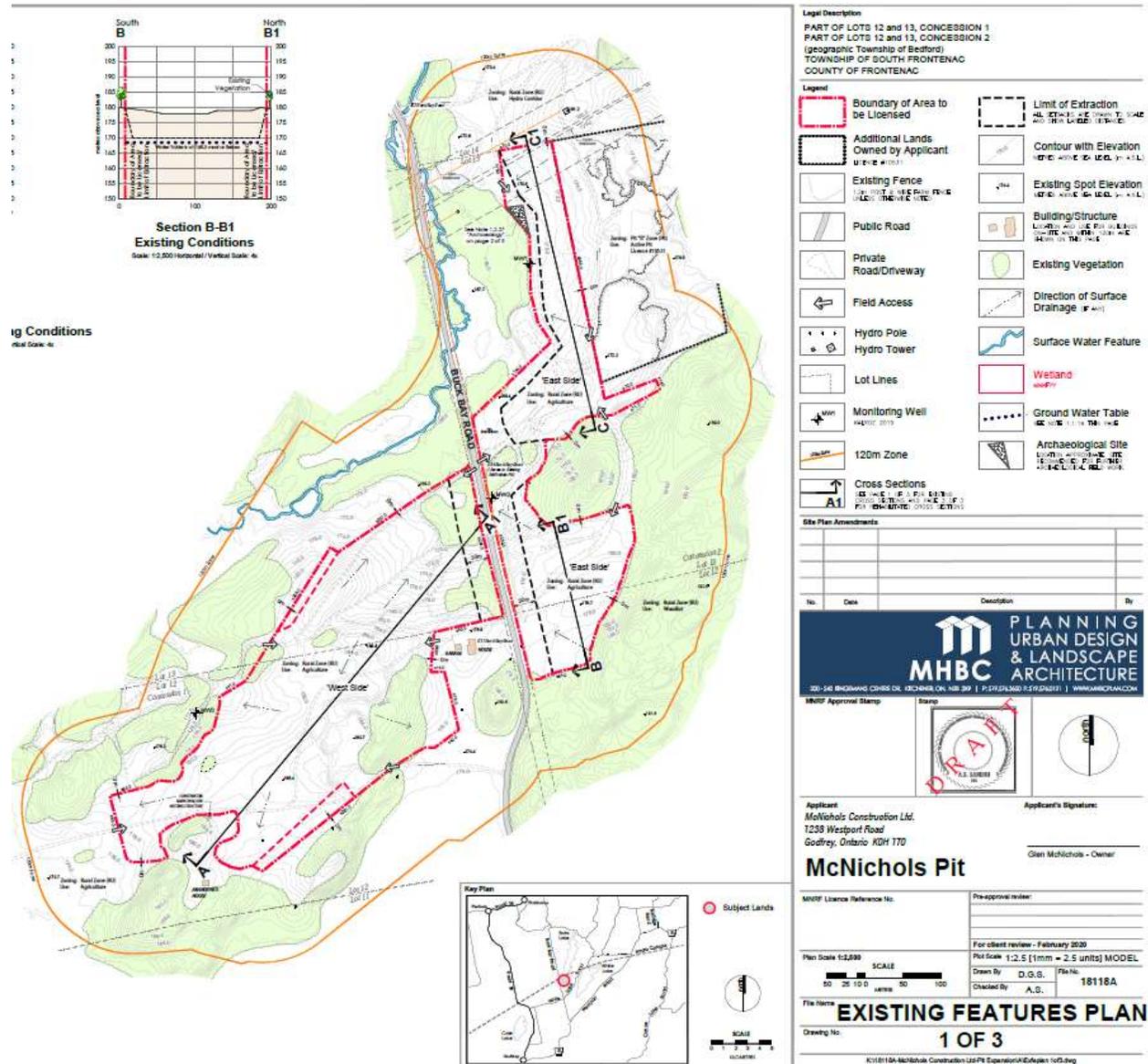


Figure 2: Development plan with outline of proposed pit extension license area, in red (MHBC 2020)



Figure 3: Final boundary of pit extension with lots and concessions (base image Frontenac County Public GIS)

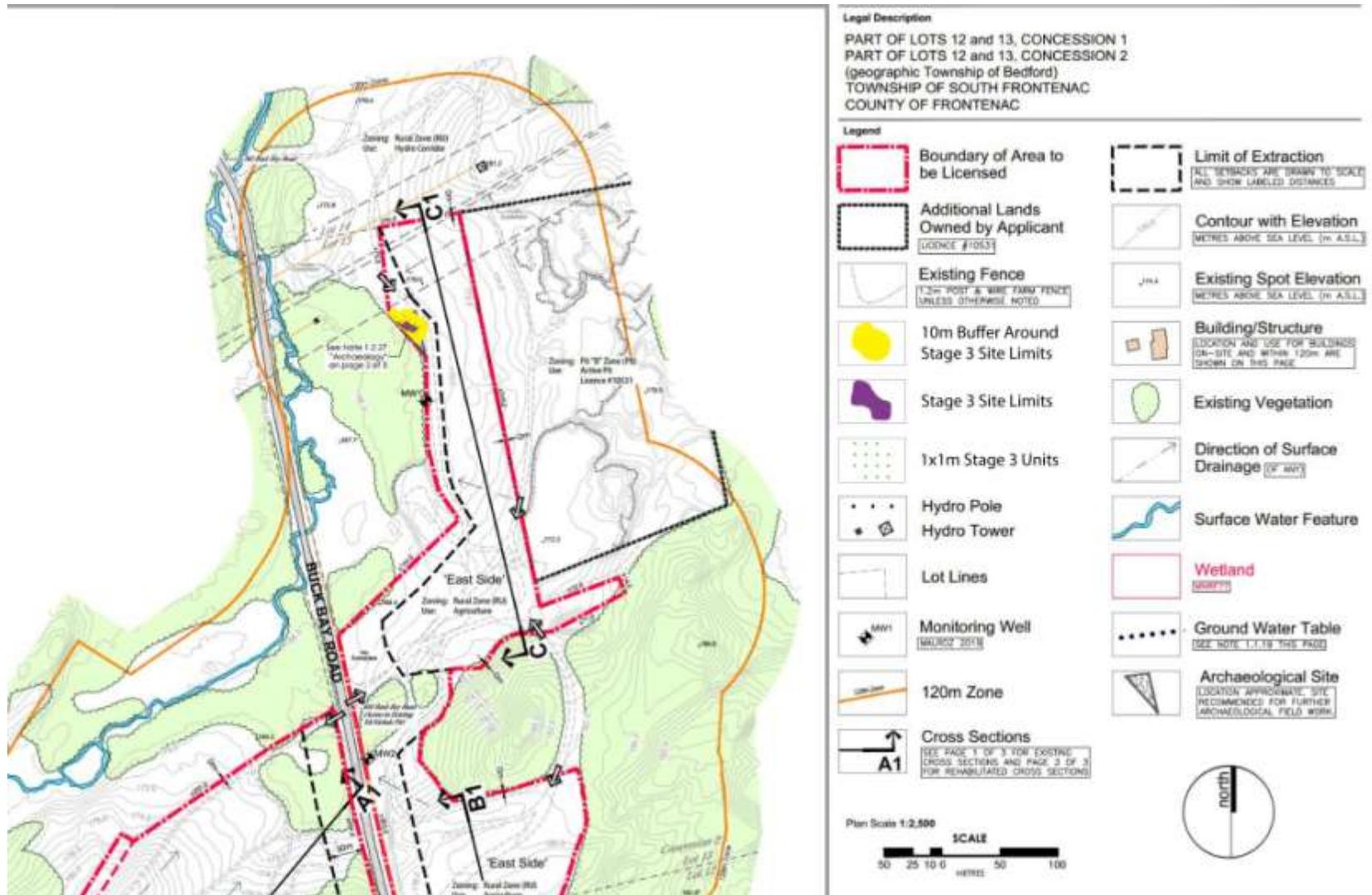


Figure 4: BdGd-68 Stage 3 assessment area on development plan (base image MHBC 2020)



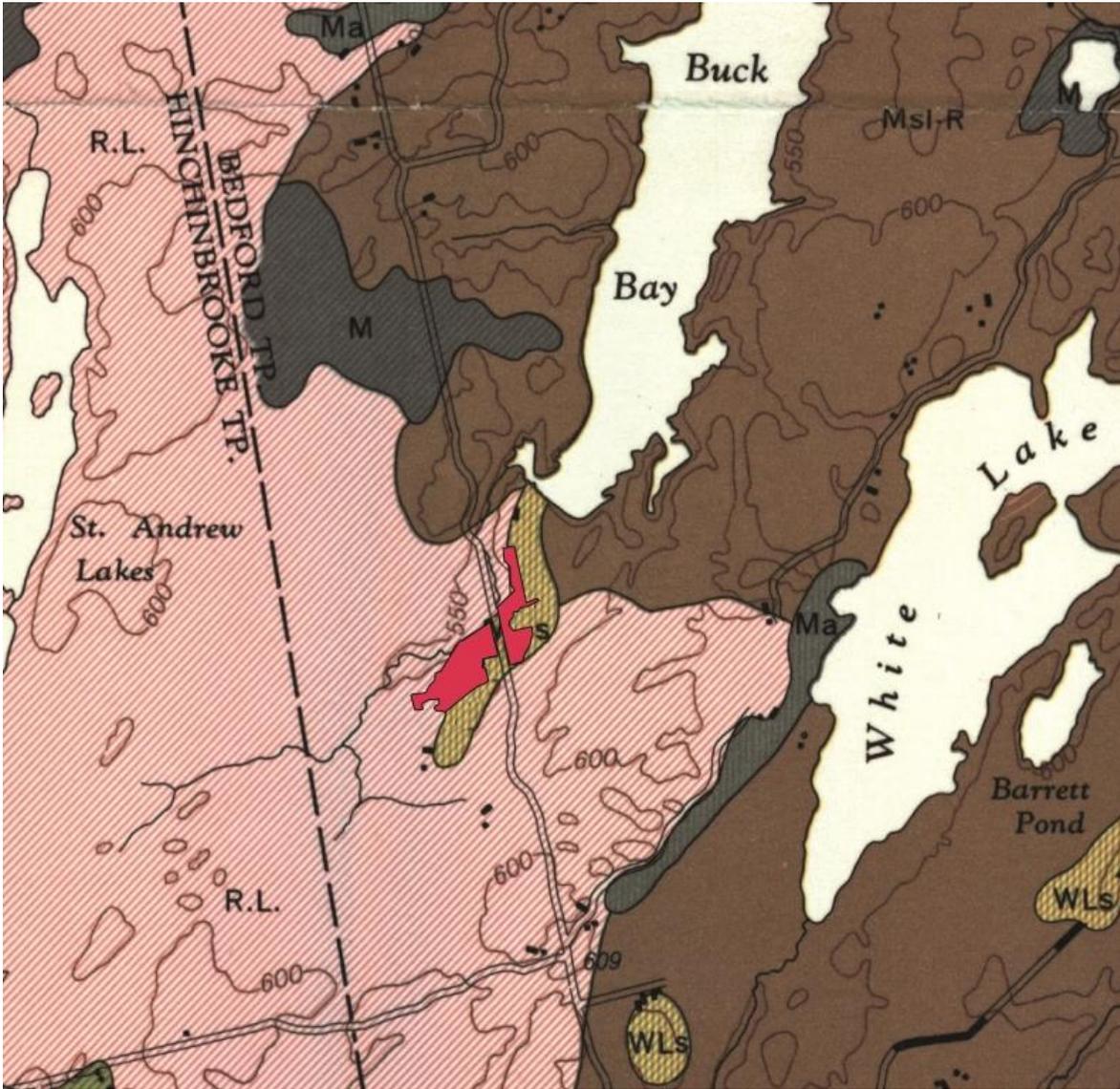


Figure 6: Final proposed pit extension shown in red on the soil map (Agriculture Canada 1965)



Figure 7: Relation of BdGd-67 Stage 3 limits to BdGd-68 (base map Google Earth 2016)

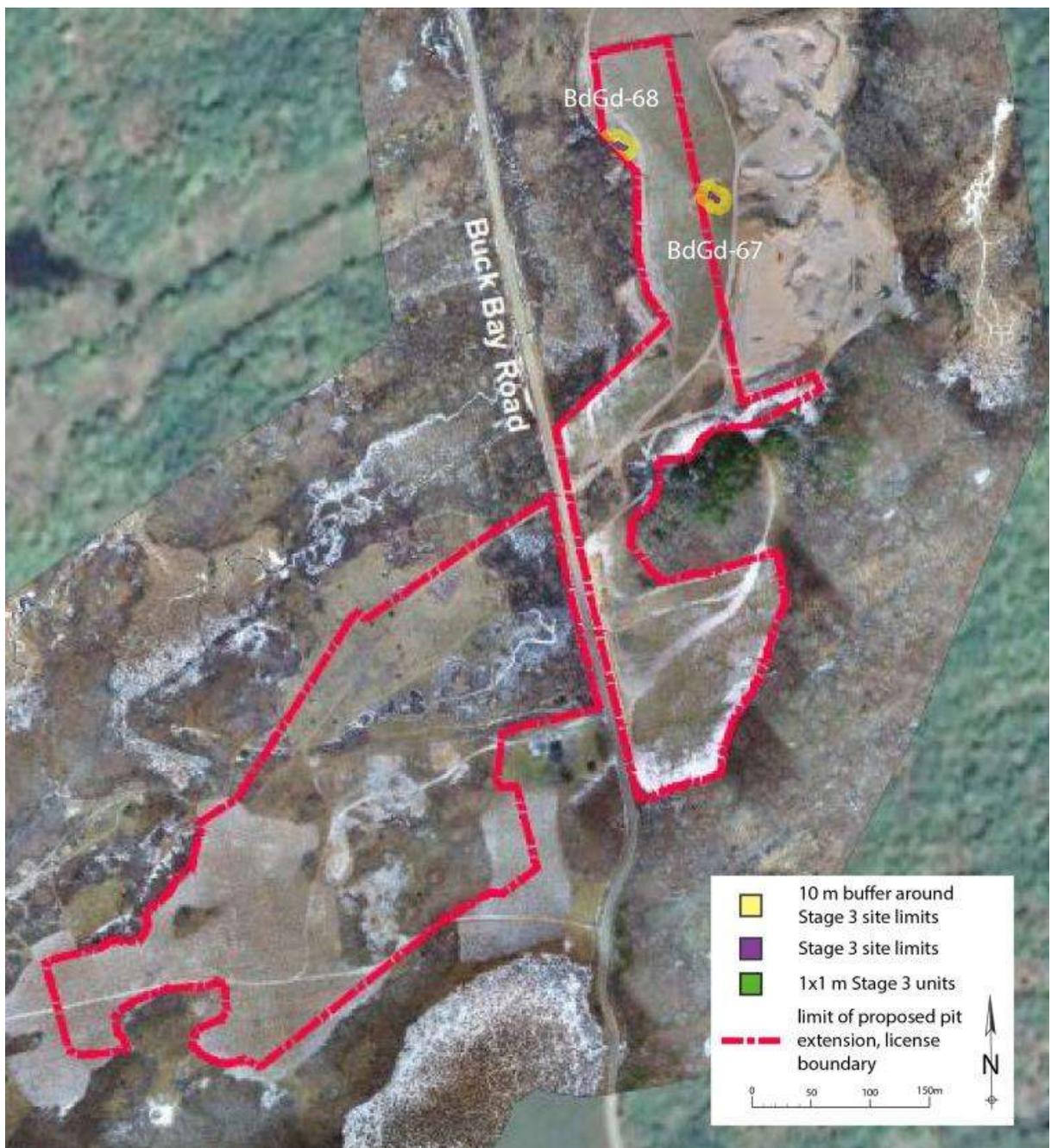


Figure 8: BdGd-67 & BdGd-68 Stage 3 site limits with pit extension (base map MHBC2020)



Figure 9: Close up of BdGd-67 and BdGd-68 in relation to the proposed pit extension

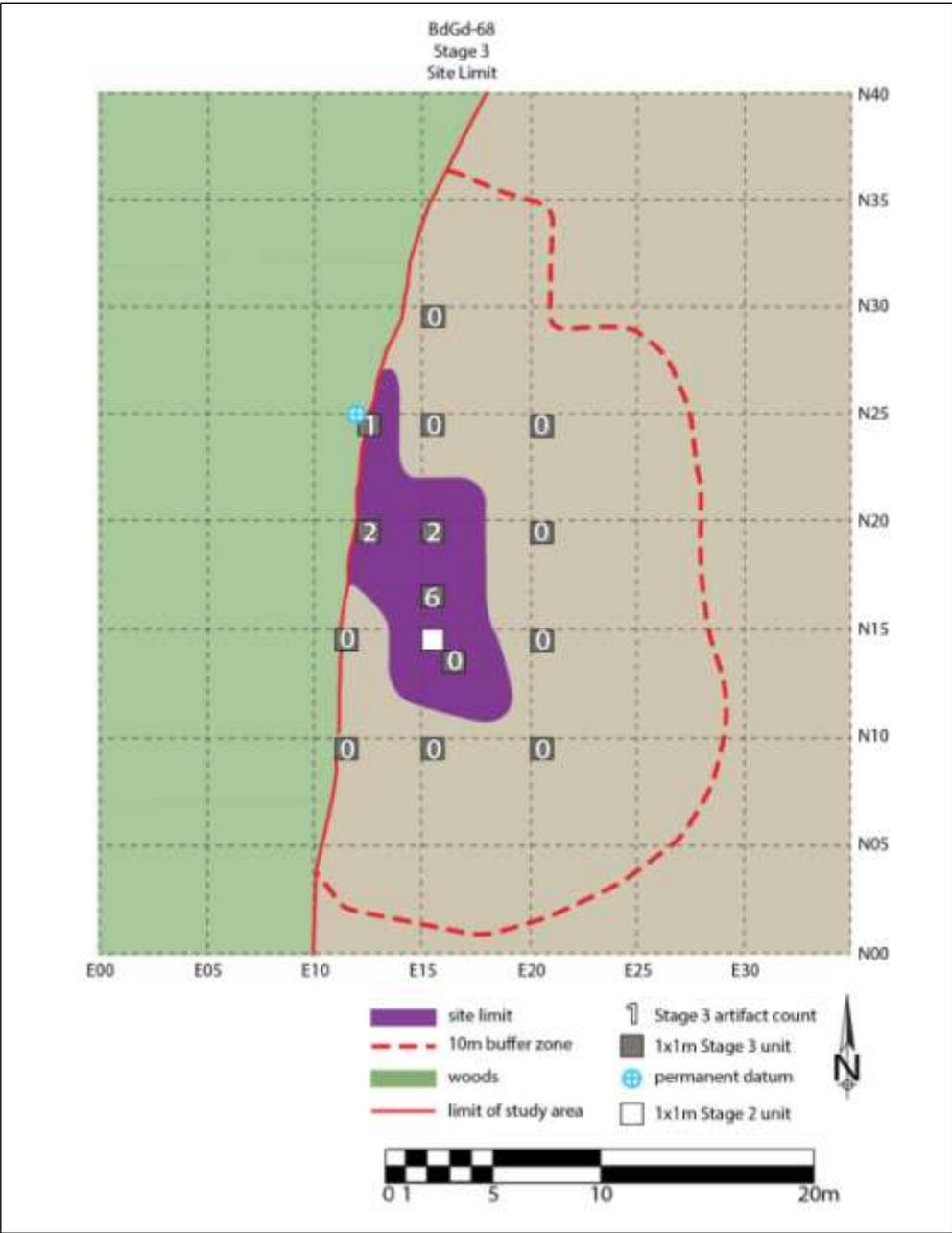
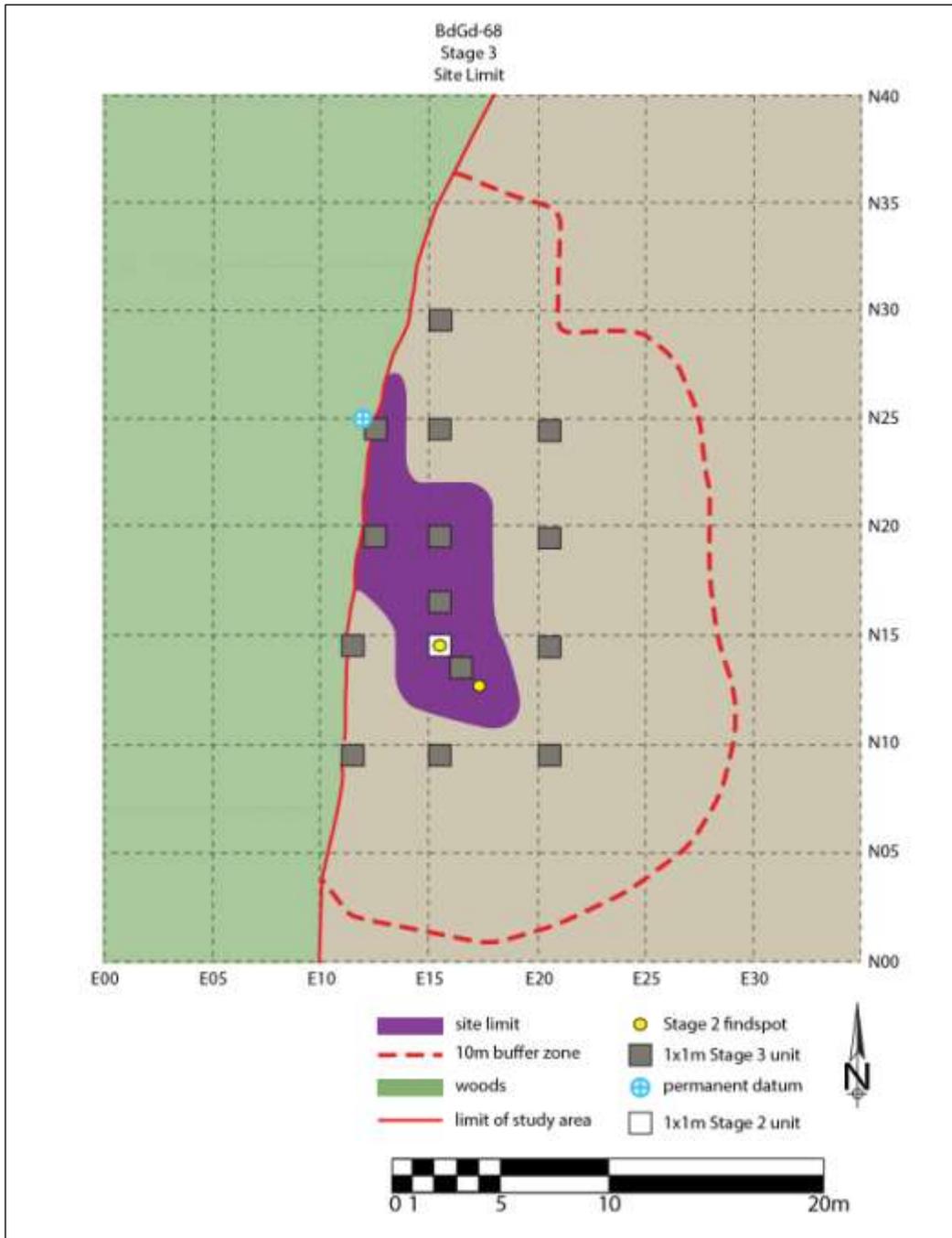


Figure 10: Stage 3 site plan with total artifact counts



**Figure 11: Location of Stage 2 findspots in relation to Stage 3 excavations**

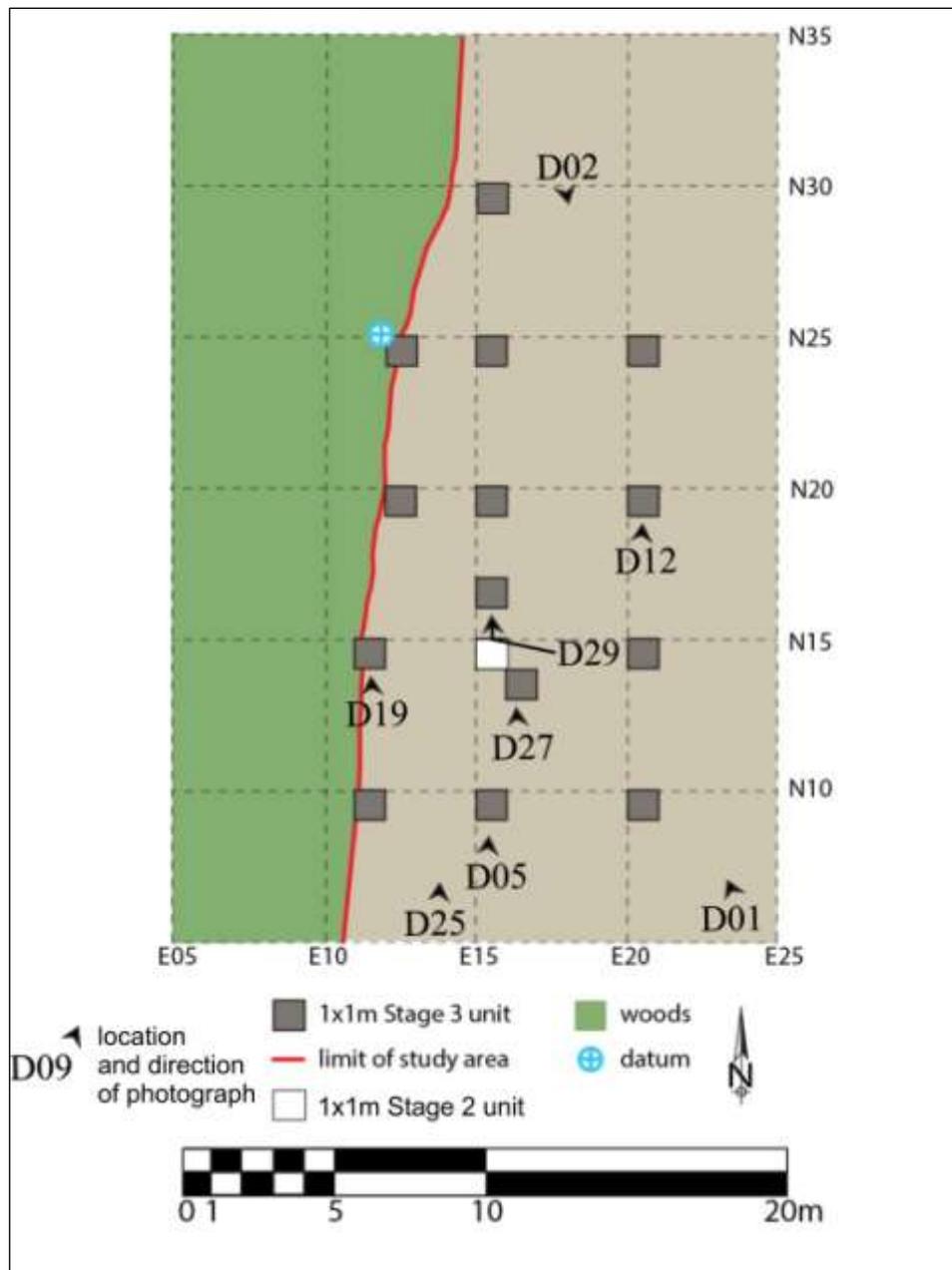


Figure 12: Photograph directions (by photograph catalogue number)

## Field Methods

Seven tertiary flakes, one of which was a biface thinning flake, were discovered during the Stage 2 assessment of BdGd-68 in September of 2018. The subsequent Stage 3 assessment at the site consisted of the excavation of 1m<sup>2</sup> units on a 5m grid centred around the Stage 2 findspot (TS3) in order to determine the nature and limits of the site. The Stage 3 assessment was limited to the area of the site lying within the proposed pit extension license area.

At the beginning of the Stage 3 assessment, a 5 m grid was established with a baseline running north-south through the presumed centre of the site with the Stage 2 findspot TS3 located at grid coordinates N15E15. A permanent datum was established at the west edge of the site just beyond the ploughed area at the northwest corner of unit N25E12. The datum was marked by a wooden stake labelled with the coordinates. A second wooden stake was set at the northwest corner of N15E11. Both stakes were placed in order to survive agricultural activities. Units were laid out at 5 m intervals, surrounding the Stage 2 unit, and the locations of the baseline, datum and units were plotted onto a site map (Figure 10). For this assessment units were labelled according to the coordinates of their northwest corners. A CSP (Controlled Surface Pick-up) was not conducted for this assessment as there were no artifacts on the surface of the field to collect.

The Parks Canada model was used for the designation of lots – where a lot designation is given to each natural or artificial stratum and also to each feature within a unit (Parks Canada 2015). Lots were designated sequentially for each unit. A catalogue of the artifacts recovered during the Stage 3 assessment is included in the report as Appendix B.

The Stage 3 archaeological assessment of BdGd-68 consisted of the excavation of 12 1m<sup>2</sup> units on a five metre grid centred around the Stage 2 unit. An additional 2 units were excavated in areas of interest, which in this case was in the higher artifact yielding areas surrounding the Stage 2 unit, for a total of 14 units. The limits of the site were determined to be where units with counts of zero were found around the perimeter of the site. This criteria had been arrived at through consultation with Chief Doreen Davis of the Shabot Obaadjiwan. The western limit of the site was not determined as chert flakes were found in the units at the western limits of the pit extension license area in the site area.

The plough zone ranged in thickness from 14 - 21 cm, averaging around 20 cm. In each excavation unit the undisturbed deposits were removed by hand using trowel and shovel and the excavation extended at least 5 cm into sterile subsoil. The units were examined for evidence of fill, stratigraphy and cultural features and the exposed surface of the subsoil was examined for the presence of features. Soil profiles were photographed and drawn to scale for each unit. All soils from the Stage 3 excavation units were screened through 6 mm steel mesh screens and then backfilled.

All artifacts and associated documentation arising from the Stage 3 fieldwork will be held by Ground Truth Archaeology Limited in Quinte West, Ontario until a suitable repository is established. During the Stage 3 assessment the weather was suitable for the recovery and recording of archaeological materials with mixed sun and cloud and a high temperature of 9°C.

## Record of Finds

Inventory of field notes: Author/recorder – Helen Sheldon

Field notes:	1910151NB1
Field Drawings:	1910151FD1
Field Recording Forms:	1910151FRF01-14
Photographs:	1910151D01-33

Packed artifact inventory – located in banker’s box labelled GTAB-083.

The soil on the site consisted of a stone free and well drained dark brown sandy to silty loam plough zone over a varied subsoil. The subsoil ranged from a sand to a silty sand of various colours (grey, yellow brown, orange brown) to a silt and in one unit, a silty clay.

The terrain was fairly flat over the area of the site. The assessed portion of the site lies on the eastern edge of a semi-mature and relatively low lying woodland on the edge of a shallow ravine known locally as the “gut”. A creek was located at the bottom of the ravine about 20 m from the site.

Four of the Stage 3 units contained artifacts, all located to the north of the original findspot. The artifact scatter may extend beyond the edge of the field to the west as a count of two flakes and of one flake were in two units on the western edge of the field. Excavation further west was not possible however as this was outside the limits of the current project area and permission was not given for extended work. All of the remaining 10 units contained no cultural material.

No features were identified during the Stage 3 assessment of BdGd-68.

## Images



**Plate 1: Overview of Stage 3 excavations (1910151D01)**



**Plate 2: View of Stage 3 excavations (1910151D02)**



**Plate 3: N10E15 at close of unit (1910151D05)**



**Plate 4: North profile of N20E20 (1910151D12)**



**Plate 5: N15E11 at close of unit (1910151D19)**



**Plate 6: Stage 3 excavations in progress (1910151D25)**



**Plate 7: North profile of N14E16 (1910151D27)**



**Plate 8: North profile of N17E15 (1910151D29)**



Plate 9: N20E12 flakes



Plate 10: N20E15 flakes



**Plate 11: N25E12 secondary flake**



**Plate 12: N17E15 flakes**

## Analysis and Conclusions

The Stage 3 excavations at BdGd-68 resulted in the recovery of eleven precontact artifacts, two secondary and nine tertiary flakes of Onondaga chert and an unidentified dark grey chert. These artifacts are consistent with the Stage 2 findings which consisted of a total of seven flakes of the same two types of chert.

The lithic analysis uses Crabtree (1972) as a basis for terminology, with additional debitage terminology gleaned from Fisher (2008) who uses Ellis (1979) as a basis for debitage description (J. Fisher to N. Gromoff, personal communication 2016).

The Stage 3 excavation resulted in the retrieval of 11 artifacts – 2 secondary flakes and 9 tertiary flakes. The predominant material was Onondaga chert (n=9, 81.8%), with an unidentified dark grey chert also being present (n=2, 18.2%). One of the secondary flakes was of Onondaga chert and the other of the unidentified dark grey chert.

Lithic type	#	%
Onondaga chert	9	81.8
dark grey chert	2	18.2
Total	11	100

**Table 2: Lithics by type**

Tool/debitage type	#	%
secondary flake	2	18.2
tertiary flake	9	81.8
Total	11	100

**Table 3: Lithics by tool/debitage type**

At present the site is considered to be a small single component campsite from the Middle Woodland period. It is quite possible that BdGd-67 is a hunting camp as the adjacent ravine (the gut) would be an excellent location to ambush or drive game.

The chert flakes found at BdGd-68 are of similar material to those found at BdGd-67 and the sites may be associated.

## Recommendations

As a result of the Stage 3 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists* and with consultation with Chief Doreen Davis of the Shabot Obaadjiwan, Ground Truth Archaeology makes the following recommendations in regards to BdGd-68:

- The archaeological deposits at BdGd-68 have cultural heritage value or interest and require Stage 4 mitigation (S&G 3.4 S2), which will be addressed through avoidance and long term protection.
- Avoidance and protection measures for the portion of BdGd-68 that lies within the proposed pit license extension area should be undertaken through the Aggregate Resources Act site plan and license
- The site limits and a 10 m buffer zone shall be placed on the new pit license mapping with a designation that no extraction or any other disturbance can take place within the site limits and the 10 m buffer.
- The local approval authority (Ministry of Natural Resources and Forestry) must be made aware of the site and must acknowledge the protection of the site in the final pit license agreement.
- The western edge of BdGd-68, which lies outside of the proposed pit license area may require further Stage 3 assessment to determine the western limits of the site where such limits may occur beyond the proposed license area.

## **Advice on Compliance with Legislation**

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

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

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

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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

## References

### Maps

NTS – 1:50,000 map (31C/10)

Google Earth base image August 25, 2016, accessed October 9 2018

Frontenac County Public GIS, accessed May 31, 2018

### Archival Map References

Mika

1977 Frontenac, Lennox and Addington Counties (Ontario Map Ref #31 and #30)  
*Illustrated historical atlas of the counties of Frontenac, Lennox and Addington, Ontario.*  
Toronto: J.H. Meacham & Co., 1878.

Canada Department of Agriculture

1965 Soil Map of Frontenac County, Ontario, South Sheet, Soil Survey report No. 39. Ottawa.

### Primary Historic Documents

Ontario Land Registry (OLR) Records Bedford Township, Frontenac County

### On line sources

Parks Canada (2015)

Archaeological Recording Manual: Excavations and Surveys: Provenience System

<http://www.pc.gc.ca/eng/docs/pc/guide/fp-es/4.aspx>

OL1: Algonquins of Ontario - <http://www.tanakiwin.com/algonquins-of-ontario/who-are-the-algonquins-of-ontario/>

OL2: Algonquin history - <https://www.tanakiwin.com/algonquins-of-ontario/our-proud-history/>

OL3: Algonquin Agreement-in-Principle - <https://www.tanakiwin.com/our-treaty-negotiations/agreement-in-principle/>

OL4: <http://bucklake.ca/about-us/history/early-history>

### Other

Anderson, T. W. and C. F. M. Lewis

1985 Post glacial Water-level History of the Lake Ontario Basin. *Quaternary Evolution of the Great Lakes*, eds. P.F Karrow and P.E. Calkin.

Crabtree, Don E.

1972 An Introduction to Flintworking. Occasional Papers of the Idaho State University Museum, No. 28. Potacello, Idaho.

Ellis, Christopher J.

1979 Analysis of Lithic Debitage From Fluted Point Sites in Ontario. Unpublished M.A. Thesis, Dept. of Anthropology, McMaster University, Hamilton, Ontario.

Fisher, Jacqueline

2008 BbGc-43 - ND2 Site, Stage 4 Report Volume II: Prehistoric Component, Part 2: Prehistoric Lithics Analysis. Consultant report, Cataraqui Archaeological Research Foundation.

Ministry of Tourism and Culture (MTC)

2011 Standards and Guidelines for Consultant Archaeologists. Ministry of Tourism and Culture: Toronto.

Ministry of Tourism, Culture and Sport (MTCS)

2018 Sites within a One Kilometre Radius of the Project Area Provided from the Ontario Archaeological Sites Database, September 2018.

Muller, E. H. and V. K. Prest

1985 Glacial Lakes in the Ontario Basin. Quaternary Evolution of the Great Lakes, eds. P.F. Karrow and P.E. Calkin.

Sheldon, Helen

2019 Stage 1/2 Archaeological Assessment of the McNichol's Pit Extension, 631 and 644 Buck Bay Road, Frontenac County, Ontario. Consultant report, Ground Truth Archaeology Limited, Quinte West, Ontario.

## Appendix A: Photograph Catalogue

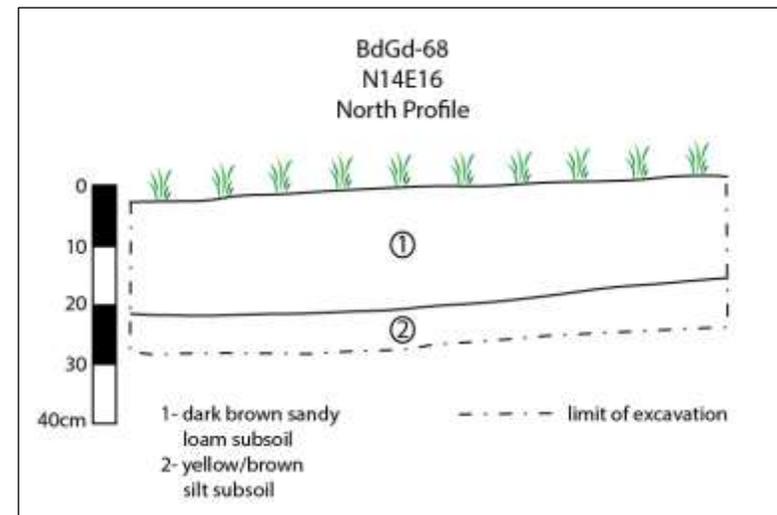
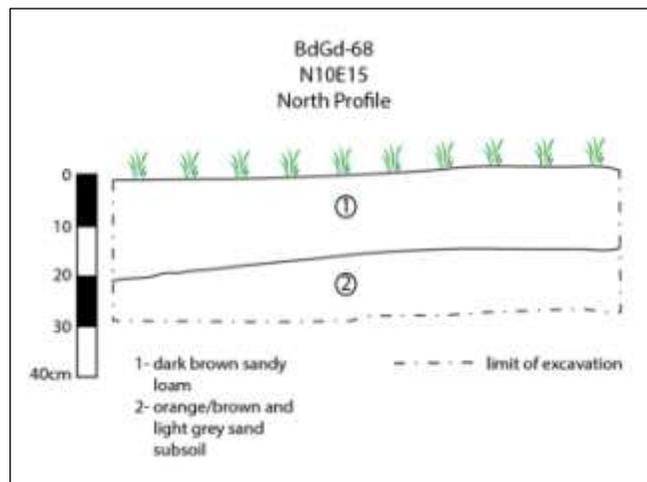
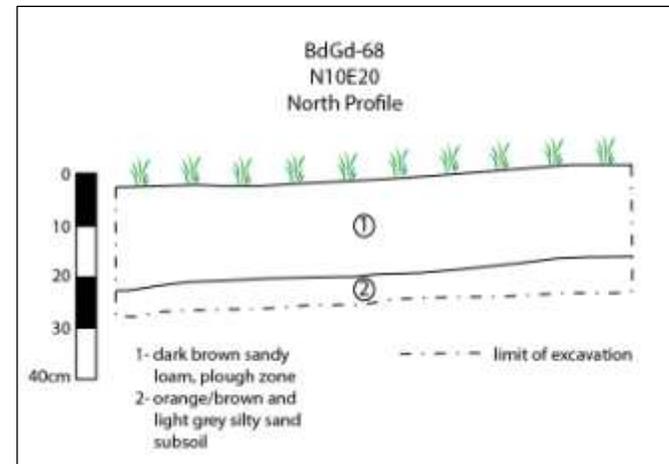
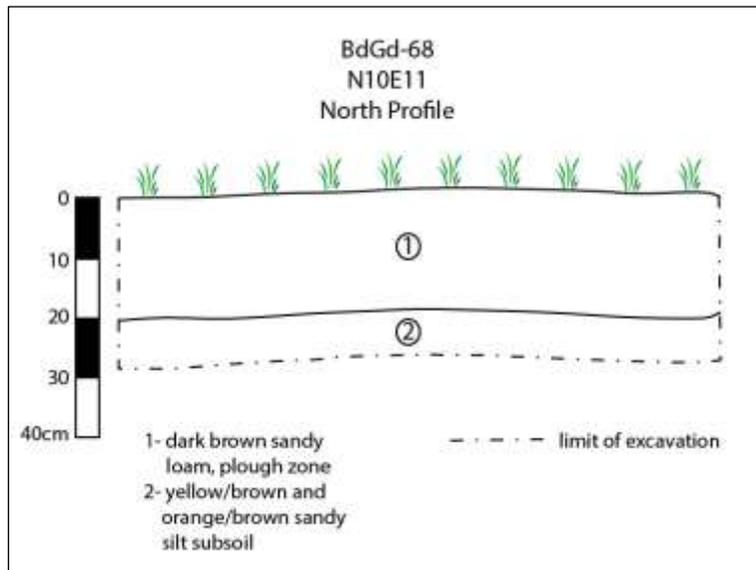
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1910151D03	overview of Stage 3 excavations	S	October 1, 2018
1910151D04	N10E15, close	N	October 1, 2018
1910151D05	N10E15 north profile	N	October 1, 2018
1910151D06	Stage 3 excavations	NW	October 1, 2018
1910151D07	N10E20, close	N	October 1, 2018
1910151D08	N10E20, north profile	N	October 1, 2018
1910151D09	N15E20, close	N	October 1, 2018
1910151D10	N15E20, north profile	N	October 1, 2018
1910151D11	N20E20, close	N	October 1, 2018
1910151D12	N20E20, north profile	N	October 1, 2018
1910151D13	N25E20, close	N	October 1, 2018
1910151D14	N25E20, north profile	N	October 1, 2018
1910151D15	N20E15, close	N	October 1, 2018
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1910151D33	N30E15, north profile	N	October 1, 2018

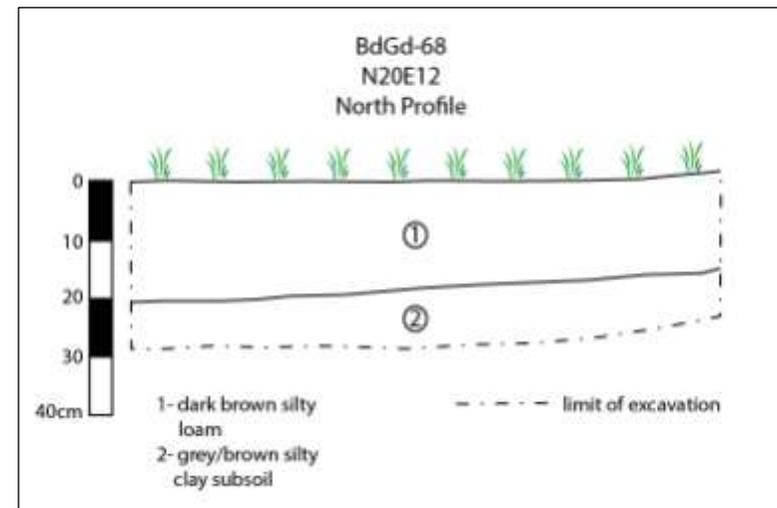
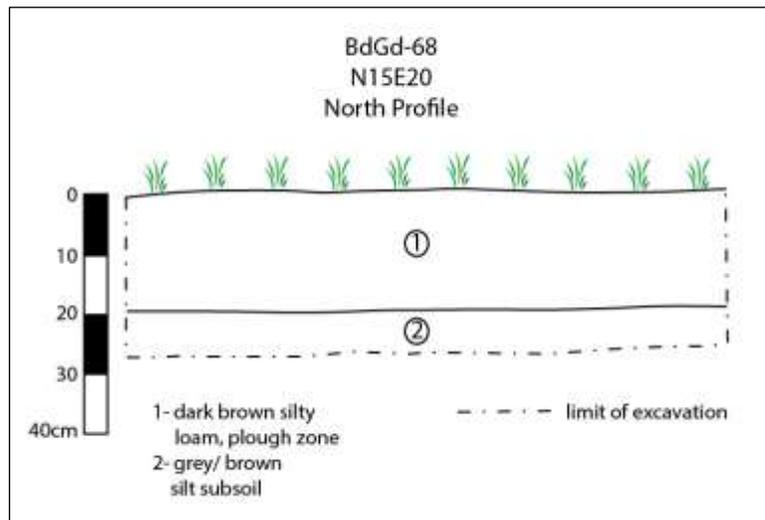
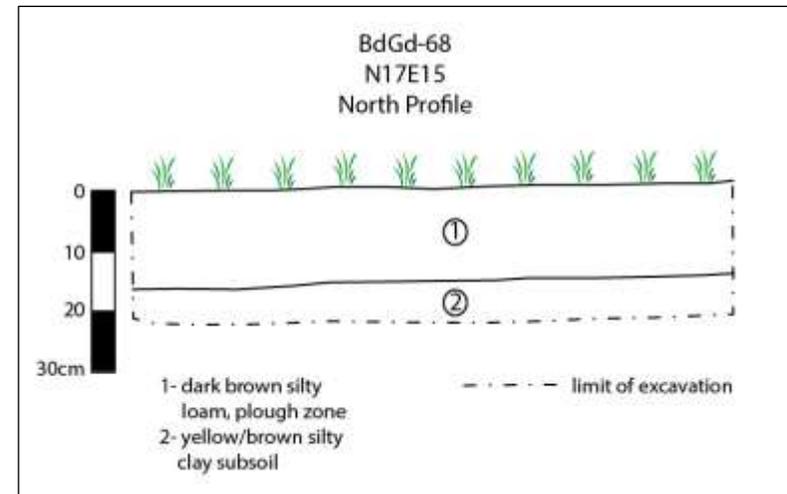
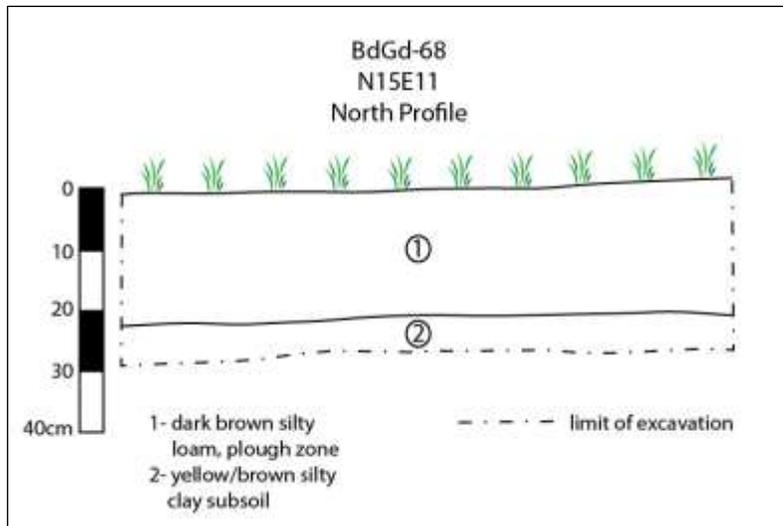
## Appendix B: Artifact Catalogue

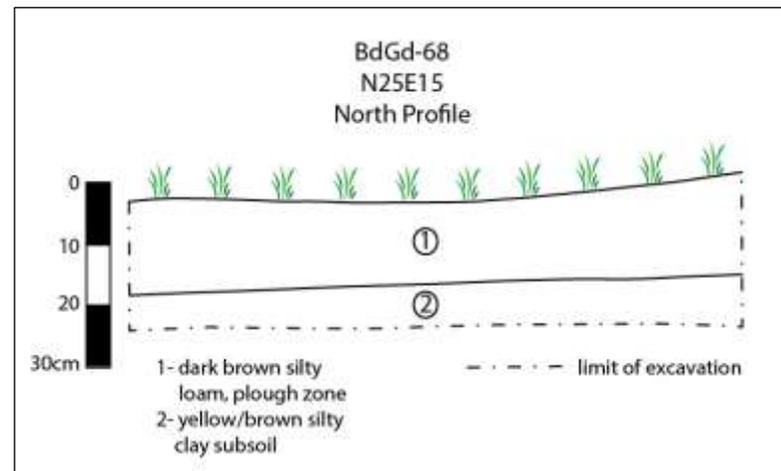
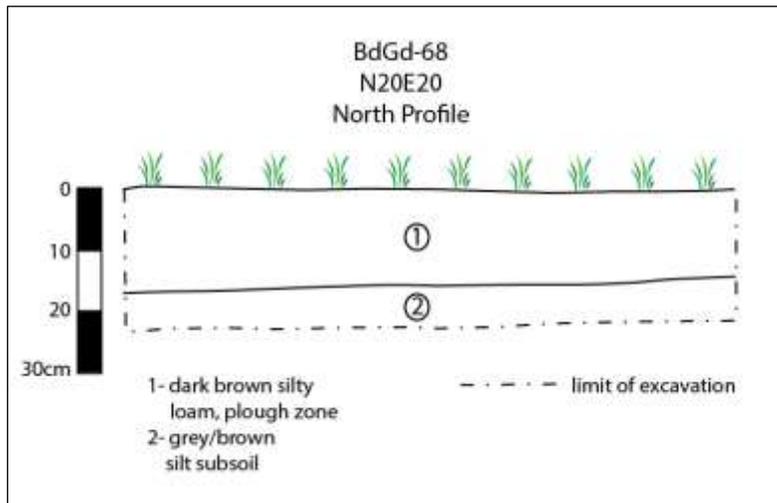
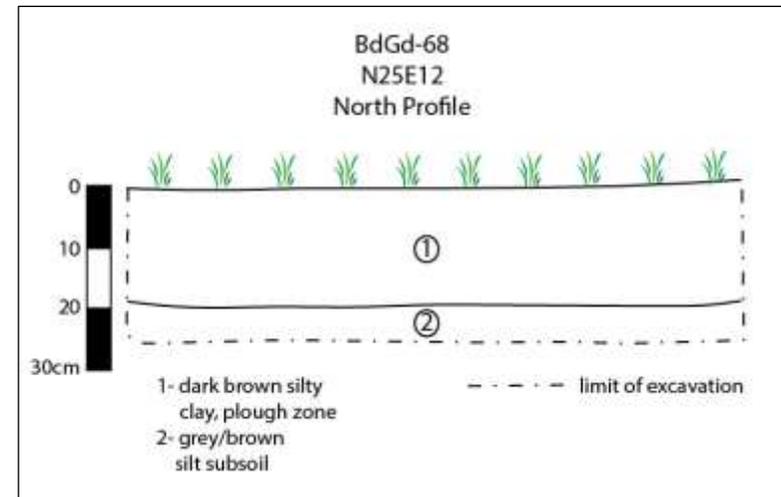
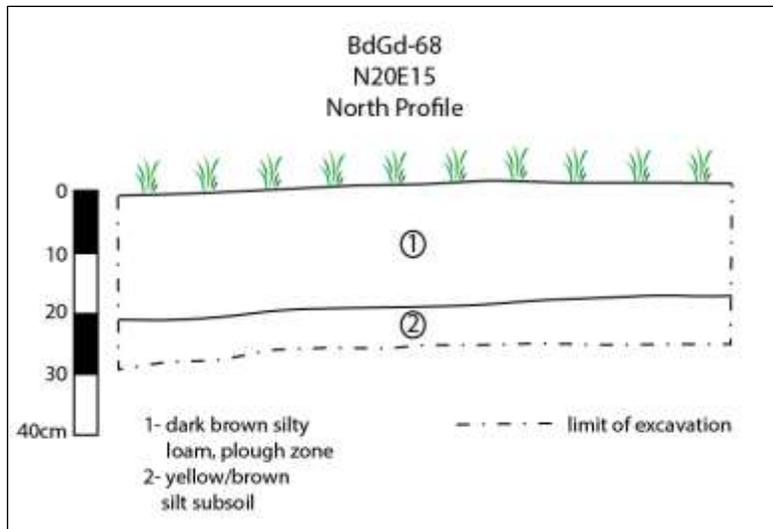
### BdGd-68 Stage 3

Artifact Catalogue #		Material	Class	Type	Variety	Item	Portion	#	Note
Unit	AR #								
N17E15	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	heat spalled
	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	both heat spalled
	AR-02	stone	chert	unid dark grey	secondary	flake	complete	1	
	AR-03	stone	chert	unid dark grey	tertiary	flake	complete	1	
N20E12	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N20E15	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	heat spalled
	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N25E12	AR-01	stone	chert	Onondaga	secondary	flake	complete	1	

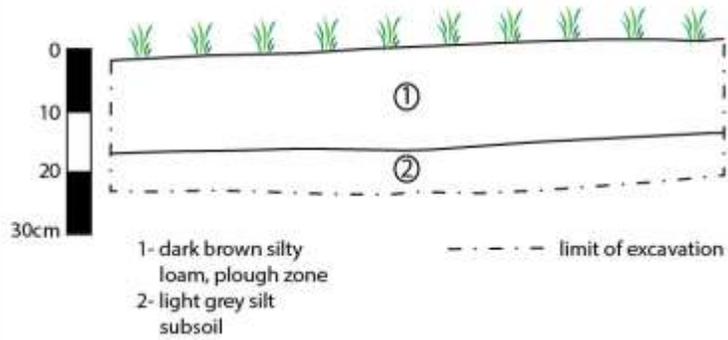
## Appendix C: Profiles



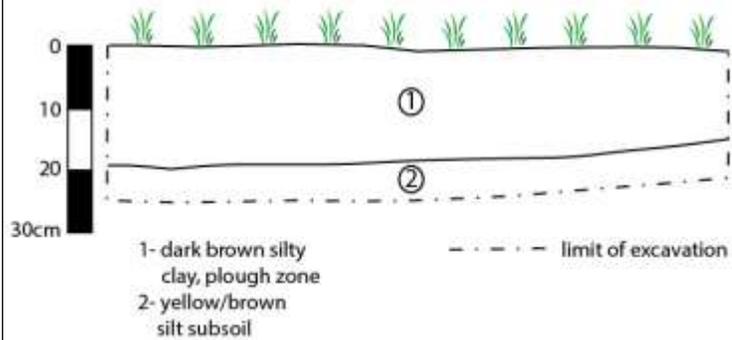




BdGd-68  
N25E20  
North Profile



BdGd-68  
N30E15  
North Profile



# **Stage 3 Archaeological Assessment of BdGd-67, McNichol's Pit Extension**

**(Part Lot 13, Concession 2 (east of Buck Bay Road),  
Geographic Township of Bedford, now in the  
Township of South Frontenac, County of Frontenac,  
Ontario)**

**Licensee:** Helen Sheldon, M.A.  
**Licence #:** P191  
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**PIF#:** P191-0150-2018  
**Development Name:** McNichol's Pit Extension  
**Development Project Designation #:** n/a  
**Date:** March 4, 2020  
**Report type:** Draft

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## **Project Personnel**

Licensee	Helen Sheldon (P191)
Field Director	Helen Sheldon (P191)
Historical Research	Helen Sheldon
Cartography	Helen Sheldon
Report Writing	Helen Sheldon
Field Technicians	Kira Brunatti, Alex Cadue, Chris Cadue, Peter Cassidy, Courtney Gifford, Douglas Kirk, Amanda Phillips

## Executive Summary

In September of 2018 Ground Truth Archaeology Limited conducted a Stage 3 archaeological assessment of a small precontact site (BdGd-67) discovered during a Stage 2 assessment of a proposed extension of a sand and gravel pit located on Buck Bay Road in Frontenac County. The site is located on part of Lot 13, Concession 2 in Bedford Township that was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the property to Thomas McNicholas, an ancestor of the McNichols family who currently own the existing sand and gravel pit on the property.

The Stage 3 archaeological assessment consisted of the hand excavation of 14 1m<sup>2</sup> units on a five metre grid centred around the Stage 2 positive find TS2. An additional 3 units (17 total) were excavated in areas of interest, primarily around the location where a Middle Woodland ceramic sherd was recovered in the Stage 2.

Only two additional artifacts were obtained during the Stage 3 excavations, a retouched flake and a tertiary flake, both of Onondaga chert. Despite the small size of the site it is classified as having cultural heritage value or interest due to the presence of the Woodland period sherd (S&G 3.4 S1e).

As a result of the Stage 3 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, Ground Truth Archaeology makes the following recommendations in regards to BdGd-67:

- The archaeological deposits at BdGd-67 have cultural heritage value or interest and require Stage 4 mitigation (S&G 3.4 S1e).
- As BdGd-67 lies on the boundary between the existing pit and the proposed pit extension and thus entirely within the current and proposed extraction areas; the site cannot be avoided and must undergo Stage 4 excavation (S&G 4.2) (Figure 4).
- The Stage 4 archaeological excavation must adhere to the requirements of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), specifically S&G 4.2.1 (General requirements for the excavation of archaeological sites) and 4.2.4 (Site specific requirements: Woodland archaeological sites).
- The core of the site should be excavated by hand using 1 m<sup>2</sup> units, ceasing only when counts of zero artifacts are found per unit (adapted from S&G Table 4.1 and as per First Nations consultation). The Stage 4 excavation should begin around unit N15E15 where the ceramic sherd and retouched flake were recovered and also N10E20 & N12E14 (Figure 13).
- Mechanical topsoil removal should follow the hand excavation of the core of the site, with topsoil being removed to a minimum of 10 metres from the edge of the hand excavation and 10 metres from any cultural features identified during Stage 4 excavation (S&G 4.2.3, Table 4.1).

## **Project Context**

### **Development Context**

In September of 2018 Ground Truth Archaeology was contracted by McNichol's Sand and Gravel to conduct a Stage 3 archaeological assessment of a small precontact site located within the area of a proposed extension for an existing sand and gravel pit located on Buck Bay Road, north of Godfrey. The archaeological site is located on Part Lot 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario

The archaeological assessment was conducted as part of the process of preparing a licence application for an extension for the existing pit under the Provincial Aggregate Resources Act. A final development plan is not yet available for the project. The Ministry of Natural Resources and Forestry is the approval authority for this application.

Permission to access the property and remove artifacts was given by Glen McNichol of McNichol's Sand and Gravel prior to the start of archaeological fieldwork.

### **Historical Context**

BdGd-67 lies within the southern part of the Algonquins of Ontario settlement area with the closest Algonquin community being Shabot Obaadjiwan (Sharbot Lake) (OL1). The Algonquin Nation are the ancestral people of the Ottawa River watershed occupying this region when European explorers extended their journeys into what is now Ontario in the early seventeenth century. While the Algonquins control of the Ottawa River had always given them an important position regarding trade with the peoples using the French River route this position became more pronounced during the fur trade era. Consequently, the French allied themselves with the Algonquins during the conflicts surrounding the fur trade. Later after the British replaced the French as the colonial power they too sought alliances with the Algonquins until their military situation in Canada became more tenable with the defeat of Napoleon and the initial treaties with the U.S. after the War of 1812. Unfortunately by 1822 the Algonquins were largely dispossessed of most of their territory by the Rideau Purchase, which had been negotiated by the neighbouring Mississauga. For a more detailed history of the Algonquins of Ontario please refer to their website (OL2).

In 2016 the Algonquins of Ontario signed an Agreement-in-Principle with the Canadian Federal government and the government of Ontario as part of an ongoing process toward reaching a modern day treaty and resolving numerous issues concerning land rights (OL3).

In the region of the study area Algonquin settlement on Bob's Lake and Wolfe Lake was well documented in the first half of the 19<sup>th</sup> century. However the extensive logging and settlement of the area in the decades after the 1832 opening of the Rideau Canal led to overhunting and loss of habitat forcing the local Algonquins to move north.

Bedford Township was initially surveyed starting in 1821 by Samuel Benson. However due to the rugged nature of the land Benson gave up after three years as he believed that the land was so bad that it could never be settled (OL4). A single brief paragraph is devoted to the history of Bedford Township in the Meacham atlas of 1878, dwelling upon its partially good land and abundant rocky elements (Mika 1977:12). Like all areas linked by waterways with the Rideau Canal, logging was the primary industry in the region until good stands of timber were exhausted and farming took over.

The Crown patents for the four lots that comprise the pit expansion area were allocated relatively late, all dating from the middle of the nineteenth century (OLR). The property came into the hands of the McNichols family in 1900 and has remained so ever since. BdGd-67 is located on the west half of Lot 13, Concession 2 which was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the west 100 acres to Thomas McNicholas (OLR).

Transaction	Date	Grantor	Grantee	Area
Patent	June 23, 1855	Crown	Thomas Fitzgerald	W ½ 100 acres
Patent	Mar. 16, 1883	Crown	John Hastings	E ½ 100 acres
Deed	Nov. 18, 1875	Thomas Fitzgerald et ux	Ed. Fitzgerald	W ½
B&S	Aug, 19, 1897	Edward Fitzgerald et ux	Terence Fitzgerald	W ½, 100 a
B&S	May 10, 1900	Terence Fitzgerald	Thomas McNicholas	W ½, 100 a

**Table 1: Summary of land transactions for Lot 13, Concession 2 (Ontario Land Registry)**

A house is shown just west of the pit expansion limits on the 1878 Meacham map (Figure 5) on Fitzgerald property, and not within either the Stage 2 or the Stage 3 study area.

Currently the Stage 3 assessment area consists of a portion of an active agricultural field lying on a slight slope on the west side of the sand and gravel pit access road (Figure 7).

### **Archaeological Context**

The Paleo-Indian Period in Eastern Ontario (here defined as east of the Trent River watershed) began during the Belleville phase of Lake Iroquois (12000 BP) when the land between the ice covered Algonquin Highlands and Lake Iroquois was exposed as far east as the Champlain Sea (Muller and Prest 1985). Later as the land rebounded from the weight of the glacier the shallows of Lake Iroquois were exposed as a lowland plain sloping to the south. Bands of hunters moved into the area after a tundra environment with Pleistocene fauna became established. Palaeo sites are rare but not unknown in Eastern Ontario as indicated by the recovery of two lanceolate points from Lanark County and a chipped stone ulu knife from the Bob's Lake area. Hi-Lo points from the Late Paleo period are known from such locations as Gananoque and Kingston Mills. There are also at least three fluted points in the Royal Ontario Museum collection recorded from Eastern Ontario.

Towards the end of the Palaeo Period during the Admiralty phase the level of the Great Lakes began to drop as the outflow switched from the Hudson River to the St. Lawrence (Anderson and Lewis 1985). The Great Lakes continued to shrink in size until 10,000 BP when the level of Lake Ontario was considerably lower than today (Anderson and Lewis 1985). After this the level of

Lake Ontario steadily rose throughout the subsequent Archaic Period until about 4,000 BP when it peaked about three metres higher than the present levels (Anderson and Lewis 1985). The Archaic Period began around 9000 BP in Eastern Ontario and was marked by the extinction of Pleistocene megafauna, an increase in deciduous trees in the forests and the transition to a broader way of life with a stronger reliance on fishing and the harvesting of nuts, wild foods. The bulk of the goods made by First Nations at the time, were of biodegradable materials, which do not generally survive in the archaeological record. Consequently the majority of the artifacts found on Archaic sites are stone tools and chipping debris, though in good soil conditions bone/shell objects are also preserved. About 6,000 years ago copper artifact began to be traded into Eastern Ontario from the Lake Superior region.

For the most part the Archaic way of life appears similar to that of historic Algonquin, Cree and Anishnabe of Upper and Lower Canada. In the spring family groups congregated into larger encampments around the mouths of rivers/creeks, rapids and waterfalls in order to harvest successive fish runs. When these encampments were located on important transportation routes trade also was an important activity. A good example of this type of site is the extensive Archaic period occupations on Allumette and Morrison Islands in the Ottawa River where Archaic period artifacts starting from the Early Archaic are found including a high frequency of copper items. Smaller but similar sites that span the entire Archaic period are located along the Rideau River including the Wyght and Driscoll sites (Watson 1999).

In the late fall family groups dispersed across the landscape to individual hunting territories often located on interior lakes where they trapped and hunted. After freeze-up fish were caught through the ice by line and spear. A polished stone fish lure is known from the town of Perth and likely dates from the Archaic period. Small campsites are well known from the shores of the interior lakes of the region and many are likely winter cabins. Bob's Lake to the north which is now linked with Buck Bay has numerous small encampment sites around its shore including five from the Archaic period.

By the Late Archaic cemeteries and burial goods are first recorded in the region. The range of exotic materials increases in this period. One of the best indicators for a strong presence in the Archaic is the high proportion of Lamoka points recovered in the Ottawa watershed.

The beginning of the Woodland period was marked by the appearance of pottery on First Nation's sites. Some of the earliest pottery found in Ontario has been recovered from sites along the Ottawa River including Constance Bay. In Eastern Ontario around 3000 BP, the Meadowood Culture of Western New York State began to be present in the St Lawrence Valley and the Lake Ontario lowlands. Trade with the resident peoples, including those in the Ottawa Valley is evidenced by the common finds of Meadowood points are common in the Ottawa watershed both on sites and as isolated findspots. These points are almost always on Onondaga chert and they were likely produced finished or as cache blades by Meadowood craftsmen for trade.

Shortly after 2700 BP the Middle Woodland Period began with a steady increase in the population of Ontario. Long distance trade is evident from the continued presence of exotic materials such as marine shell, mica and exotic cherts. During the subsequent Late Woodland period Iroquoian coil made pottery is found on sites in the Ottawa watershed. Like the

Meadowood points many of these pots were likely acquired through trade. Iroquoian villages appear to be absent from the Ontario portion of the Ottawa River watershed with the closest ones located near the Lake Ontario shore around Kingston.

Like the Archaic, small encampments are common around the interior lakes of the region during the Woodland period. At least nine Woodland sites or components are known from Bob's Lake and others are present on nearby Crotch, Otty and Wolfe lakes. Woodland components are present on the larger congregation sites as well, with the ones on the big rivers essentially occupied continuously.

The subject property is located within the Frontenac Axis physiographic region, an extension of the Canadian Shield. The landscape is dominated by exposed granite and metamorphic outcrops with lakes and marshes in the depressions. While conifers predominate deciduous trees are still a significant proportion of the forest cover. The

First Nation's sites in the Frontenac Axis are primarily located on the waterways or former shorelines. They can be either single component representing a single occupation or multi component with more than one occupation, often from a number of time periods.

Consultation with the Ministry of Tourism Culture and Sport's Archaeological Sites Database found that there are no registered archaeological sites within the subject property and (prior to the Stage 2 assessment for pit expansion) no registered sites were located within one kilometre of the property (MTCS 2018).

During the Stage 2 assessment three archaeological sites were identified. BdGd-66 consisted of an isolated find of a partial projectile point to the west of Buck Bay Road. The BdGd-67 site lies within an active agricultural field situated on sandy soil. The nearest source of water is a small creek that lies approximately 120 metres to the west in a ravine (Figure 4). According to Doreen Davis of the Shabot Obaadjiwan this ravine is referred to as "the gut" linking Buck Bay to waterways to the southwest. Buck Bay lies approximately 450 metres to the northeast and is linked by a narrows to Bob's Lake to the north about 5 km from BdGd-67. BdGd-68 was a small scatter of chert flakes located 100m northwest of BdGd-67 on the edge of the ravine known as the gut (Figure 8).

No historical plaques or monuments are associated with the property and as far as can be determined no archaeological work other than that described above has been conducted within 50 metres of the subject property.

The soil of the study area consists of White Lake gravelly sandy loam (WS1), a calcareous outwash gravel that is well to rapidly drained sandwiched between areas of Rockland (RL) (Agriculture Canada 1965, Figure 6). The sand and gravel pit is located here for obvious reasons.

The Stage 3 archaeological assessment was conducted on September 28, 2018.

## Maps

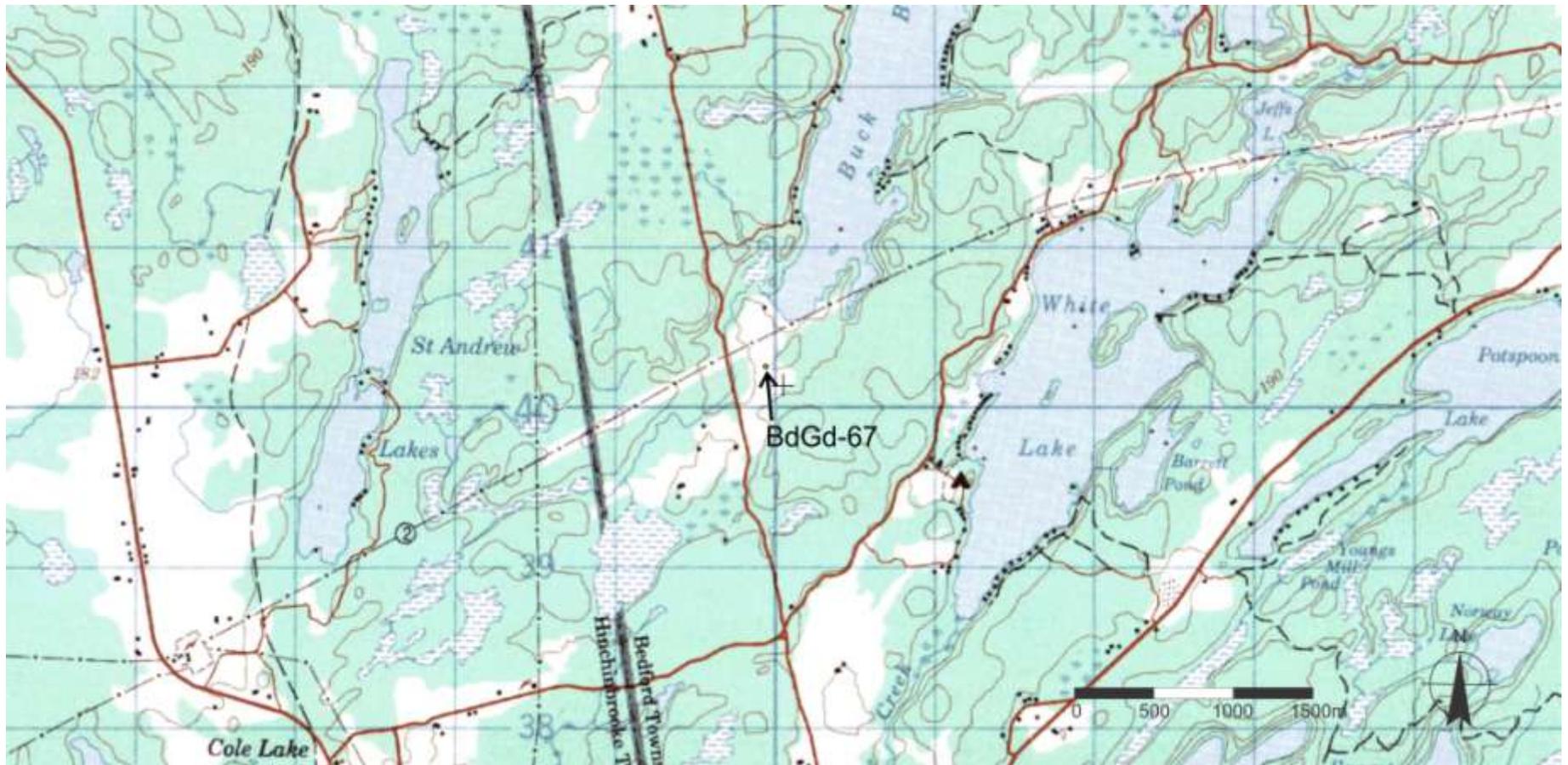


Figure 1: Study area shown on the NTS 1:50,000 map (31C/10)

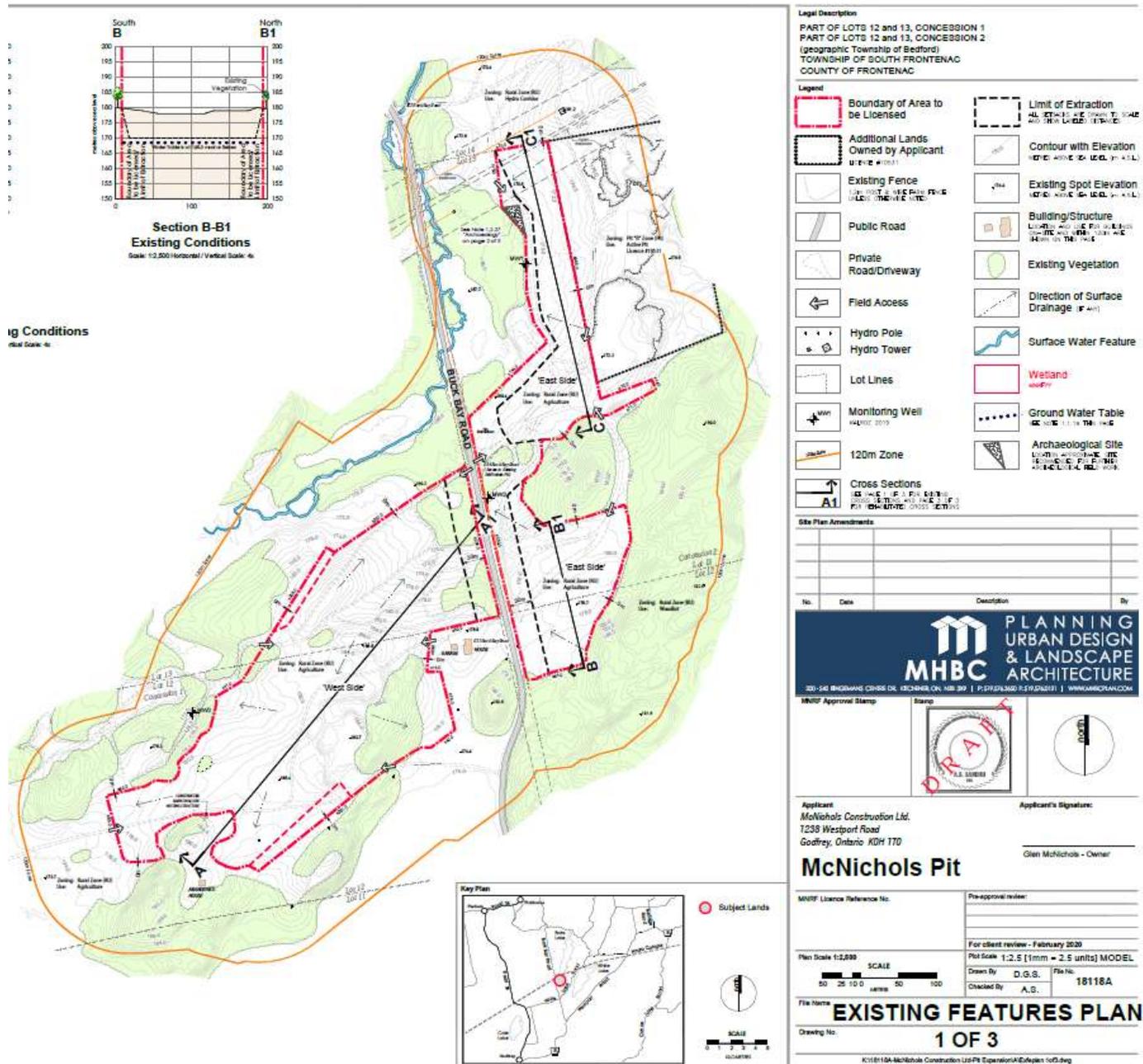
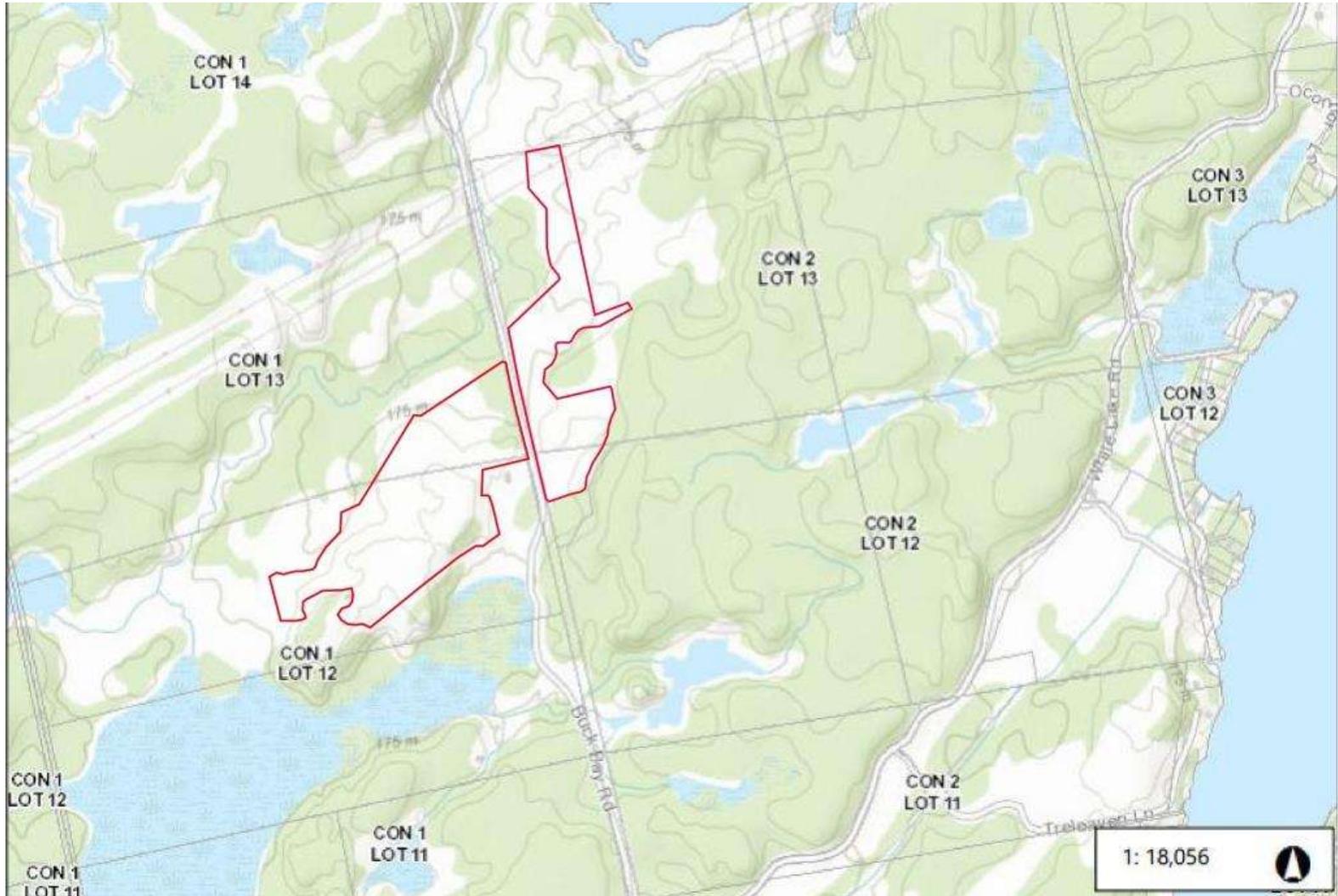


Figure 2: Development plan with outline of proposed pit extension license area, in red (MHBC 2020)



**Figure 3: Limits of pit extension (in red) with lots and concessions (base base image Frontenac County Public GIS)**

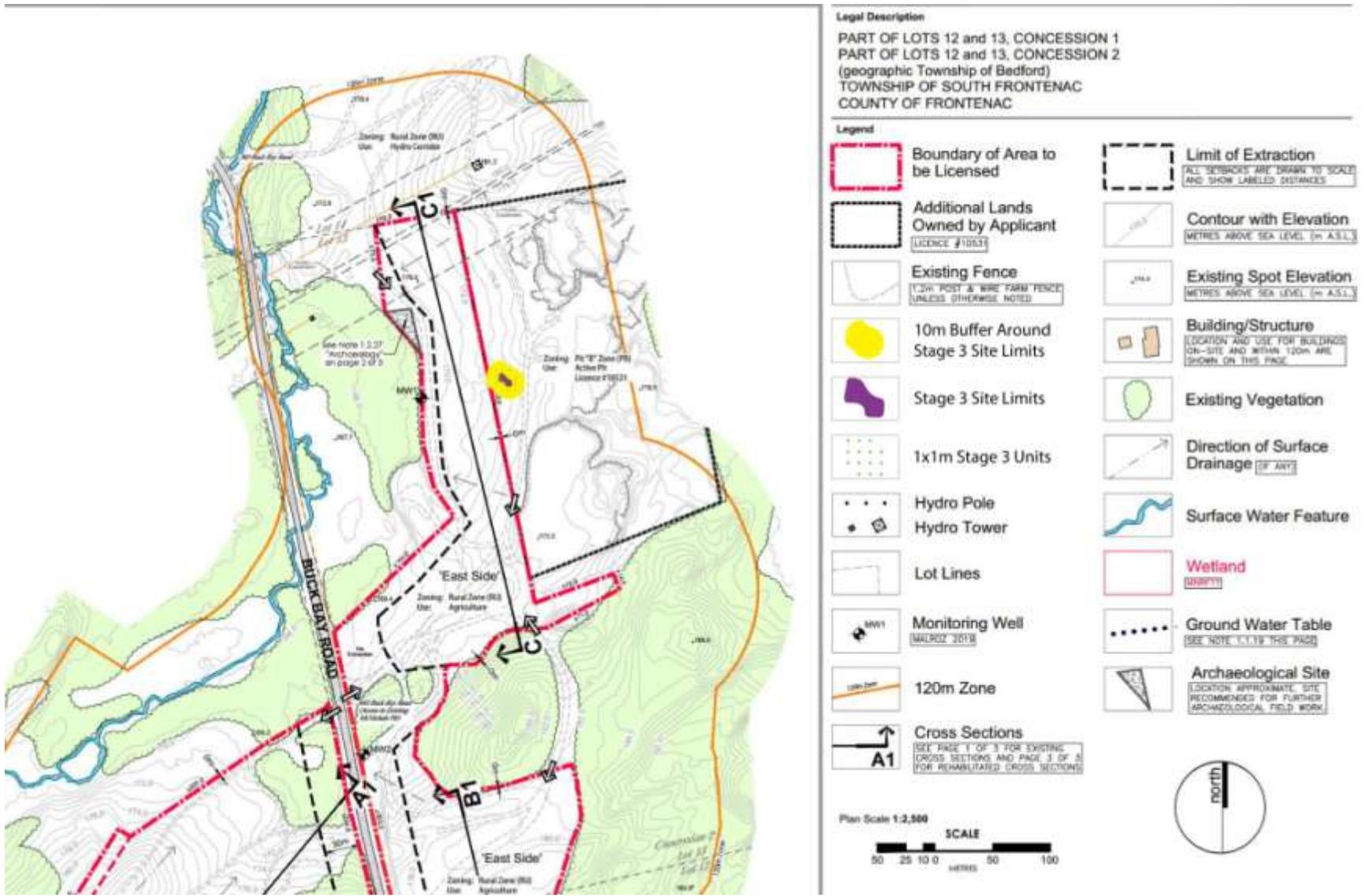


Figure 4: BdGd-67 Stage 3 study area and site limits on development plan (base image Google Earth 2016)



Figure 5: Proposed pit extension limits (in red) on the 1878 Meacham map

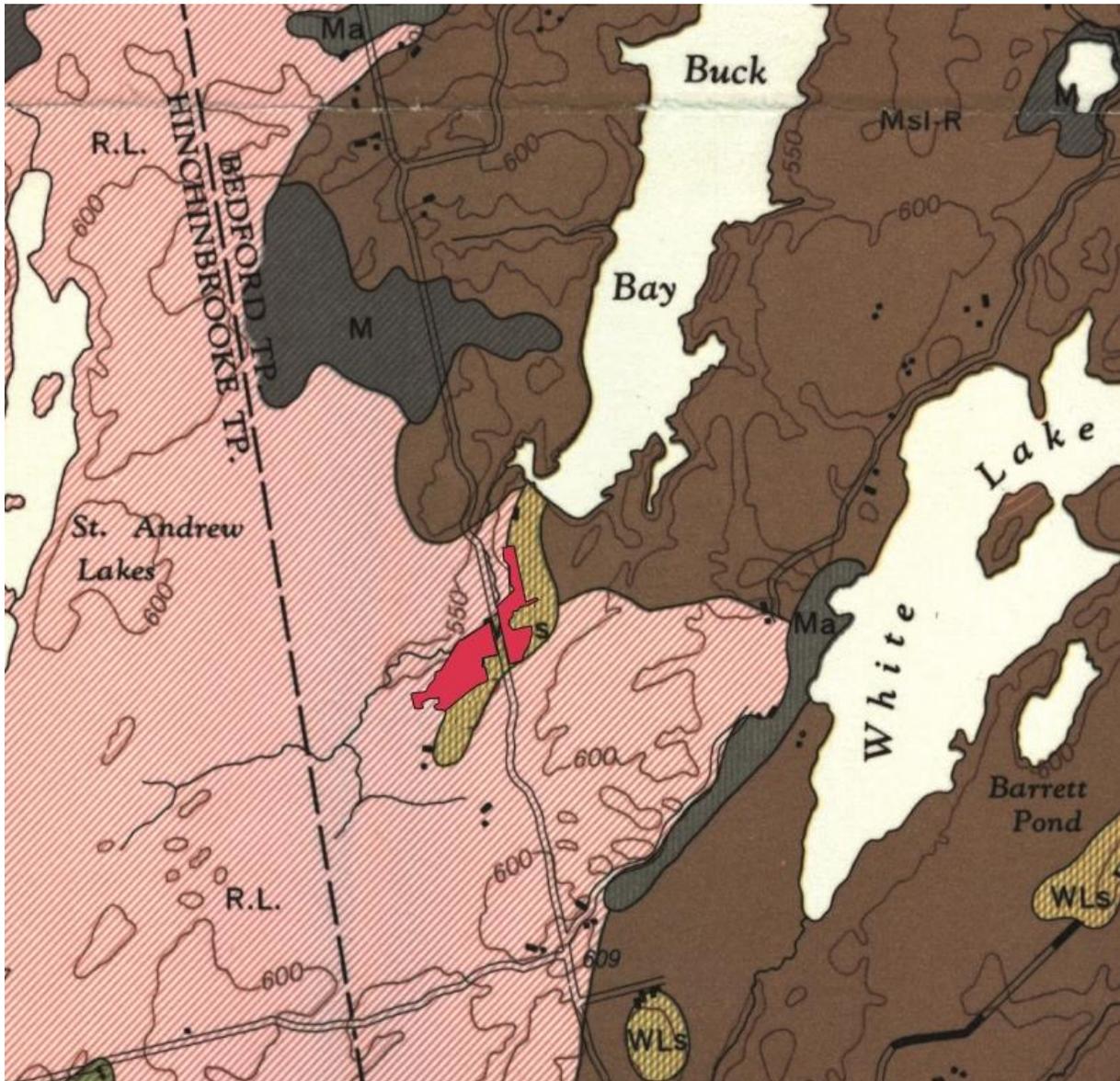
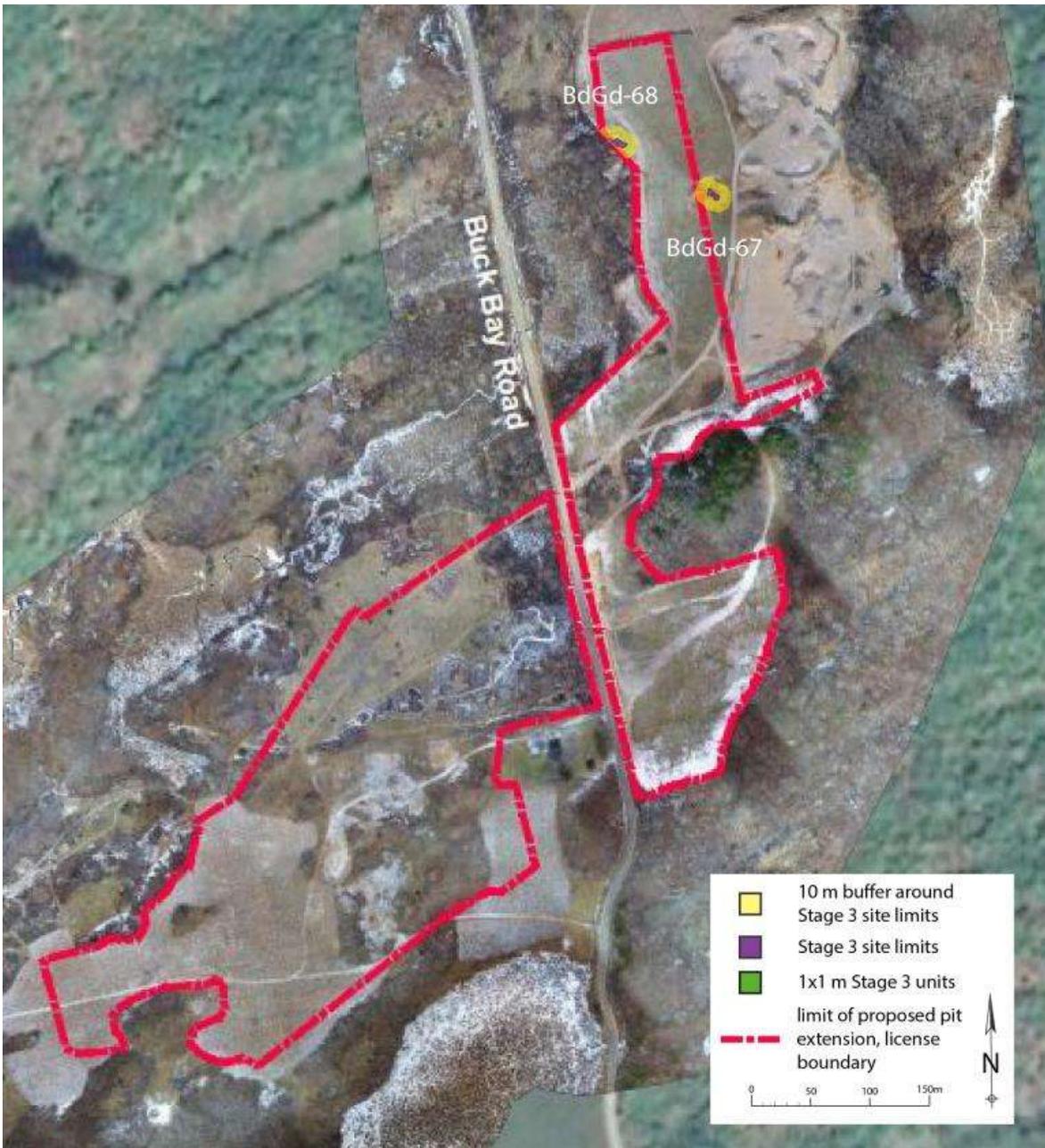


Figure 6: Final proposed pit extension shown in red on the soil map (Agriculture Canada 1965)



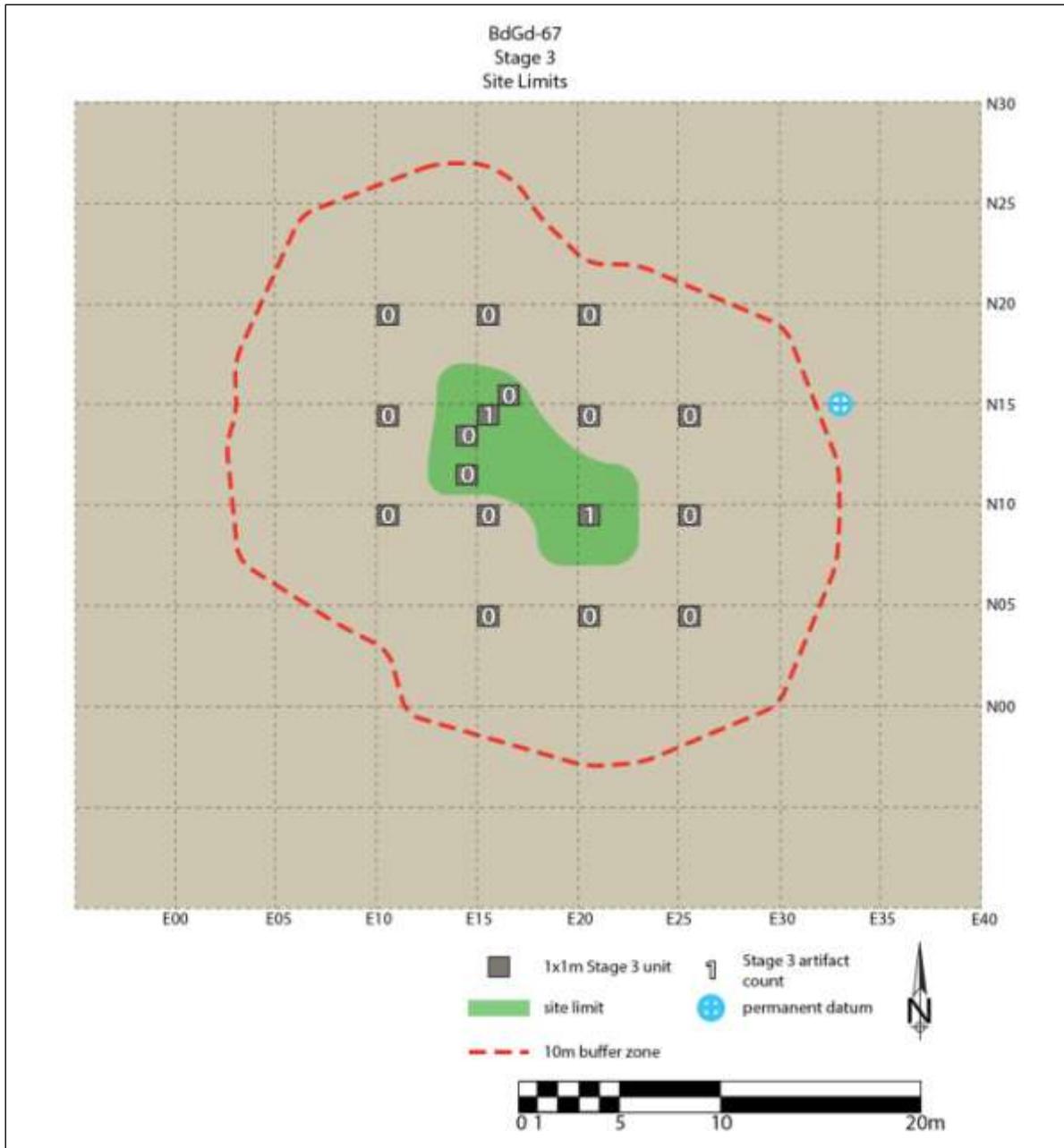
Figure 7: Relation of BdGd-67 to BdGd-68 (base image Google Earth 2016)



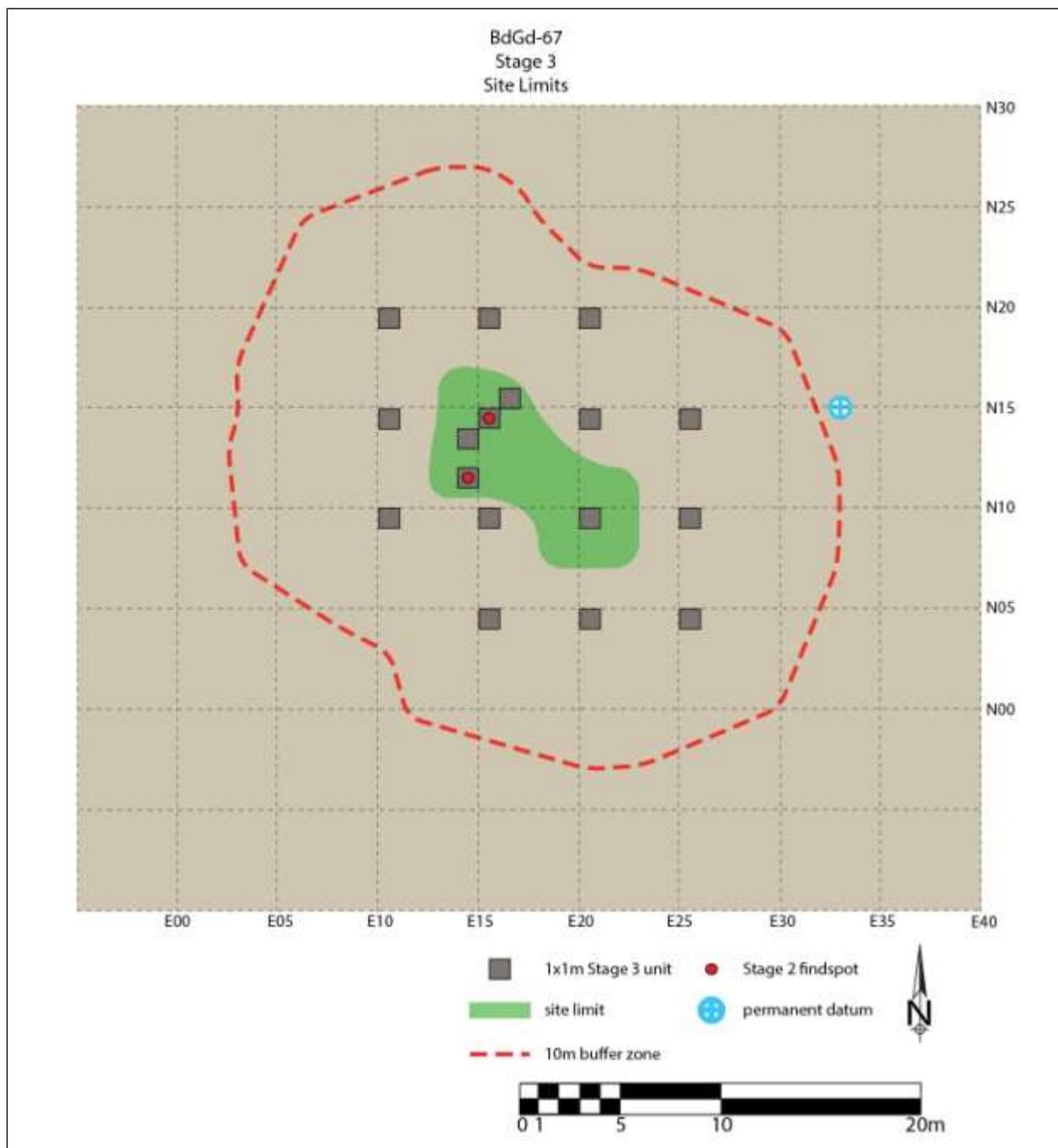
**Figure 8: Relation of BdGd-67 and BdGd-68 to the proposed pit extension (MHBC 2020)**



Figure 9: Detail of BdGd-67 and BdGd-68 in relation to the proposed pit extension (MHBC 2020)



**Figure 10: Stage 3 site plan with total artifact counts**



**Figure 11: Location of Stage 2 findspots in relation to Stage 3 excavations**

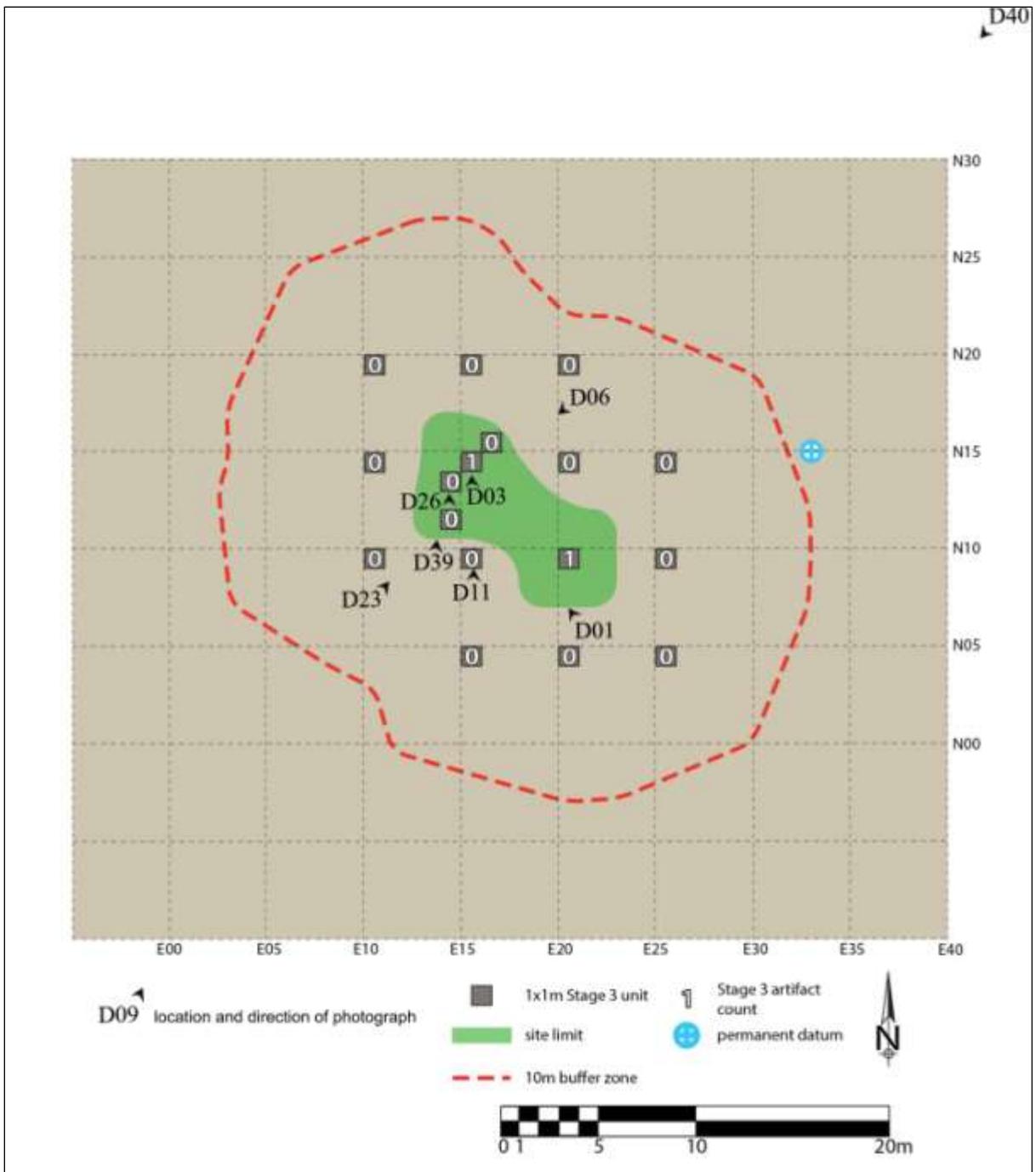
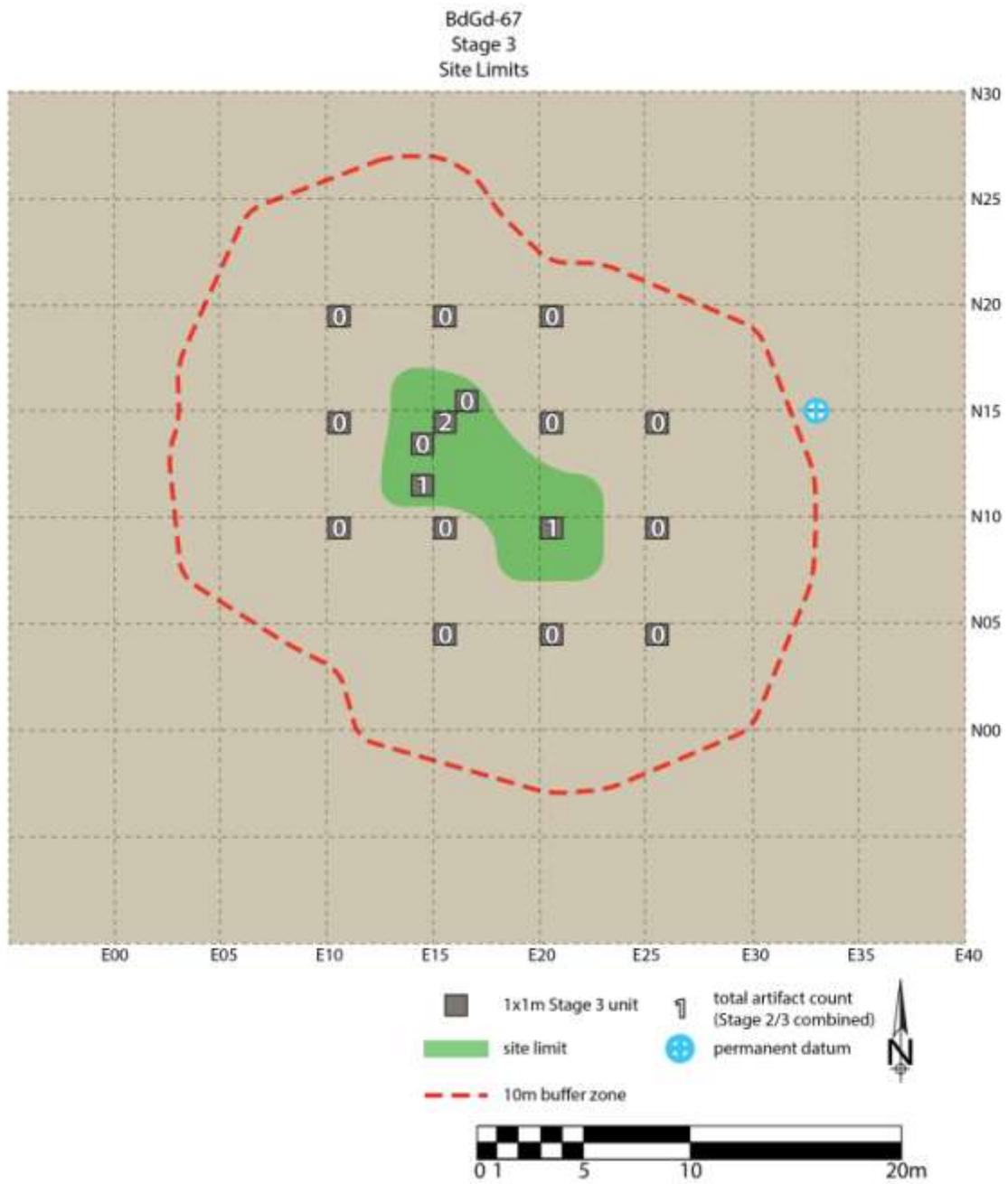


Figure 12: Photograph directions (by photograph catalogue number)



**Figure 13: Total artifact count from Stage 2 & 3 combined**

## Field Methods

A single sherd of grit tempered Middle Woodland ceramic and a retouched flake of Onondaga chert were discovered during the Stage 2 assessment in September of 2018. The subsequent Stage 3 assessment at the site consisted of the excavation of 1m<sup>2</sup> units on a 5 m grid centred on the Stage 2 findspots (TS2 and MS1) in order to determine the nature and limits of the site.

At the beginning of the Stage 3 assessment, a 5m grid was established with a baseline running north-south through the presumed centre of the site with the Stage 2 findspot TS2 located at grid coordinates N15E15. A permanent datum was established at the east edge of the site in a strip of unploughed grass sandwiched between the agricultural field and the active pit access road, at coordinates N15E33. Units were laid out at 5m intervals, surrounding the Stage 2 sherd findspot, and the locations of the baseline, datum and units were plotted onto a site map (Figure 9). For this assessment units were labelled according to the coordinates of their northwest corners.

A CSP (Controlled Surface Pick-up) was not conducted for this assessment as there were no artifacts on the surface of the field to collect.

The Parks Canada model was used for the designation of lots – where a lot designation is given to each natural or artificial stratum and also to each feature within a unit (Parks Canada 2015). Lots were designated sequentially for each unit. A catalogue of the artifacts recovered during the Stage 3 assessment is included in the report as Appendix B.

The Stage 3 archaeological assessment of BdGd-67 consisted of the excavation of 14 1m<sup>2</sup> units on a five metre grid centred around the Stage 2 positive find TS2. An additional 3 units were excavated in areas of interest, primarily in the higher artifact yielding areas surrounding the Stage 2 findspots, for a total of 17 units.

In each excavation unit the undisturbed deposits were removed by hand using trowel and shovel and the excavation extended at least 5 cm into sterile subsoil. Excavation extended outwards from the centre of the site until units with zero artifact counts were encountered. The units were examined for evidence of fill, stratigraphy and cultural features and the exposed surface of the subsoil was examined for the presence of features. Soil profiles were photographed and drawn to scale for each unit. All soils from the Stage 3 excavation units were screened through 6mm steel mesh screens. The units were backfilled upon completion.

The soil on the site consisted of a stone free and well drained dark brown sandy loam plough zone over an orange brown sand subsoil. The plough zone varied in thickness from 5 to 25 cm, averaging around 20 cm. The thinnest plough zone was in the southeast portion of the site.

All artifacts and associated documentation arising from the Stage 3 fieldwork will be held by Ground Truth Archaeology Limited in Quinte West, Ontario until a suitable repository is established. During the Stage 3 assessment the weather was suitable for the recovery and recording of archaeological materials with mixed sun and cloud and a high temperature of 21°C.

## Record of Finds

Inventory of field notes: Author/recorder – Helen Sheldon

Field notes:	1910150NB1
Field Drawings:	1910150FD1
Field Recording Forms:	1910150FRF01-16
Photographs:	1910150D01-45

Packed artifact inventory – located in banker’s box labelled GTAB-083.

The terrain was gently sloping to the west, which is relatively unusual for a precontact site. However the owner of the property indicated that this location was once more level and that ploughing and weathering of the side slope had resulted in a steeper contour. The existing pit access road ran along the east side of the site approximately eight metres from the most easterly Stage 3 units.

Only two of the Stage 3 units contained artifacts, one in the unit (N15E15) excavated over the Stage 2 ceramic sherd findspot (TS2) consisting of a retouched flake of Onondaga chert and the other in unit N10E20 consisting of a small tertiary flake of Onondaga chert. All of the remaining 15 units contained no cultural material.

No features were identified during the Stage 3 assessment of BdGd-67.

The lithic analysis uses Crabtree (1972) as a basis for terminology, with additional debitage terminology gleaned from Fisher (2008) who uses Ellis (1979) as a basis for debitage description (J. Fisher to N. Gromoff, personal communication 2016).

## Images



**Plate 1: Overview of Stage 3 excavations (1910150D01)**



**Plate 2: North profile of N15E15 (1910150D03)**



**Plate 3: Stage 3 excavations in progress (1910150D06)**



**Plate 4: North profile of N10E15 (1910150D11)**



**Plate 5: Stage 3 excavations with gravel pile of existing pit in background (1910150D23)**



**Plate 6: North profile of N14E14 (1910150D26)**



**Plate 7: Several completed Stage 3 units (1910150D39)**



**Plate 8: View over site (1910150D40)**



**Plate 9: Flakes from BdGd-67 Stage 3– A) retouched flake (N15E15 AR-01), B) partial tertiary flake N10E20 AR-01**

## **Analysis and Conclusions**

The Stage 3 excavations at BdGd-67 resulted in the recovery of two precontact artifacts, a retouched flake and a small tertiary flake, both of Onondaga chert. This brought the Stage 2/3 artifact total for the site to four: three chert flakes and one ceramic sherd. The paucity of the artifact scatter suggests a small campsite. The only artifact of the four to give an indication of age is the ceramic sherd from the Stage 2 that dates from the Middle Woodland period.

At present the site is considered to be a small single component campsite from the Middle Woodland period. It is quite possible that BdGd-67 is a hunting camp as the adjacent ravine (the gut) would be an excellent location to ambush or drive game. It should be noted that most small sites in the region are located within 30 m of a water source or close to the edge of a ravine or escarpment, while BdGd-67 is about 120 m from a water source and 70 m from a ravine edge.

Given the presence of a precontact ceramic sherd, the low number of such archaeological sites excavated in the region and input from Chief Doreen Davis of the local Shabot Obaadjiwan community, the site is considered to have cultural heritage value.

## Recommendations

As a result of the Stage 3 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, Ground Truth Archaeology makes the following recommendations in regards to BdGd-67:

- The archaeological deposits at BdGd-67 have cultural heritage value or interest and require Stage 4 mitigation (S&G 3.4 S1e).
- As BdGd-67 lies on the boundary between the existing pit and the proposed pit extension and thus entirely within the current and proposed extraction areas; the site cannot be avoided and must undergo Stage 4 excavation (S&G 4.2) (Figure 4).
- The Stage 4 archaeological excavation must adhere to the requirements of the 2011 *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), specifically S&G 4.2.1 (General requirements for the excavation of archaeological sites) and 4.2.4 (Site specific requirements: Woodland archaeological sites).
- The core of the site should be excavated by hand using 1 m<sup>2</sup> units, ceasing only when counts of zero artifacts are found per unit (adapted from S&G Table 4.1 and as per First Nations consultation). The Stage 4 excavation should begin around unit N15E15 where the ceramic sherd and retouched flake were recovered and also N10E20 & N12E14 (Figure 13).
- Mechanical topsoil removal should follow the hand excavation of the core of the site, with topsoil being removed to a minimum of 10 metres from the edge of the hand excavation and 10 metres from any cultural features identified during Stage 4 excavation(S&G 4.2.3, Table 4.1).

## **Advice on Compliance with Legislation**

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

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

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

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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

## References

### Maps

NTS – 1:50,000 map (31C/10)

Google Earth base image August 25, 2016, accessed October 9, 2018

Frontenac County Public GIS, accessed May 31, 2018

### Archival Map References

Mika

1977 Frontenac, Lennox and Addington Counties (Ontario Map Ref #31 and #30)  
*Illustrated historical atlas of the counties of Frontenac, Lennox and Addington, Ontario.*  
Toronto: J.H. Meacham & Co., 1878.

Canada Department of Agriculture

1965 Soil Map of Frontenac County, Ontario, South Sheet, Soil Survey report No. 39. Ottawa.

### Primary Historic Documents

Ontario Land Registry (OLR) Records Bedford Township, Frontenac County

### On line sources

Parks Canada (2015)

Archaeological Recording Manual: Excavations and Surveys: Provenience System

<http://www.pc.gc.ca/eng/docs/pc/guide/fp-es/4.aspx>

OL1: Algonquins of Ontario - <http://www.tanakiwin.com/algonquins-of-ontario/who-are-the-algonquins-of-ontario/>

OL2: Algonquin history - <https://www.tanakiwin.com/algonquins-of-ontario/our-proud-history/>

OL3: Algonquin Agreement-in-Principle - <https://www.tanakiwin.com/our-treaty-negotiations/agreement-in-principle/>

OL4: <http://bucklake.ca/about-us/history/early-history>

### Other

Anderson, T. W. and C. F. M. Lewis

1985 Post glacial Water-level History of the Lake Ontario Basin. *Quaternary Evolution of the Great Lakes*, eds. P.F Karrow and P.E. Calkin.

Crabtree, Don E.

1972 An Introduction to Flintworking. Occasional Papers of the Idaho State University Museum, No. 28. Potacello, Idaho.

Ellis, Christopher J.

1979 Analysis of Lithic Debitage From Fluted Point Sites in Ontario. Unpublished M.A. Thesis, Dept. of Anthropology, McMaster University, Hamilton, Ontario.

Fisher, Jacqueline

2008 BbGc-43 - ND2 Site, Stage 4 Report Volume II: Prehistoric Component, Part 2: Prehistoric Lithics Analysis. Consultant report, Cataraqui Archaeological Research Foundation.

Ministry of Tourism and Culture (MTC)

2011 Standards and Guidelines for Consultant Archaeologists. Ministry of Tourism and Culture: Toronto.

Ministry of Tourism, Culture and Sport (MTCS)

2018 Sites within a One Kilometre Radius of the Project Area Provided from the Ontario Archaeological Sites Database, September 2018.

Muller, E. H. and V. K. Prest

1985 Glacial Lakes in the Ontario Basin. Quaternary Evolution of the Great Lakes, eds. P.F. Karrow and P.E. Calkin.

Sheldon, Helen

2019 Stage 1/2 Archaeological Assessment of the McNichol's Pit Extension, 631 and 644 Buck Bay Road, Frontenac County, Ontario. Consultant report, Ground Truth Archaeology Limited, Quinte West, Ontario.

Ramsden, P.G.

1977 "A Refinement of some Aspects of Huron Ceramic Analysis" *Archaeological Survey of Canada Mercury Series*, No. 63. National Museum of Canada, Ottawa.

## Appendix A: Photograph Catalogue

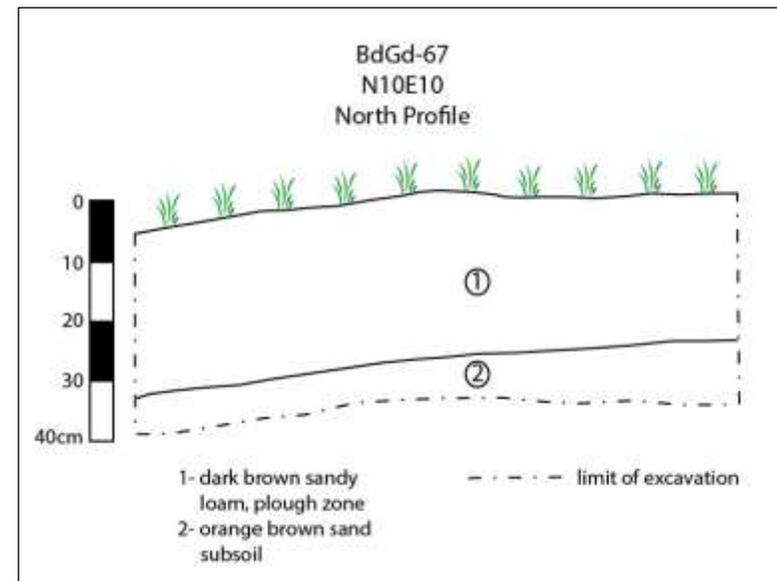
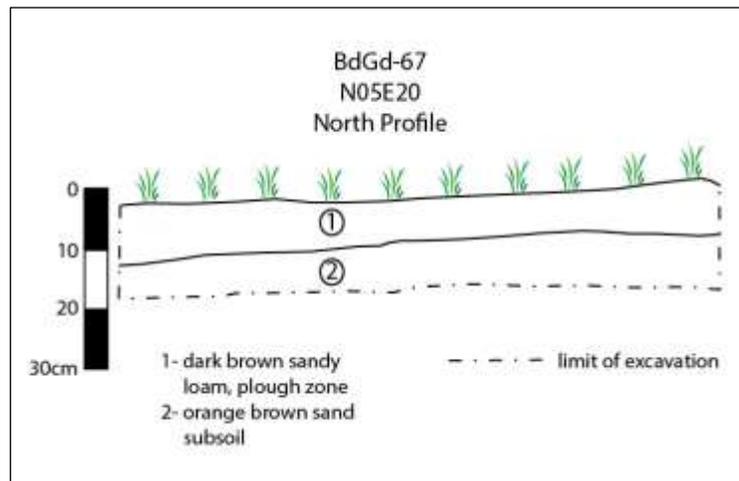
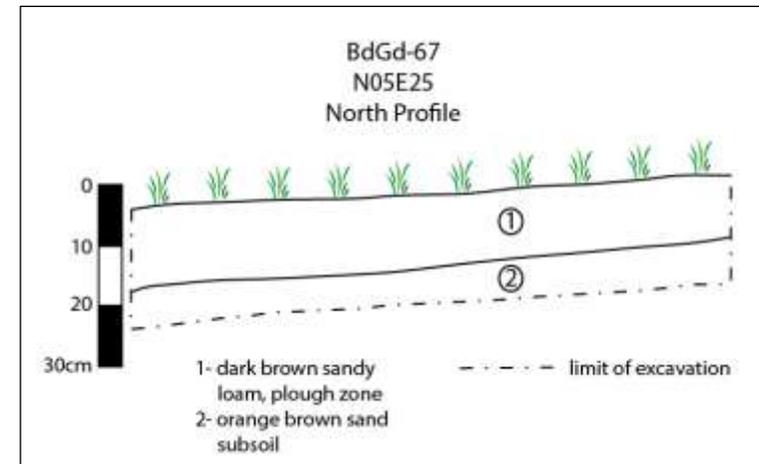
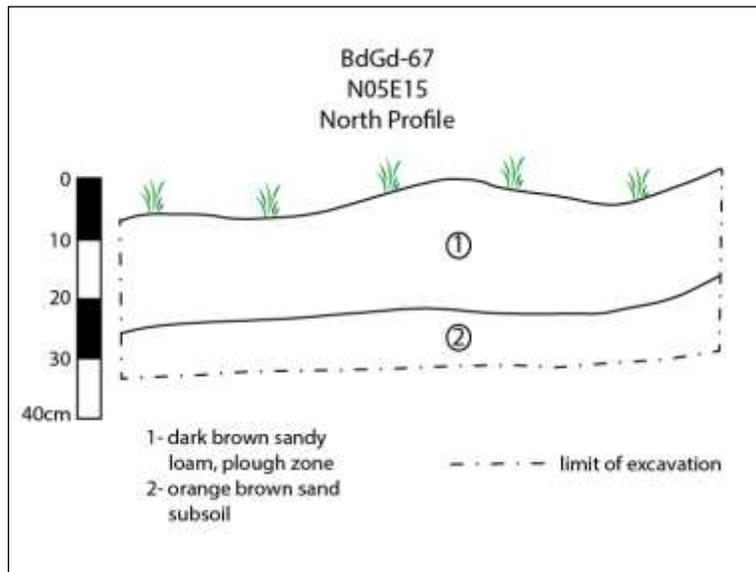
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1910150D04	overview of Stage 3 excavations	NE	September 28, 2018
1910150D05	overview of Stage 3 excavations	N	September 28, 2018
1910150D06	overview of Stage 3 excavations	SW	September 28, 2018
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1910150D10	overview of Stage 3 excavations	NW	September 28, 2018
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1910150D15	N20E10, close	N	September 28, 2018
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1910150D17	N20E15, close	N	September 28, 2018
1910150D18	N20E15, north profile	N	September 28, 2018
1910150D19	N10E20, close	N	September 28, 2018
1910150D20	N10E20, north profile	N	September 28, 2018
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1910150D22	N10E10, north profile	N	September 28, 2018
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1910150D24	overview of Stage 3 excavations	NE	September 28, 2018
1910150D25	N14E14, close	N	September 28, 2018
1910150D26	N14E14, north profile	N	September 28, 2018
1910150D27	N05E15, close	N	September 28, 2018
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1910150D37	N12E14, close	N	September 28, 2018
1910150D38	N12E14, north profile	N	September 28, 2018
1910150D39	overview of centre of site	N	September 28, 2018
1910150D40	view over site	SW	September 28, 2018
1910150D41	view over site	SW	September 28, 2018
1910150D42	view toward BdGd-68	W	September 28, 2018
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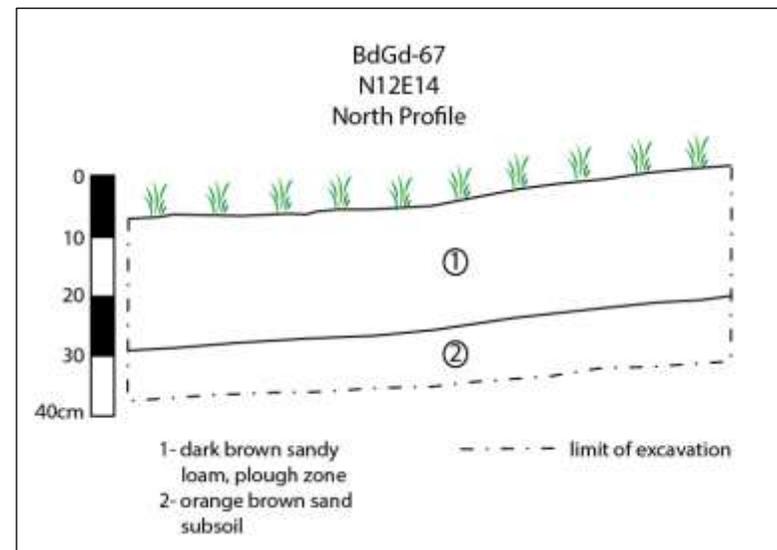
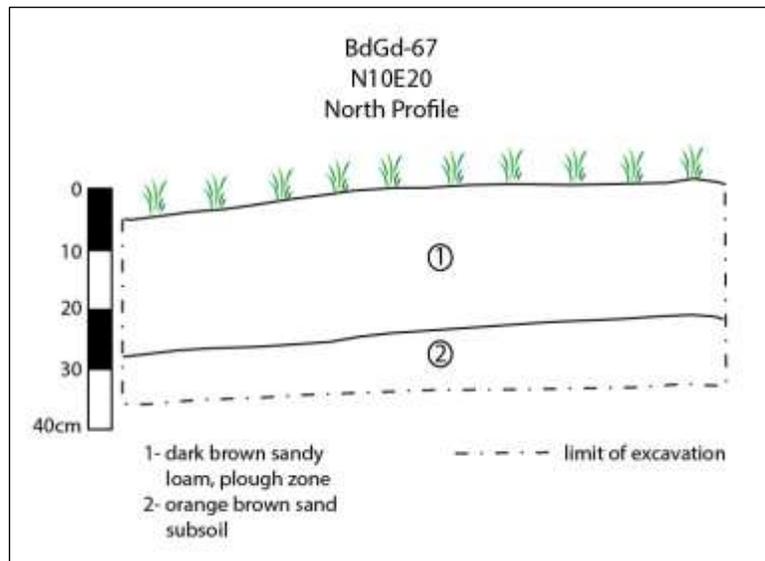
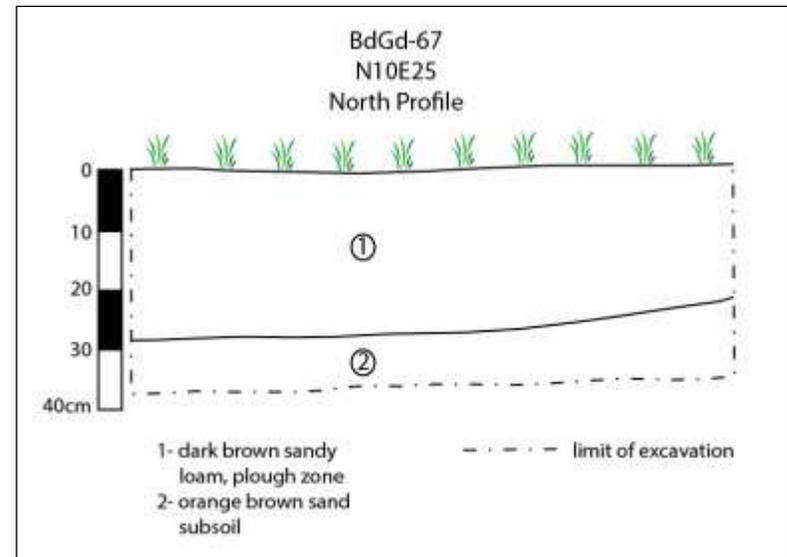
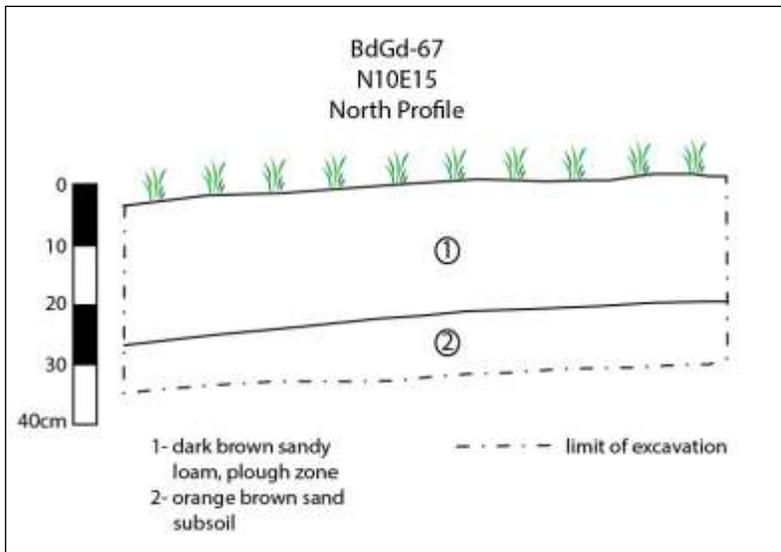
## Appendix B: Artifact Catalogue

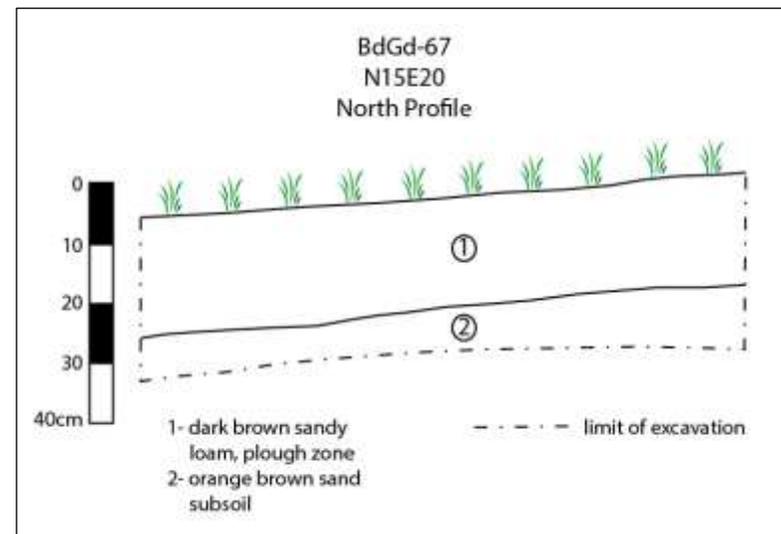
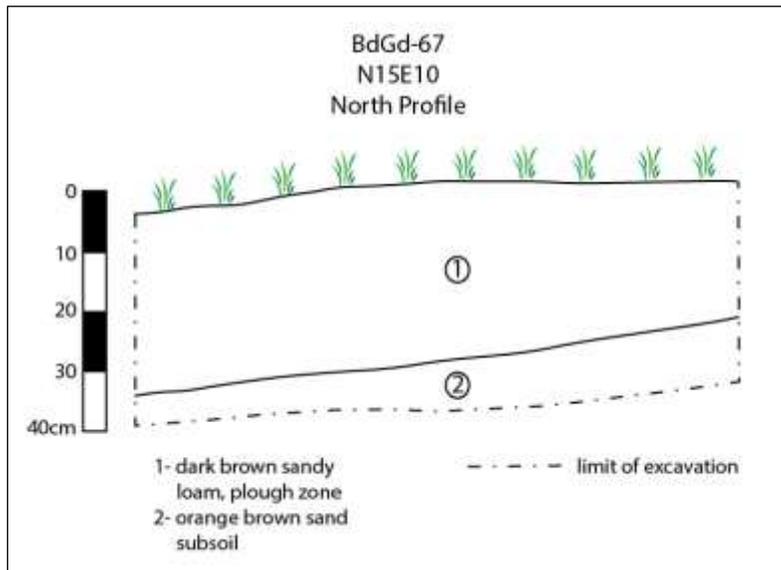
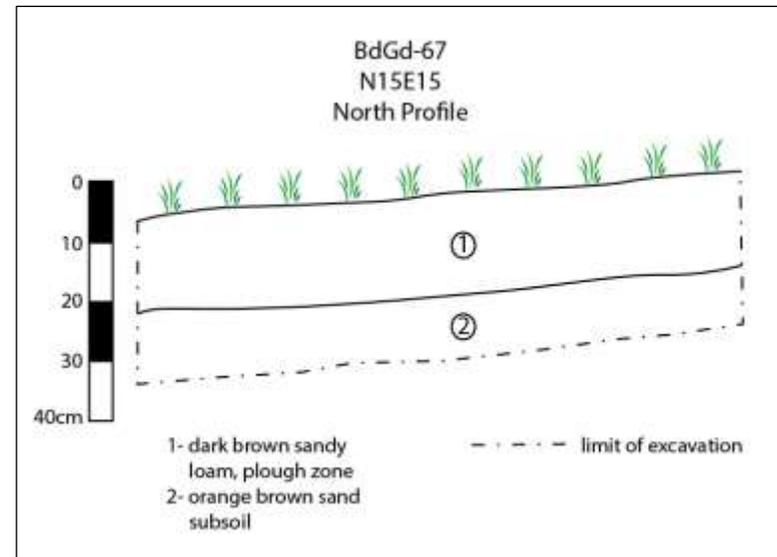
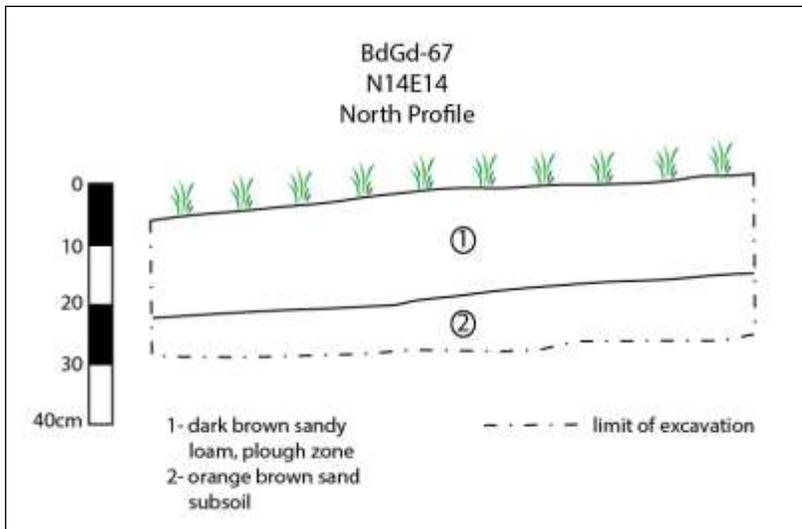
### BdGd-67 Stage 3

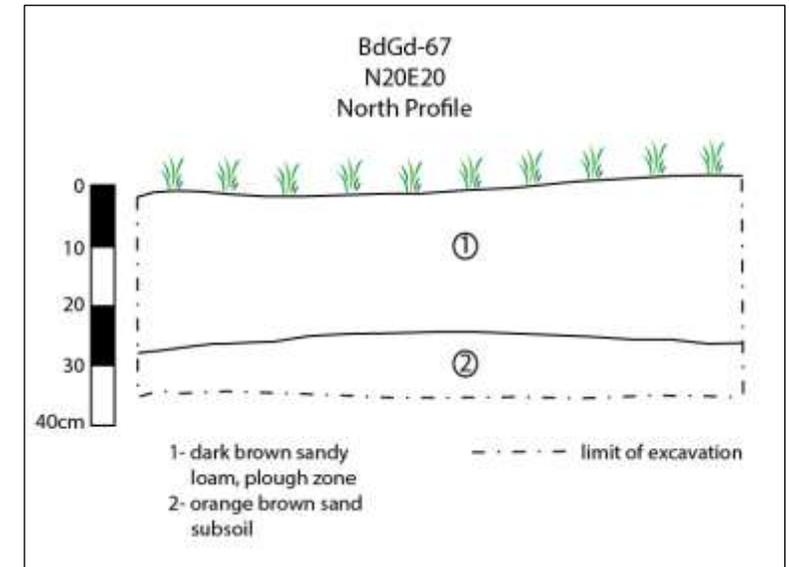
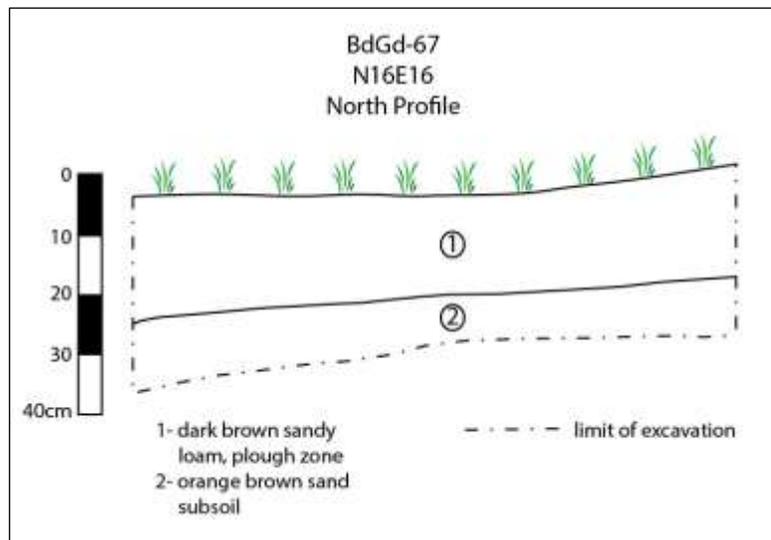
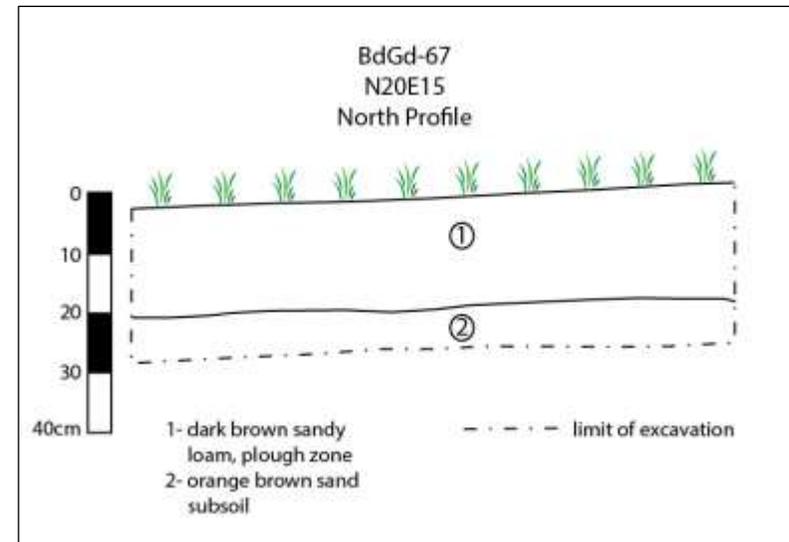
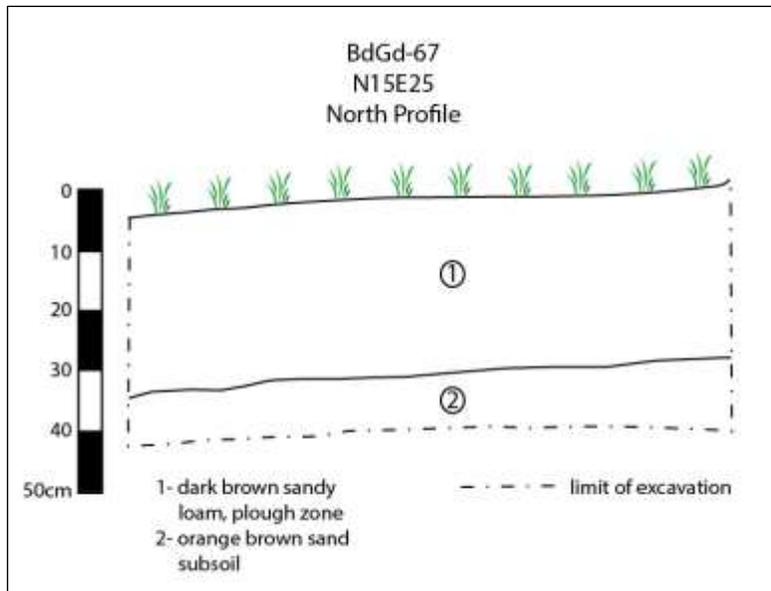
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N15E15	AR-01	stone	chert	Onondaga	tertiary	retouched flake	complete	1	retouch on right margin

## Appendix C: Profiles









# **Stage 4 Archaeological Excavation of BdGd-67, McNichol's Pit Extension**

**(Part Lot 13, Concession 2 (east of Buck Bay Road),  
Geographic Township of Bedford, now in the  
Township of South Frontenac, County of Frontenac,  
Ontario)**

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<b>Licence #:</b>	<b>P191</b>
<b>Company:</b>	<b>Ground Truth Archaeology Limited</b>
<b>Prepared by:</b>	<b>Helen Sheldon, M.A. &amp; Nick Gromoff M.Sc.</b>
<b>PIF#:</b>	<b>P191-0159-2018</b>
<b>Development Name:</b>	<b>McNichol's Pit Extension</b>
<b>Development Project Designation #:</b>	<b>n/a</b>
<b>Date:</b>	<b>March 4, 2019</b>
<b>Report type:</b>	<b>Draft</b>

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## Executive Summary

In October and November of 2018 Ground Truth Archaeology Limited conducted a Stage 4 archaeological excavation of a small precontact site (BdGd-67) discovered during a Stage 2 assessment for the proposed extension of a sand and gravel pit located on Buck Bay Road in Frontenac County. The site is located on part of Lot 13, Concession 2 in Bedford Township that was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the property to Thomas McNicholas, an ancestor of the McNichols family who currently own the existing sand and gravel pit on the property.

The Stage 4 archaeological assessment consisted of the hand excavation of 92 1m<sup>2</sup> units centred around the Stage 2 and 3 positive findspots, followed by the stripping of the topsoil for 10 m around the units. No features were noted during the Stage 4 excavations. The artifact total (n=87) from the site consisted of two from the Stage 2, two from the Stage 3 and 83 from the Stage 4, with all but one artifact being chipped lithics, predominantly on Onondaga chert. A single ceramic sherd was the first artifact found on the site during the Stage 2 and is only one of three temporally diagnostic artifacts from the site. The sherd, along with two projectile point bases recovered during the Stage 4 date the site to the early Middle Woodland, specifically the Point Peninsula 1 complex.

As a result of the Stage 4 archaeological excavations and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, Ground Truth Archaeology makes the following recommendations in regards to BdGd-67:

- The precontact site BdGd-67 should be considered completely excavated and there are no further archaeological concerns for the site.

## Project Personnel

Licensee	Helen Sheldon (P191)
Field Director	Helen Sheldon
Historical Research	Helen Sheldon
Cartography	Helen Sheldon
Report Writing	Helen Sheldon
Field Technicians	Kira Brunatti, Alex Cadue, Chris Cadue, Peter Cassidy, Courtney Gifford, Douglas Kirk, Amanda Phillips

## **Project Context**

### **Development Context**

In October of 2018 Ground Truth Archaeology Limited was contracted by McNichol's Sand and Gravel to conduct a Stage 4 archaeological excavation of a small precontact site (BdGd-67) located on the edge of a proposed extension for an existing sand and gravel pit located on Buck Bay Road, north of Godfrey. The archaeological site is located on Part Lot 13, Concession 2 (east of Buck Bay Road), Geographic Township of Bedford, now in the Township of South Frontenac, County of Frontenac, Ontario

The archaeological assessment was conducted as part of the process of preparing a licence application for an extension for the existing pit under the Provincial Aggregate Resources Act. The Ministry of Natural Resources and Forestry is the approval authority for this application.

Permission to access the property was given by Glen McNichol of McNichol's Sand and Gravel prior to the start of archaeological fieldwork.

### **Historical Context**

BdGd-67 lies within the southern part of the Algonquins of Ontario settlement area with the closest Algonquin community being Shabot Obaadjiwan (Sharbot Lake) (OL1). The Algonquin Nation are the ancestral people of the Ottawa River watershed occupying this region when European explorers extended their journeys into what is now Ontario in the early seventeenth century. While the Algonquins control of the Ottawa River had always given them an important position regarding trade with the peoples using the French River route this position became more pronounced during the fur trade era. Consequently, the French allied themselves with the Algonquins during the conflicts surrounding the fur trade. Later after the British replaced the French as the colonial power they too sought alliances with the Algonquins until their military situation in Canada became more tenable with the defeat of Napoleon and the initial treaties with the U.S. after the War of 1812. Unfortunately by 1822 the Algonquins were largely dispossessed of most of their territory by the Rideau Purchase, which had been negotiated by the neighbouring Mississauga. For a more detailed history of the Algonquins of Ontario please refer to their website (OL2).

In 2016 the Algonquins of Ontario signed an Agreement-in-Principle with the Canadian Federal government and the government of Ontario as part of an ongoing process toward reaching a modern day treaty and resolving numerous issues concerning land rights (OL3).

In the region of the study area Algonquin settlement on Bob's Lake and Wolfe Lake was well documented in the first half of the 19<sup>th</sup> century. However the extensive logging and settlement of the area in the decades after the 1832 opening of the Rideau Canal led to overhunting and loss of habitat forcing the local Algonquins to move north.

Bedford Township was initially surveyed starting in 1821 by Samuel Benson. However due to the rugged nature of the land Benson gave up after three years as he believed that the land was so

bad that it could never be settled (OL4). A single brief paragraph is devoted to the history of Bedford Township in the Meacham atlas of 1878, dwelling upon its partially good land and abundant rocky elements (Mika 1977:12). Like all areas linked by waterways with the Rideau Canal, logging was the primary industry in the region until good stands of timber were exhausted and farming took over.

The Crown patents for the four lots that comprise the pit expansion area were allocated relatively late, all dating from the middle of the nineteenth century (OLR). The property came into the hands of the McNichols family in 1900 and has remained so ever since. BdGd-67 is located on the west half of Lot 13, Concession 2 which was patented by the Crown in 1855 to Thomas Fitzgerald. In 1900 Terence Fitzgerald sold the west 100 acres to Thomas McNicholas (OLR).

Transaction	Date	Grantor	Grantee	Area
Patent	June 23, 1855	Crown	Thomas Fitzgerald	W ½ 100 acres
Patent	Mar. 16, 1883	Crown	John Hastings	E ½ 100 acres
Deed	Nov. 18, 1875	Thomas Fitzgerald et ux	Ed. Fitzgerald	W ½
B&S	Aug, 19, 1897	Edward Fitzgerald et ux	Terence Fitzgerald	W ½, 100 a
B&S	May 10, 1900	Terence Fitzgerald	Thomas McNicholas	W ½, 100 a

**Table 1: Summary of land transactions for Lot 13, Concession 2 (Ontario Land Registry)**

A house is shown just west of the pit expansion limits on the 1878 Meacham map (Figure 5) on Fitzgerald property, and not within either the Stage 2 or the Stage 3 study area.

Currently the Stage 4 assessment area consists of a portion of an active agricultural field lying on a slight slope on the west side of the sand and gravel pit access road (Figure 7).

### **Archaeological Context**

The Paleo-Indian Period in Eastern Ontario (here defined as east of the Trent River watershed) began during the Belleville phase of Lake Iroquois (12000 BP) when the land between the ice covered Algonquin Highlands and Lake Iroquois was exposed as far east as the Champlain Sea (Muller and Prest 1985). Later as the land rebounded from the weight of the glacier the shallows of Lake Iroquois were exposed as a lowland plain sloping to the south. Bands of hunters moved into the area after a tundra environment with Pleistocene fauna became established. Palaeo sites are rare but not unknown in Eastern Ontario as indicated by the recovery of two lanceolate points from Lanark County and a chipped stone ulu knife from the Bob's Lake area. Hi-Lo points from the Late Paleo period are known from such locations as Gananoque and Kingston Mills. There are also at least three fluted points in the Royal Ontario Museum collection recorded from Eastern Ontario.

Towards the end of the Palaeo Period during the Admiralty phase the level of the Great Lakes began to drop as the outflow switched from the Hudson River to the St. Lawrence (Anderson and Lewis 1985). The Great Lakes continued to shrink in size until 10,000 BP when the level of Lake Ontario was considerably lower than today (Anderson and Lewis 1985). After this the level of Lake Ontario steadily rose throughout the subsequent Archaic Period until about 4,000 BP when it peaked about three metres higher than the present levels (Anderson and Lewis 1985).

The Archaic Period began around 9000 BP in Eastern Ontario and was marked by the extinction of Pleistocene megafauna, an increase in deciduous trees in the forests and the transition to a broader way of life with a stronger reliance on fishing and the harvesting of nuts, wild foods. The bulk of the goods made by First Nations at the time, were of biodegradable materials, which do not generally survive in the archaeological record. Consequently the majority of the artifacts found on Archaic sites are stone tools and chipping debris, though in good soil conditions bone/shell objects are also preserved. About 6,000 years ago copper artifact began to be traded into Eastern Ontario from the Lake Superior region.

For the most part the Archaic way of life appears similar to that of historic Algonquin, Cree and Anishnabe of Upper and Lower Canada. In the spring family groups congregated into larger encampments around the mouths of rivers/creeks, rapids and waterfalls in order to harvest successive fish runs. When these encampments were located on important transportation routes trade also was an important activity. A good example of this type of site is the extensive Archaic period occupations on Allumette and Morrison Islands in the Ottawa River where Archaic period artifacts starting from the Early Archaic are found including a high frequency of copper items. Smaller but similar sites that span the entire Archaic period are located along the Rideau River including the Wyght and Driscoll sites (Watson 1999).

In the late fall family groups dispersed across the landscape to individual hunting territories often located on interior lakes where they trapped and hunted. After freeze-up fish were caught through the ice by line and spear. A polished stone fish lure is known from the town of Perth and likely dates from the Archaic period. Small campsites are well known from the shores of the interior lakes of the region and many are likely winter cabins. Bob's Lake to the north which is now linked with Buck Bay has numerous small encampment sites around its shore including five from the Archaic period.

By the Late Archaic cemeteries and burial goods are first recorded in the region. The range of exotic materials increases in this period. One of the best indicators for a strong presence in the Archaic is the high proportion of Lamoka points recovered in the Ottawa watershed.

The beginning of the Woodland period was marked by the appearance of pottery on First Nation's sites. Some of the earliest pottery found in Ontario has been recovered from sites along the Ottawa River including Constance Bay. In Eastern Ontario around 3000 BP, the Meadowood Culture of Western New York State began to be present in the St Lawrence Valley and the Lake Ontario lowlands. Trade with the resident peoples, including those in the Ottawa Valley is evidenced by the common finds of Meadowood points are common in the Ottawa watershed both on sites and as isolated findspots. These points are almost always on Onondaga chert and they were likely produced finished or as cache blades by Meadowood craftsmen for trade.

Shortly after 2700 BP the Middle Woodland Period began with a steady increase in the population of Ontario. Long distance trade is evident from the continued presence of exotic materials such as marine shell, mica and exotic cherts. During the subsequent Late Woodland period Iroquoian coil made pottery is found on sites in the Ottawa watershed. Like the Meadowood points many of these pots were likely acquired through trade. Iroquoian villages

appear to be absent from the Ontario portion of the Ottawa River watershed with the closest ones located near the Lake Ontario shore around Kingston.

Like the Archaic, small encampments are common around the interior lakes of the region during the Woodland period. At least nine Woodland sites or components are known from Bob's Lake and others are present on nearby Crotch, Otty and Wolfe lakes. Woodland components are present on the larger congregation sites as well, with the ones on the big rivers essentially occupied continuously.

The subject property is located within the Frontenac Axis physiographic region, an extension of the Canadian Shield. The landscape is dominated by exposed granite and metamorphic outcrops with lakes and marshes in the depressions. While conifers predominate deciduous trees are still a significant proportion of the forest cover. The

First Nation's sites in the Frontenac Axis are primarily located on the waterways or former shorelines. They can be either single component representing a single occupation or multi component with more than one occupation, often from a number of time periods.

Consultation with the Ministry of Tourism Culture and Sport's Archaeological Sites Database found that there are no registered archaeological sites within the subject property and (prior to the Stage 2 assessment for pit expansion) no registered sites were located within one kilometre of the property (MTCS 2018).

During the Stage 2 assessment three archaeological sites were identified. BdGd-66 consisted of an isolated find of a partial projectile point to the west of Buck Bay Road. The BdGd-67 site lies within an active agricultural field situated on sandy soil. The nearest source of water is a small creek that lies approximately 120 metres to the west in a ravine (Figure 4). According to Doreen Davis of the Shabot Obaadjiwan this ravine is referred to as "the gut" linking Buck Bay to waterways to the southwest. Buck Bay lies approximately 450 metres to the northeast and is linked by a narrows to Bob's Lake to the north about 5 km from BdGd-67. BdGd-68 was a small scatter of chert flakes located 100m northwest of BdGd-67 on the edge of the ravine known as the gut (Figure 8).

No historical plaques or monuments are associated with the property and as far as can be determined no archaeological work other than that described above has been conducted within 50 metres of the subject property.

The soil of the study area consists of White Lake gravelly sandy loam (WS1), a calcareous outwash gravel that is well to rapidly drained sandwiched between areas of Rockland (RL) (Agriculture Canada 1965, Figure 6). The sand and gravel pit is located here for obvious reasons.

The Stage 4 archaeological block excavation was conducted on October 19, 24, 25 and 26, 2018. The mechanical stripping of the perimeter of the site occurred on November 7, 2018.





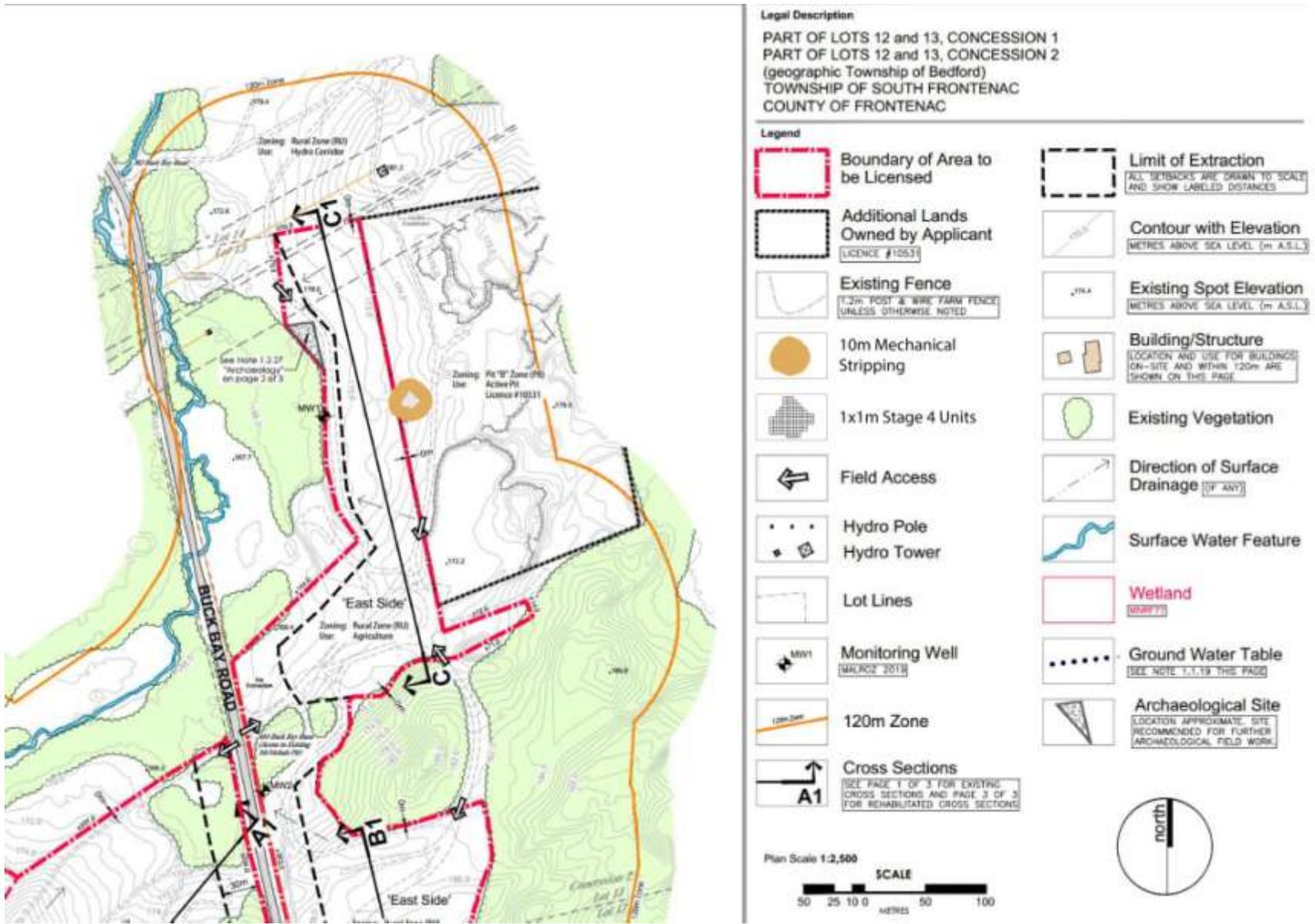


Figure 3: BdGd-67 Stage 4 excavations relative to the proposed pit extension limits (base map MHBC 2020)

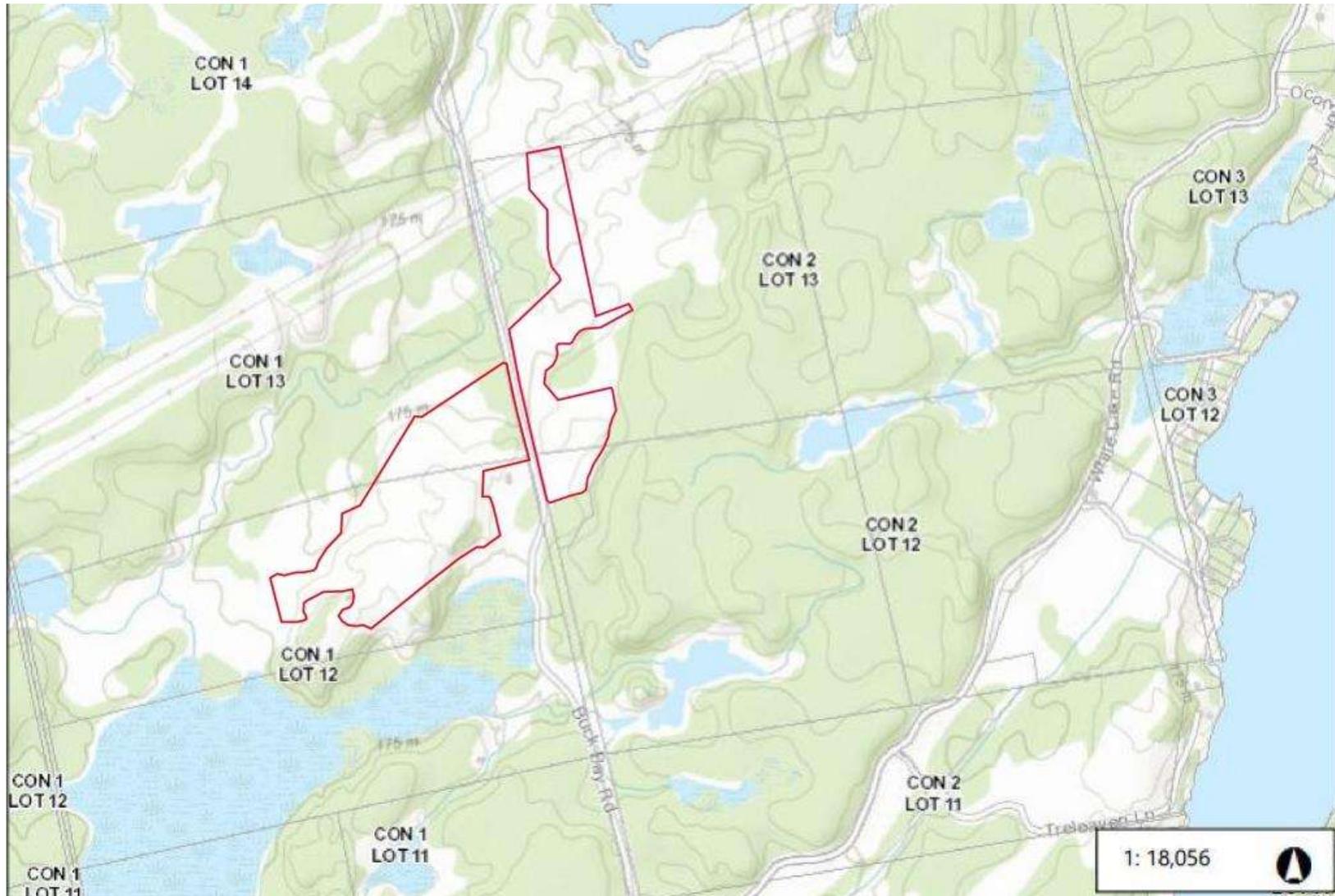


Figure 4: Proposed pit extension with Lots and Concessions (base image Frontenac County Public GIS)

BdGd-67  
Stage 4 Excavation Methodology

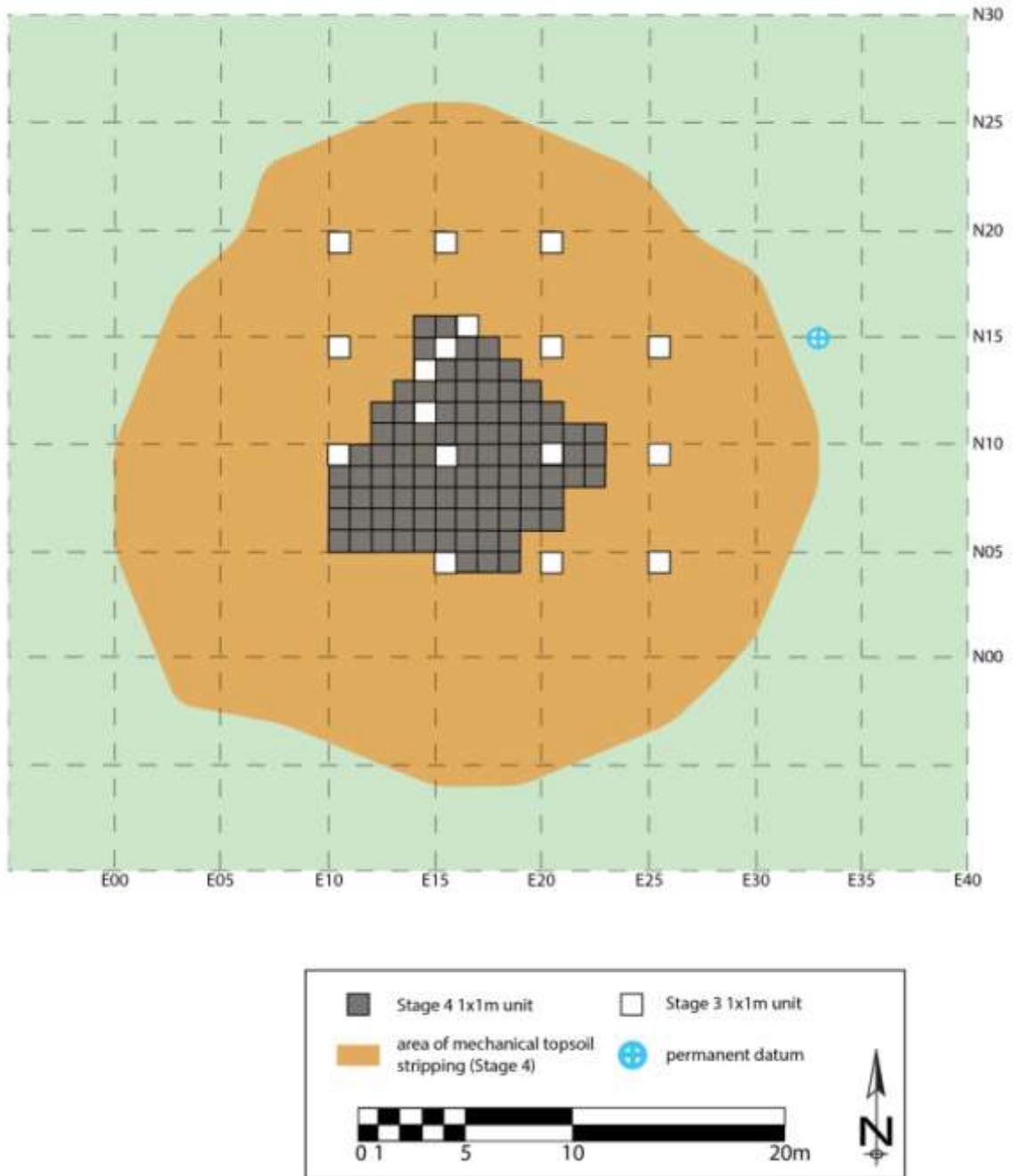


Figure 5: BdGd-67 Stage 4 methodology



Figure 6: Pit extension area shown on the 1878 Meacham map, in red

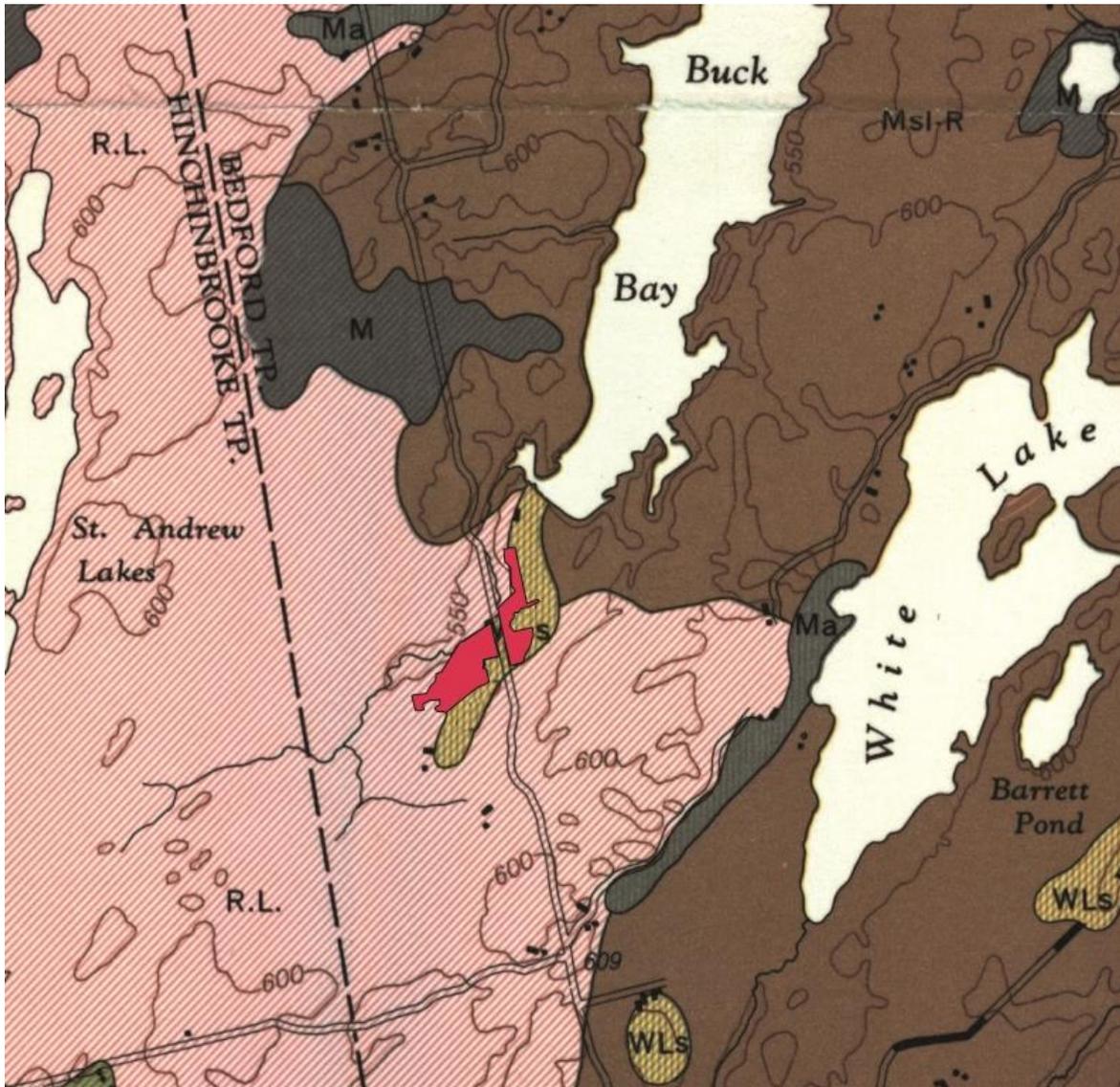
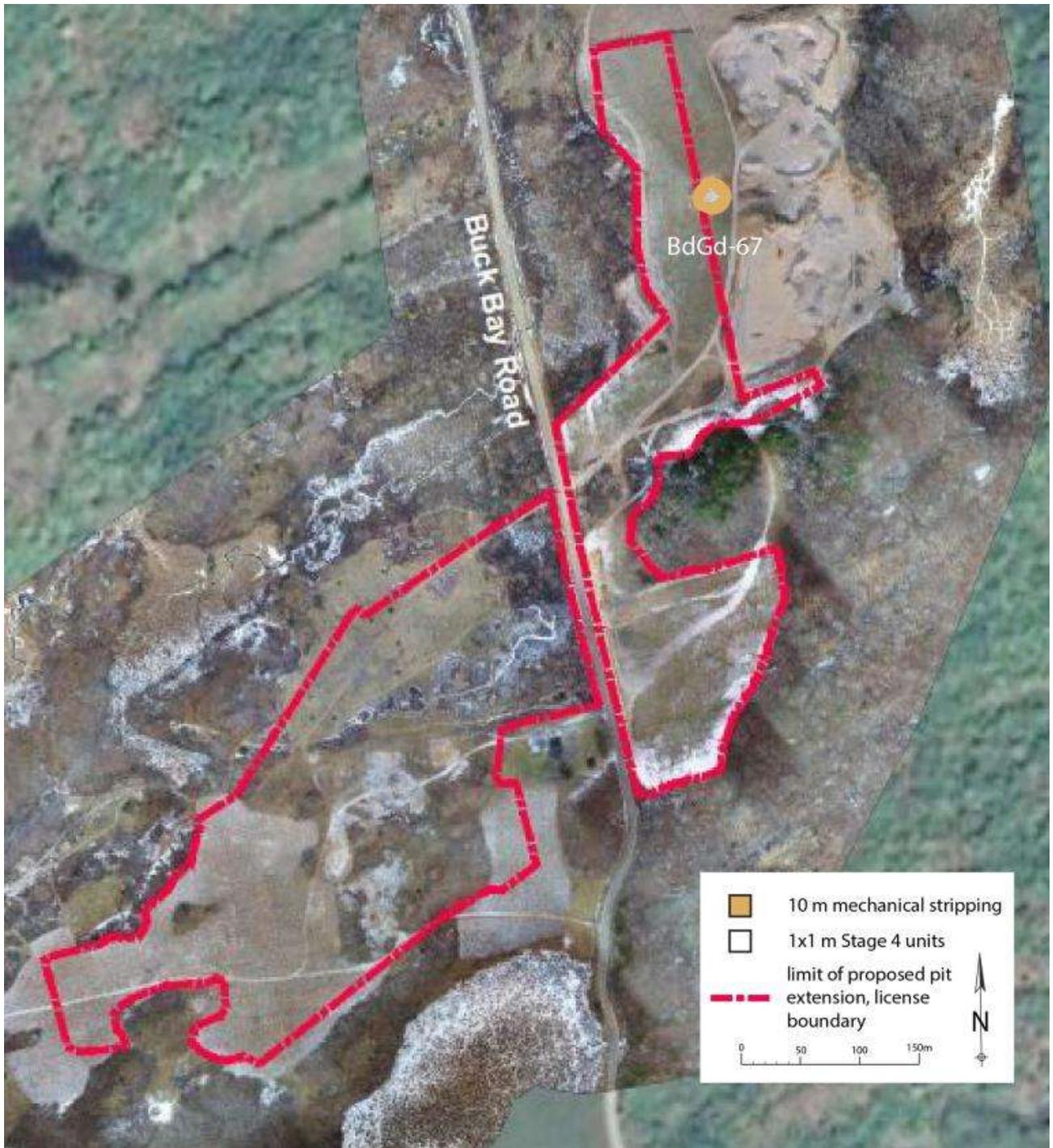


Figure 7: Pit extension area shown in red on the soil map (Agriculture Canada 1965)



**Figure 8: Relation of BdGd-67 Stage 4 to BdGd-68 Stage 3 (base map Google Earth 2016)**



**Figure 9: Relation of BdGd-67 Stage 4 study area to the proposed pit extension**



**Figure 10: Close up of BdGd 67 Stage 4 excavations in relation to the proposed pit extension**

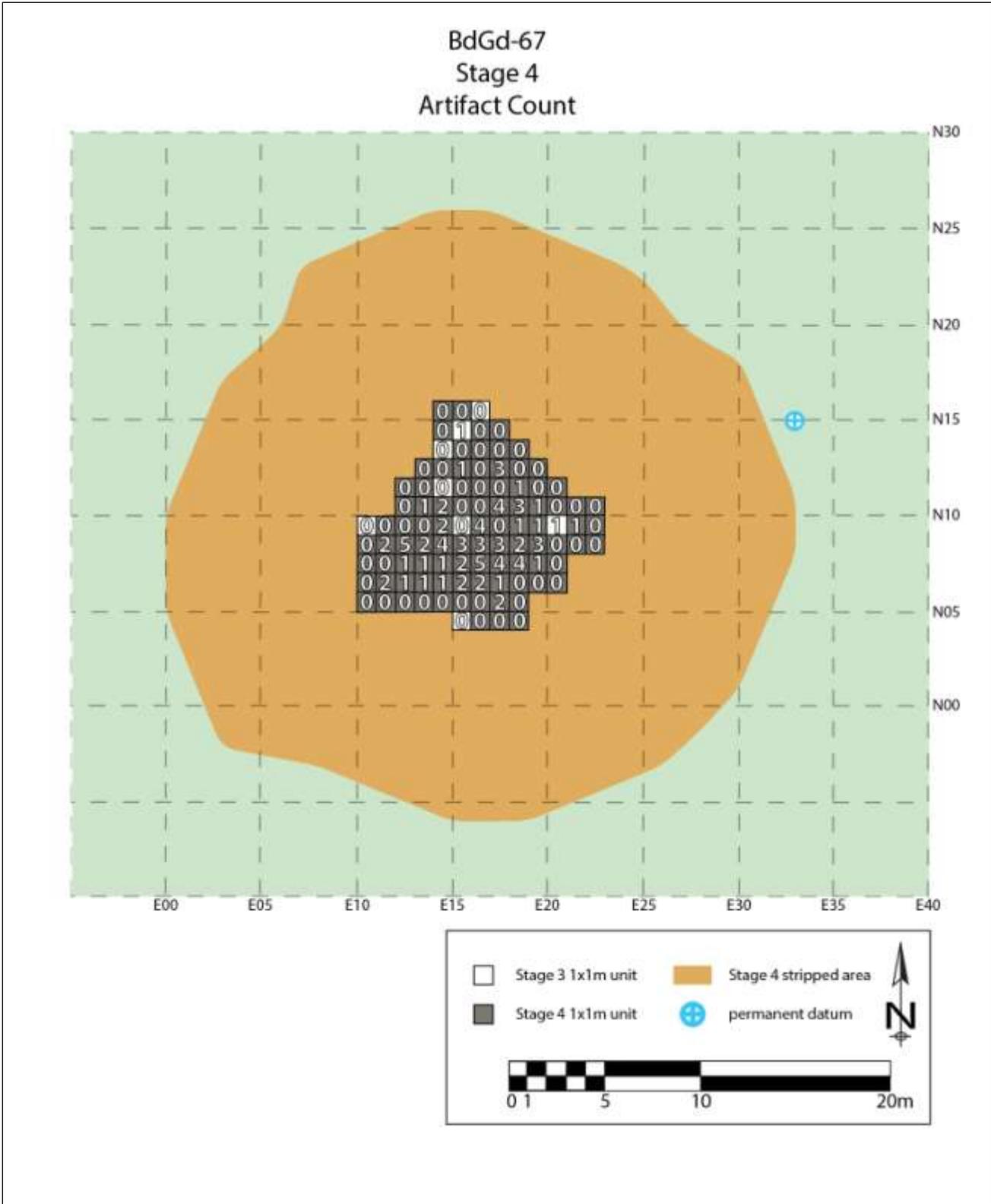
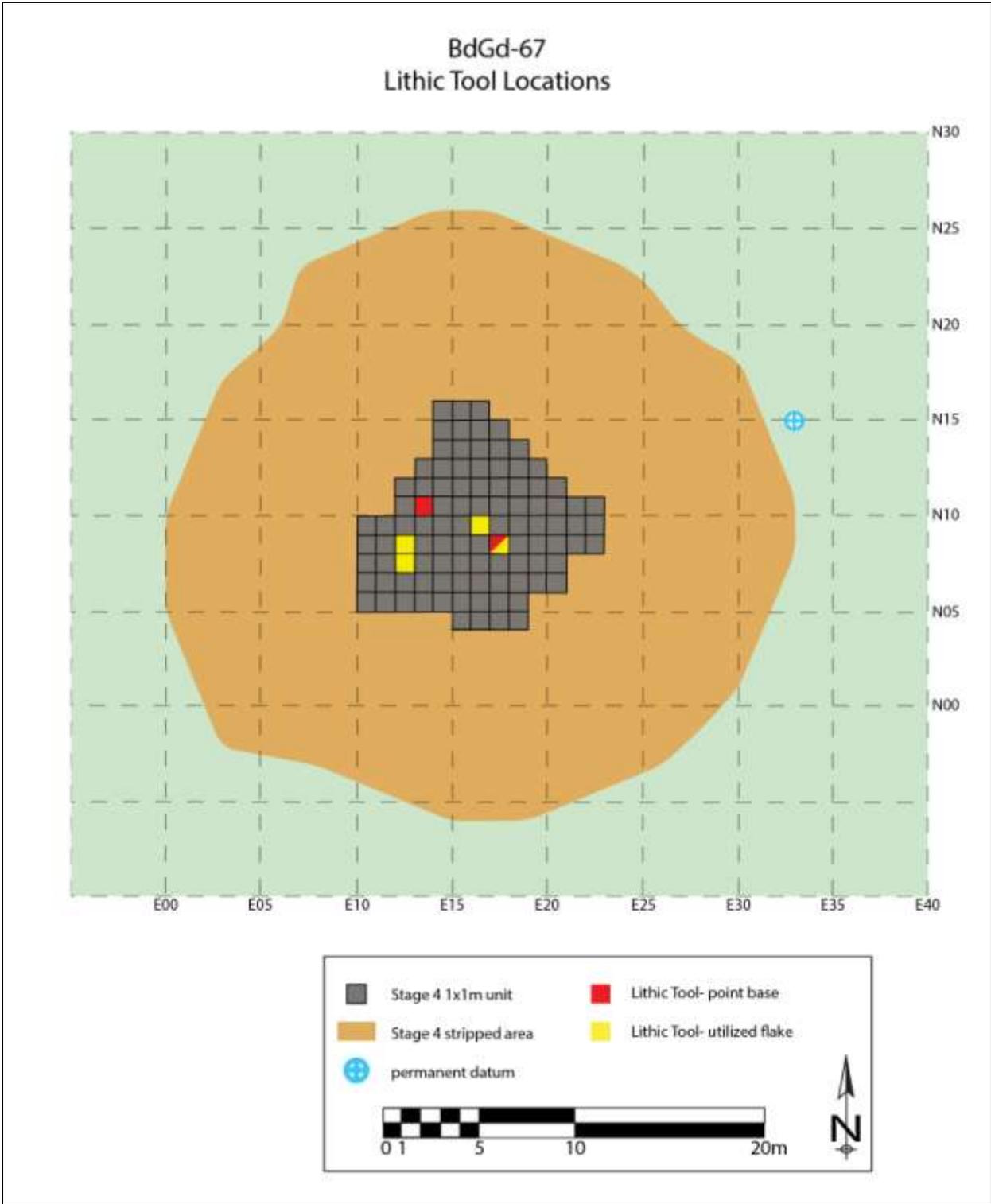


Figure 11: Stage 4 site plan with total artifact counts



**Figure 12: Distribution of lithic tools at BdGd-67**

BdGd-67  
Stage 2/3/4 Excavations

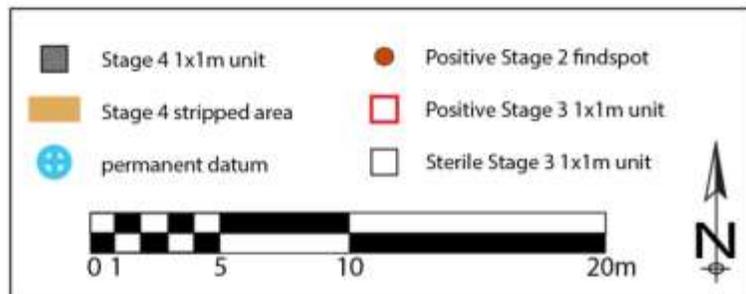
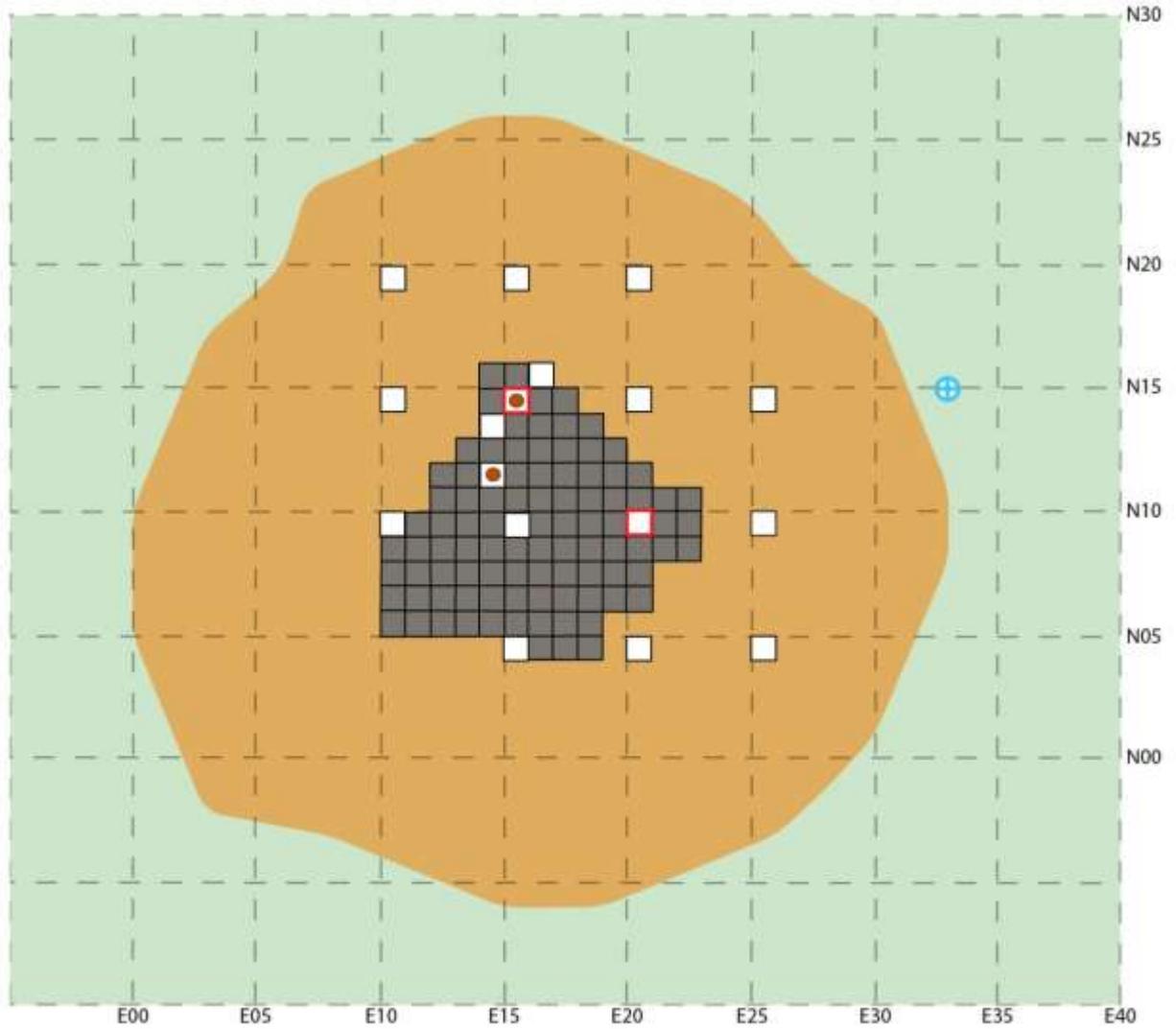


Figure 13: Location of Stage 2/3 finds in relation to Stage 4 excavation

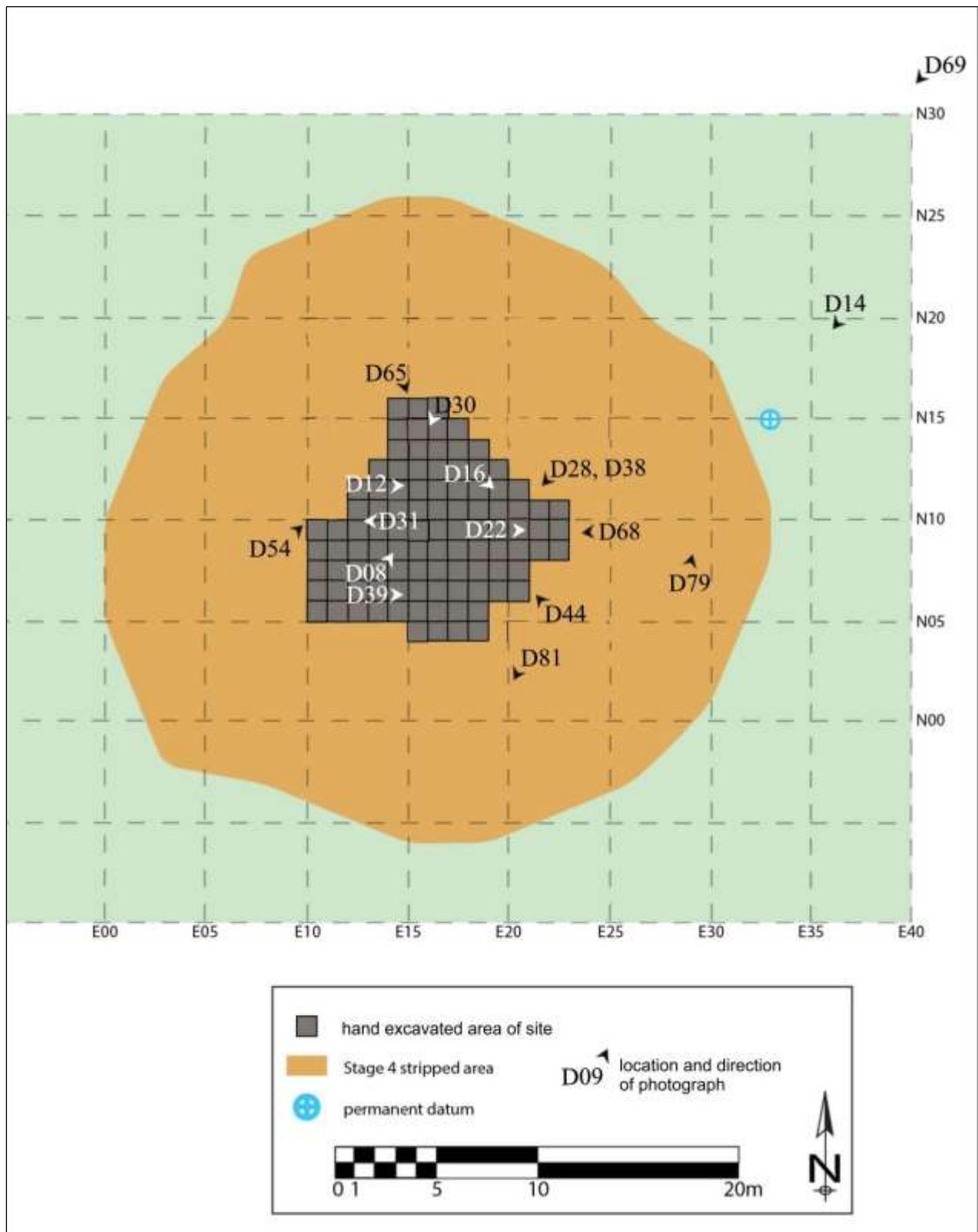


Figure 14: Photograph directions (by photograph catalogue number)

## Field Methods

The Stage 4 excavation centered on the three positive areas of the Stage 3 excavations with units being excavated around N15E15, N12E14 and N10E20 (core of site) and extending outwards until counts of zero artifacts were obtained (as per agreement with First Nations representatives). The Stage 3 grid was used for the Stage 4 excavation. The permanent datum established during the Stage 3 assessment and Stage 4 units were plotted onto a site map (Figure 9). For this assessment units were labelled according to the coordinates of their northwest corners.

The Parks Canada model was used for the designation of lots – where a lot designation is given to each natural or artificial stratum and also to each feature within a unit (Parks Canada 2015). Lots were designated sequentially for each unit. A catalogue of the artifacts recovered during the Stage 4 excavation is included in the report as Appendix B.

The Stage 4 archaeological assessment of BdGd-67 consisted of the excavation of 92 1m<sup>2</sup> units centred around the Stage 2/3 positive units. In each excavation unit the undisturbed deposits were removed by hand using trowel and shovel and the excavation extended at least 5 cm into sterile subsoil. Excavation extended outwards from the centre of the site until units with zero artifact counts were encountered. The units were examined for evidence of fill, stratigraphy and cultural features and the exposed surface of the subsoil was examined for the presence of features. Soil profiles were photographed and drawn to scale for representative units with an emphasis on continuous profiles. All soils from the Stage 4 excavation units were screened through 6mm steel mesh screens.

Following block excavation the area surrounding the site was mechanically stripped by a machine with a smooth edged bucket to within 5cm of the topsoil/subsoil interface. The stripped area was then shovel shined and trowelled by hand in order to identify outlying features. The mechanically stripped area extended at least 10 metres from the edge of the block excavation.

All artifacts and associated documentation arising from the Stage 4 excavation will be held by Ground Truth Archaeology Limited in Quinte West, Ontario until a suitable repository is established. During the Stage 4 excavation the weather was suitable for the recovery and recording of archaeological materials with predominantly cloudy conditions and high temperatures of 5-12°C.

## Record of Finds

Inventory of field notes: Author/recorder – Helen Sheldon

Field notes:	1910159NB1
Field Drawings:	1910159FD1
Photographs:	1910159D01-81

Packed artifact inventory – located in banker’s box labelled GTAB-083.

The soil on the site consisted of a stone free and well drained dark brown sandy loam plough zone over an orange brown sand subsoil. The plough zone varied in thickness from 5 to 25 cm, averaging around 20 cm. The thinnest plough zone was in the southeast portion of the site.

The terrain was gently sloping to the west, which is relatively unusual for a precontact site. The pit access road ran along the east side of the site approximately eight metres from the most easterly Stage 4 units.

Units with zero counts were encountered along the northern side of the core of the site while low yielding positive test pits continued south of the Stage 3 positive test pits with the highest count five lithics in N08E16 and N09E12.

The Stage 4 excavation of BdGd-67 resulted in the recovery of 83 lithic artifacts including 77 pieces of debitage, four expedient tools and two biface fragments. The biface fragments were both projectile point bases of Onondaga chert. One was finely made with side notches (Plate 21) and is identified as Meadowood as it exhibits the side notches typical of this point type (Justice 1987, Ritchie 1971, Williamson *et al* 2002). The other is corner-notched (Plate 22) and, although it is difficult to type due to the lack of shoulders, is probably a Jack’s Reef point (Ritchie 1971).

Although one ceramic sherd was recovered when the a site was initially found during the Stage 2 assessment for the pit extension no ceramics were recovered during the Stage 4. No features were identified during the Stage 4 excavation of BdGd-67.

## Images



**Plate 1: Cleaning E15 profile for recording (1910159D08)**



**Plate 2: East profile of N10-15E15 (1910159D12)**



**Plate 3: Surveying the site (1910159D14)**



**Plate 4: Excavating east side of site (1910159D16)**



**Plate 5: N9-11E22 east profile (1910159D22)**



**Plate 6: Overview of Stage 4 excavations (1910159D28)**



**Plate 7: West side of the site (1910159D30)**



**Plate 8: N9-11E12 west profile (1910159D31)**



**Plate 9: View over east side of site (1910159D38)**



**Plate 10: E15 line profile (1910159D39)**



**Plate 11: Overview of Stage 4 excavation (1910159D44)**



**Plate 12: West side of site (1910159D54)**



**Plate 13: Excavating the final units in the middle of the site (1910159D65)**



**Plate 14: Site at close of block excavation (1910159D68)**



**Plate 15: View of excavated site (1910159D69)**



**Plate 16: Shovel shining mechanically stripped area (1910159D79)**



**Plate 17: Mechanically stripped area on south side of site (1910159D81)**



**Plate 18: Blades from BdGd-67**



**Plate 19: Utilized flakes from BdGd-67**



**Plate 20: Assorted tertiary flakes from BdGd-67**



Plate 21: Projectile point base – N09E17 AR-03



Plate 22: Projectile point base – N11E13 AR-01

## Analysis and Conclusions

The Stage 4 excavation of BdGd-67 resulted in the recovery of 83 lithic artifacts including 77 pieces of debitage, 4 expedient tools and 2 biface fragments. The biface fragments were both projectile point bases of Onondaga chert. One was finely made with side notches (Plate 21) and is interpreted as Meadowood as it exhibits the side notches typical of the Meadowood period (Justice 1987, Ritchie 1971, Williamson *et al* 2002). The other is corner-notched (Plate 22) and, although it is difficult to type due to the lack of shoulders, is probably a Jack's Reef point (Ritchie 1971).

The lithic analysis uses Crabtree (1972) as a basis for terminology, with additional debitage terminology gleaned from Fisher (2008) who uses Ellis (1979) as a basis for debitage description (J. Fisher to N. Gromoff, personal communication 2016). The lithic assemblage from the Stage 4 excavation at BdGd-67 consisted of a total of 83 artifacts, all of which were chipped lithics.

The chipped lithic assemblage consisted of 77 pieces of debitage, 4 expedient tools and 2 biface fragments. The biface fragments were both projectile point bases of Onondaga chert. One was finely made with side notches (Plate 21) and is interpreted as Meadowood as it exhibits the side notches typical of the Meadowood period (Justice 1987, Ritchie 1971, Williamson *et al* 2002). The other is corner-notched (Plate 22) and, although it is difficult to type due to the lack of shoulders, is probably a Jack's Reef point (Ritchie 1971).

The four flakes classed as expedient tools exhibited slight scars resulting from use rather than deliberate retouch and were classed as utilized flakes (Plate 19). All four were of Onondaga chert.

Onondaga chert was the most common lithic type found at the site (n=81, 97.6%). The only other cherts found at the site were single instances of an unidentified beige chert and an unidentified dark grey chert. The dark grey chert appears to be the same as that found at BdGd-68 during the Stage 3 assessment of that site (Sheldon 2019c).

Lithic type	#	%
Onondaga chert	81	97.6
Beige chert	1	1.2
Dark grey chert	1	1.2
Total	83	100

**Table 2: Chipped lithics by lithic material type**

Tool/debitage type	#	%
biface	2	2.4
blade	4	4.8
secondary flake	2	2.4
tertiary flake	70	84.3
biface thinning flake	1	1.2
utilized flake	4	4.8
Total	83	100

**Table 3: Chipped lithics by tool/debitage type**

The lithic assemblage shows a heavy reliance on Onondaga chert imported to the site probably as preforms. Final reduction and fine tuning would have taken place at the site as evidenced by the preponderance of Onondaga in the tertiary flake category (n=81, 97.6.2%). Only marginal use was made of other cherts, the unidentified beige and dark grey cherts that possibly can be found in cobble form in local glacial deposits.

The majority of the debitage was classified as tertiary flakes, resulting from the final stages of the tool reduction process (n=70, 91%) with only a few secondary flakes (n=2, 2.6%) and no primary flakes. The preponderance of tertiary flakes indicates that lithic material was brought to the site in either preform or tool form and very little reduction was carried out at BdGd-67.

Artifact	Onondaga chert		Beige chert		Dark grey		Totals	
	#	%	#	%	#	%	#	%
biface	2	100					2	100
blade	4	100					4	100
secondary flake	1	50	1	50			2	100
tertiary flake	69	98.6			1	1.4	70	100
biface thinning flake	1	100					1	100
utilized flake	4	100					4	100

**Table 4: Chipped tools/debitage by lithic material type**

The only ceramic sherd recovered from the site was from the Stage 2 assessment. This was Middle Woodland pottery sherd consistent with the point types identified in the Stage 4. Although the evidence is thin the site is most likely associated with the early Middle Woodland, specifically the Point Peninsula 1 complex.

BdGd-67 is considered to be a small single component campsite from the Middle Woodland period. It is quite possible that BdGd-67 is a hunting camp as the adjacent ravine (the gut) would be an excellent location to ambush or drive game. It should be noted that most small sites in the region are located within 30 m of a water source or close to the edge of a ravine or escarpment, while BdGd-67 is about 120 m from a water source and 70 m from a ravine edge.

Another small campsite (BdGd-68) discovered during the Stage 2 assessment for the pit extension lies about 100m to the northwest on the edge of the “gut” and is also likely a hunting camp (Figure 8). It is difficult to determine if the two sites are related as artifacts from BdGd-68 consisted only of small lithic flakes without any diagnostics. However both sites utilized the same lithic material, a mottled grey variety of Onondaga and an unidentified dark grey chert.

## **Recommendations**

As a result of the Stage 4 archaeological assessment and in concordance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, Ground Truth Archaeology makes the following recommendations in regards to BdGd-67:

- The precontact site BdGd-67 should be considered completely excavated and there are no further archaeological concerns for the site.

## Advice on Compliance with Legislation

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

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

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

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

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

## References

### Maps

NTS – 1:50,000 map (31C/10)

Google Earth base image August 25, 2016, accessed October 9, 2018

Frontenac County Public GIS, accessed October 9, 2018

### Archival Map References

Mika

1977 Frontenac, Lennox and Addington Counties (Ontario Map Ref #31 and #30)  
*Illustrated historical atlas of the counties of Frontenac, Lennox and Addington, Ontario.*  
Toronto: J.H. Meacham & Co., 1878.

Canada Department of Agriculture

1965 Soil Map of Frontenac County, Ontario, South Sheet, Soil Survey report No. 39. Ottawa.

### Primary Historic Documents

Ontario Land Registry (OLR) Records Bedford Township, Frontenac County

### On line sources

OL1: <http://bucklake.ca/about-us/history/early-history>

Parks Canada (2015)

Archaeological Recording Manual: Excavations and Surveys: Provenience System  
<http://www.pc.gc.ca/eng/docs/pc/guide/fp-es/4.aspx>

### Other

Anderson, T. W. and C. F. M. Lewis

1985 Post glacial Water-level History of the Lake Ontario Basin. *Quaternary Evolution of the Great Lakes*, eds. P.F Karrow and P.E. Calkin.

Crabtree, Don E.

1972 An Introduction to Flintworking. Occasional Papers of the Idaho State University Museum, No. 28. Potacello, Idaho.

Ellis, Christopher J.

1979 Analysis of Lithic Debitage From Fluted Point Sites in Ontario. Unpublished M.A. Thesis, Dept. of Anthropology, McMaster University, Hamilton, Ontario.

Fisher, Jacqueline

2008 BbGc-43 - ND2 Site, Stage 4 Report Volume II: Prehistoric Component, Part 2: Prehistoric Lithics Analysis. Consultant report, Cataraqui Archaeological Research Foundation.

Justice, Noel D.

1987 Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference. Indiana University Press.

Ministry of Tourism and Culture (MTC)

2011 Standards and Guidelines for Consultant Archaeologists. Ministry of Tourism and Culture: Toronto.

Ministry of Tourism, Culture and Sport (MTCS)

2018 Sites within a One Kilometre Radius of the Project Area Provided from the Ontario Archaeological Sites Database, November 2018.

Muller, E. H. and V. K. Prest

1985 Glacial Lakes in the Ontario Basin. Quaternary Evolution of the Great Lakes, eds. P.F. Karrow and P.E. Calkin.

Ritchie, William A.

1971 New York Projectile Points: A Typology and Nomenclature. New York State Museum Bulletin 384.

Sheldon, Helen

2019a Stage 1/2 Archaeological Assessment of the McNichol's Pit Extension, 631 and 644 Buck Bay Road, Frontenac County, Ontario. Consultant report, Ground Truth Archaeology Limited, Quinte West, Ontario.

2019b Stage 3 Archaeological Assessment of BdGd-67, McNichol's Pit Extension, 644 Buck Bay Road, Frontenac County, Ontario. Consultant report, Ground Truth Archaeology Limited, Quinte West, Ontario.

2019c Stage 3 Archaeological Assessment of BdGd-68, McNichol's Pit Extension, 644 Buck Bay Road, Frontenac County, Ontario. Consultant report, Ground Truth Archaeology Limited, Quinte West, Ontario.

Ramsden, P.G.

1977 "A Refinement of some Aspects of Huron Ceramic Analysis" *Archaeological Survey of Canada Mercury Series*, No. 63. National Museum of Canada, Ottawa.

Williamson, Ronald F., Eva M. MacDonald, Robert H. Pihl, Robert I. MacDonald, Deborah A. Steiss and David A. Robertson

2002 Ruthven and the Collection of Andrew Thompson: A Case Study of a Nineteenth Century Antiquarian. In Ontario Archaeological Society Arch Notes Volume 7, Issue 2.

## Appendix A: Photograph Catalogue

Photo #	Description	Direction	Date
1910159D01	Start of the Stage 4 excavation	N	October 19, 2018
1910159D02	Start of the Stage 4 excavation	NE	October 19, 2018
1910159D03	Start of the Stage 4 excavation	N	October 19, 2018
1910159D04	Start of the Stage 4 excavation	SW	October 19, 2018
1910159D05	N16E14, N16E15 close	N	October 19, 2018
1910159D06	excavating east side of site	NE	October 19, 2018
1910159D07	excavating centre of site	NE	October 19, 2018
1910159D08	cleaning central profile	NE	October 19, 2018
1910159D09	N10-15E15 profile	NE	October 19, 2018
1910159D10	N10-15E15 profile	NE	October 19, 2018
1910159D11	N10-15E15 profile	SE	October 19, 2018
1910159D12	N10-15E15 profile	E	October 19, 2018
1910159D13	total station over datum	NE	October 19, 2018
1910159D14	total station over datum	SW	October 19, 2018
1910159D15	overview of Stage 4	S	October 19, 2018
1910159D16	excavating east side of site	SE	October 19, 2018
1910159D17	excavating west side of site	SW	October 19, 2018
1910159D18	N9-11E22 profile	E	October 19, 2018
1910159D19	N9-11E22 profile	E	October 19, 2018
1910159D20	N9-11E22 profile	E	October 19, 2018
1910159D21	N9-11E22 profile	E	October 19, 2018
1910159D22	N9-11E22 profile	E	October 24, 2018
1910159D23	N9-11E22 profile	E	October 24, 2018
1910159D24	N9-11E22 profile	E	October 24, 2018
1910159D25	N9-11E19 profile	W	October 24, 2018
1910159D26	N9-11E19 profile	W	October 24, 2018
1910159D27	N9-11E19 profile	W	October 24, 2018
1910159D28	east side of site	SW	October 24, 2018
1910159D29	east side of site	N	October 24, 2018
1910159D30	west side of site	S	October 24, 2018
1910159D31	N9-11E12 profile	W	October 24, 2018
1910159D32	N9-11E12 profile	W	October 24, 2018
1910159D33	N9-11E12 profile	W	October 24, 2018
1910159D34	overview of Stage 4 excavations	W	October 25, 2018
1910159D35	east side of site	NE	October 25, 2018
1910159D36	overview of Stage 4 excavations	W	October 25, 2018
1910159D37	overview of Stage 4 excavations	NW	October 25, 2018
1910159D38	overview of Stage 4 excavations	SW	October 25, 2018
1910159D39	N7-9E15 profile	E	October 25, 2018
1910159D40	N7-9E15 profile	E	October 25, 2018
1910159D41	N7-9E15 profile	E	October 25, 2018
1910159D42	overview of Stage 4 excavations	NE	October 25, 2018
1910159D43	overview of Stage 4 excavations	N	October 25, 2018
1910159D44	overview of Stage 4 excavations	N	October 25, 2018
1910159D45	east side of site	N	October 25, 2018
1910159D46	east side of site	N	October 25, 2018

Photo #	Description	Direction	Date
1910159D47	N05E16-18	S	October 26, 2018
1910159D48	N05E16-18	S	October 26, 2018
1910159D49	N05E16-18	S	October 26, 2018
1910159D50	excavating north end of site	NW	October 26, 2018
1910159D51	overview of site	NW	October 26, 2018
1910159D52	overview of site	N	October 26, 2018
1910159D53	overview of site	NE	October 26, 2018
1910159D54	overview of site	NE	October 26, 2018
1910159D55	final stage of excavation	NW	October 26, 2018
1910159D56	final stage of excavation	NW	October 26, 2018
1910159D57	final stage of excavation	NW	October 26, 2018
1910159D58	final stage of excavation	W	October 26, 2018
1910159D59	final stage of excavation	NW	October 26, 2018
1910159D60	final stage of excavation	W	October 26, 2018
1910159D61	final stage of excavation	NE	October 26, 2018
1910159D62	final stage of excavation	NE	October 26, 2018
1910159D63	final stage of excavation	E	October 26, 2018
1910159D64	final stage of excavation	SE	October 26, 2018
1910159D65	final stage of excavation	SE	October 26, 2018
1910159D66	final stage of excavation	NW	October 26, 2018
1910159D67	completion of block excavation	W	October 26, 2018
1910159D68	completion of block excavation	W	October 26, 2018
1910159D69	view of excavated site from top of gravel pile	SW	October 26, 2018
1910159D70	crew and vehicles from top of gravel pile	S	October 26, 2018
1910159D71	view of excavated site from top of gravel pile	SW	October 26, 2018
1910159D72	view over existing pit	S	October 26, 2018
1910159D73	Buck Bay from top of gravel pile	NE	October 26, 2018
1910159D74	view of excavated site from top of gravel pile	SW	October 26, 2018
1910159D75	pit entrance sign	NE	October 26, 2018
1910159D76	active sand and gravel pit	E	November 7, 2018
1910159D77	active pit showing stratified sand layers	NE	November 7, 2018
1910159D78	shovel shining stripped area	NE	November 7, 2018
1910159D79	shovel shining stripped area	NE	November 7, 2018
1910159D80	stripped area north of site	NW	November 7, 2018
1910159D81	stripped area south of site	SW	November 7, 2018

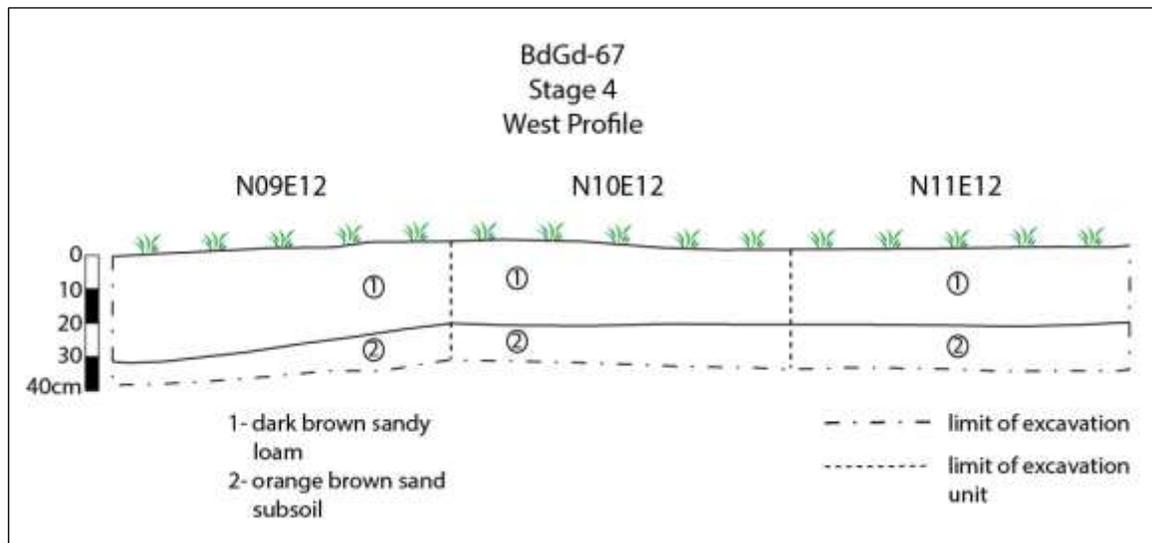
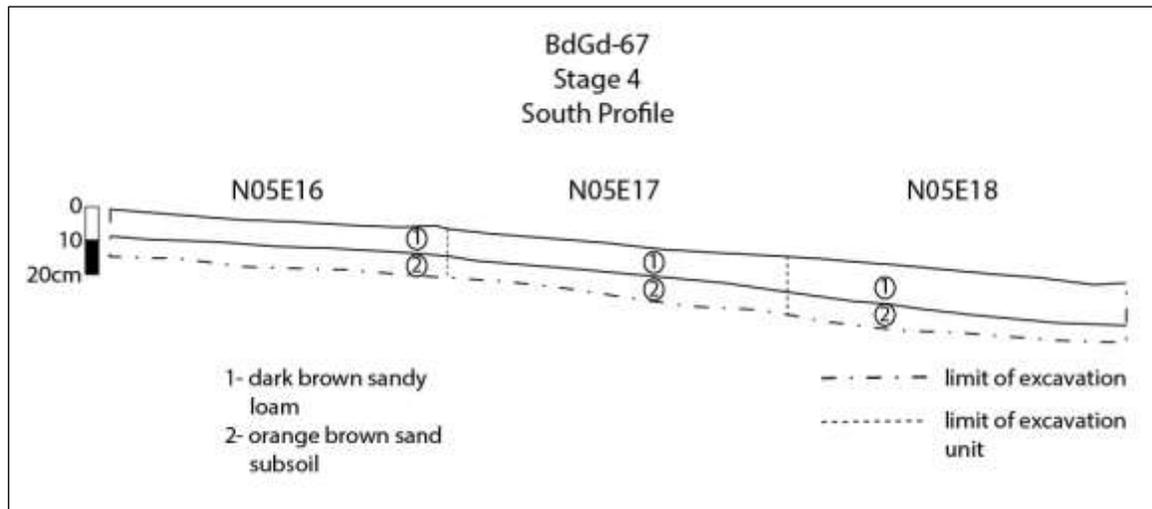
## Appendix B: Artifact Catalogue

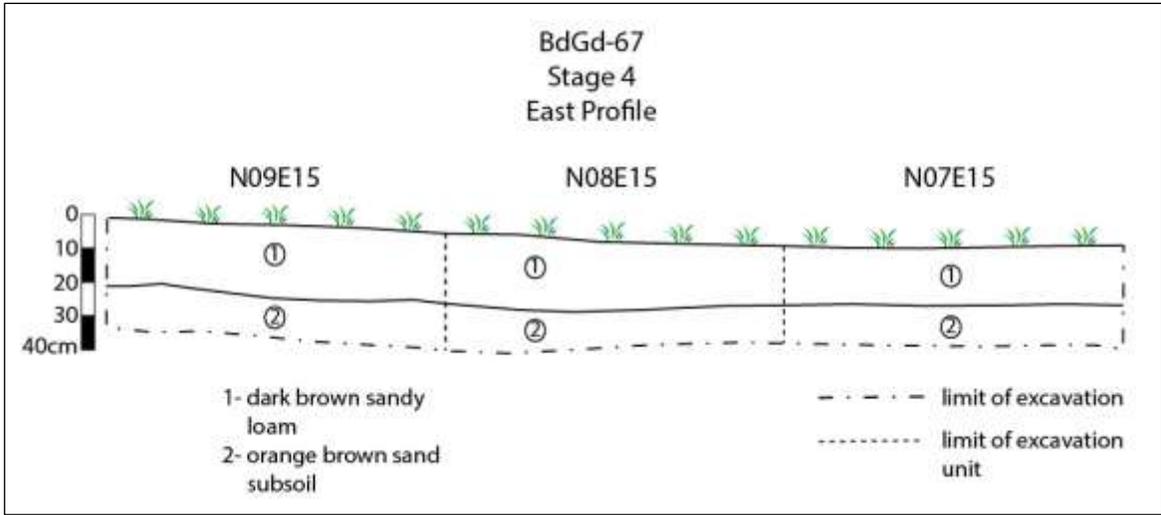
### BdGd-67 Stage 4

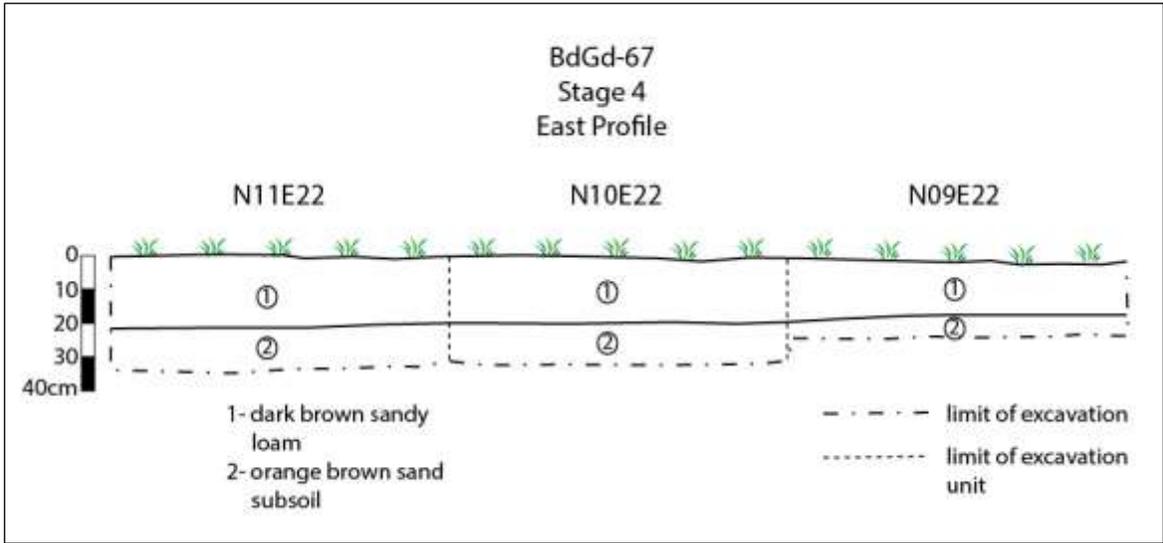
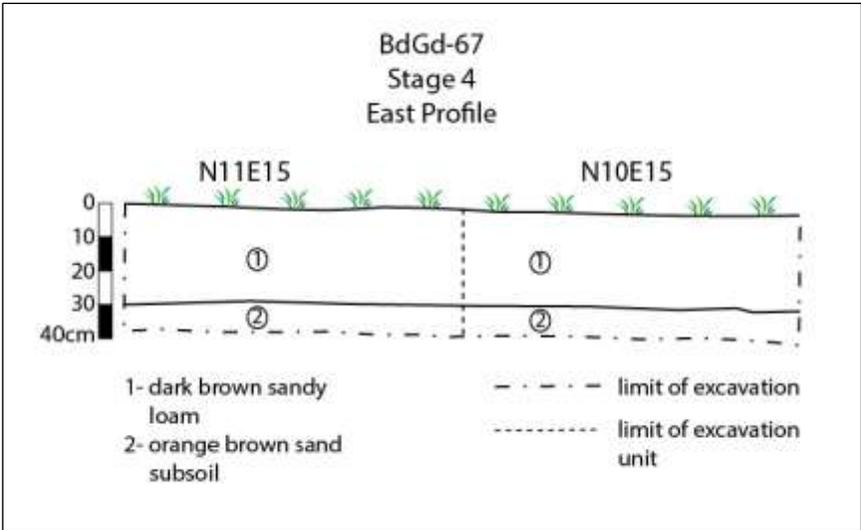
Artifact Catalogue #		Material	Class	Type	Variety	Item	Portion	#	Note
Unit	AR #								
N06E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N07E11	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N07E12	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N07E13	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N07E14	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N07E15	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	heat spalled
N07E16	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N07E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N08E12	AR-01	stone	chert	Onondaga	tertiary	utilized flake	complete	1	probable graver, use wear scars
N08E13	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N08E14	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N08E15	AR-01	stone	chert	Onondaga	tertiary	flake	partial	2	
N08E16	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
	AR-02	stone	chert	unid beige	secondary	flake	complete	1	
N08E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	heat spalled
N08E18	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	heat spalled
	AR-02	stone	chert	Onondaga		blade	complete	2	
N08E19	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N09E11	AR-01	stone	chert	Onondaga	tertiary	flake	partial	2	
N09E12	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
	AR-02	stone	chert	Onondaga	biface thinning	flake	complete	1	
	AR-03	stone	chert	Onondaga	tertiary	utilized flake	complete	1	
N09E13	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	

Artifact Catalogue #		Material	Class	Type	Variety	Item	Portion	#	Note
Unit	AR #								
N09E14	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N09E15	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
N09E16	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
	AR-02	stone	chert	Onondaga		blade	complete	1	
N09E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-02	stone	chert	Onondaga	tertiary	utilized flake	complete	1	use wear scars on right margin
	AR-03	stone	chert	Onondaga	side notched	point	base	1	Meadowwood,w=22.3,t=4.9mm
N09E18	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N09E19	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
	AR-02	stone	chert	Onondaga	secondary	flake	complete	1	
N10E14	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N10E16	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
	AR-02	stone	chert	Onondaga	tertiary	utilized flake	complete	1	use wear scars on right margin
N10E18	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N10E19	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N10E21	AR-01	stone	chert	Onondaga	tertiary	flake	partial	1	
N11E13	AR-01	stone	chert	Onondaga	corner notched	point	base	1	w=17, t=3.0 mm, Jack's Reef
N11E14	AR-01	stone	chert	Onondaga	tertiary	flake	complete	2	
N11E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
	AR-02	stone	chert	unid dark grey	tertiary	flake	complete	1	
N11E18	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
N11E19	AR-01	stone	chert	Onondaga		blade	complete	1	
N12E18	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	
N13E17	AR-01	stone	chert	Onondaga	tertiary	flake	complete	3	
N13E15	AR-01	stone	chert	Onondaga	tertiary	flake	complete	1	

## Appendix C: Profiles









BdGd-67  
Stage 4  
North Profile

