
ARCHAEOLOGICAL ASSESSMENT

PLAN CHANGE 14
SWAYNE RD, HAUTAPU

Fonterra

PREPARED BY
SIÂN KEITH

ARCHAEOLOGICAL ASSESSMENT PLAN CHANGE 14

FONTERRA

Contents

1	Executive Summary	4
1.	Introduction	5
1.1.	Purpose & Scope	5
1.2.	Project Background.....	5
2.	Regulatory Framework	7
2.1.	Resource Management Act 1991	7
2.2.	Heritage NZ Pouhere Taonga Act 2014.....	7
3.	Methodology	8
4.	Physical Environment and Setting.....	8
5.	Historical Background	9
5.1.	Māori Era.....	9
5.2.	19 th Century	10
5.3.	Bardowie Estate.....	10
5.4.	Historic Sketches & Survey Plans.....	13
5.5.	Aerial Photographs & LiDAR.....	20
6.	Previous Archaeological Work.....	23
6.1.	ArchSite.....	23
6.2.	Surveys & Investigations	25
6.3.	The New Zealand Heritage List/ Rarangi Korere	26
6.4.	District Plans.....	26
7.	Fieldwork	26
8.	Summary of Evidence.....	31
9.	Constraints and Limitations.....	32
10.	Assesment of Historic Heritage/ Archaeological Values	32
10.1.	Discussion of Values.....	32
10.2.	Archaeological Values (HNZPT)	32
10.3.	Historic Heritage Values (RMA).....	33
11.	Assessment of Effects	34
12.	Conclusions & Recommendations	34
13.	References.....	36
14.	Appendix.....	37
	Figure 1: Location map (general project area highlighted with red circle).	6
	Figure 2: Aerial image showing extent of Bardowie footprint.....	6
	Figure 3: Soil map, general project area highlighted.....	9
	Figure 4: Advertisement for drainage tender for Bardowie, 1900.....	12
	Figure 5: Annual Sports advertisement, Bardowie 1900.....	12
	Figure 6: Waikato pre-war training at Bardowie camp, Hautapu, Cambridge, circa 1914.....	13
	Figure 7: PART SO97 (1865), showing names of military scripts Rob. Swayne, Corporal Reilly, J. Molloy, and R.J. Lamb, subject site outlined in red.....	15

Figure 8: Extract of Sketch Map of the Waikato District (c.1870). Approximate study area highlighted.16

Figure 9: Charles Chitty’s 1872 Farm Map. Above in full, below extract showing approximate subject site (Cambridge Museum).17

Figure 10: Captain Newell’s Sketch Map of the Waikato c. 1874. Approximate Bardowie Estate highlighted faint orange; Lamb annotation arrowed.18

Figure 11: Extent of Bardowie Estate (Rowarth & Wells 2005: v). Project boundary highlighted red.19

Figure 12: Composite plan of Bardowie showing the estate, likely Lots 1, 2, and 4 advertised in 1938, and subject site.20

Figure 13: Aerial photograph 1943 (source Retrolens.co.nz). Three dwellings arrowed, west central and east.21

Figure 14: LiDAR image of Subject Site, anomalies arrowed.22

Figure 15: Contour map indicating Historic Heritage and archaeological sites within 1500m of the Project Footprint.23

Figure 16: Modern map showing extent of garden soils recorded in 1935 (Tamahere Soils) and associated borrow pits.24

Figure 17: Map of previous investigations in proximity to the Farm.26

Figure 18: Image looking east across southern boundary.27

Figure 19: Image of northern depression28

Figure 20: Location of augur points. Those shown in red tested as possible garden soils.28

Figure 21: Eastern most dwelling c.19203-1930s.29

Figure 22: Looking north across the location of the central pre-1939 dwelling, and below, a collection of the historic midden.29

Figure 23: Looking west over the across the location of the western pre-1939 dwelling.30

Figure 24: Images of cut drains, unmaintained to the left, and maintained to the right.30

Figure 25: Archaeological Constraints Map31

1 EXECUTIVE SUMMARY

Fonterra commissioned Siân Keith Archaeology Ltd (SKA) to provide an Archaeological Assessment of Bardowie Plan Change 14 (the Project). This assessment is focused on archaeological sites, although it has considered the location of historic heritage sites where these are scheduled in the relevant Council District Plans and provides comment regarding if historic heritage sites will be affected.

The assessment has involved a review of historic documents including aerial photographs, historic maps, and archaeological data including the New Zealand Archaeological Association's (NZAA) national database (ArchSite), and consultant's reports for the wider area. A review of the relevant council plans has been undertaken, and a field visit to the project site has been made.

The project is located within a wider landscape that contains evidence of Māori occupation and use prior to 1864. This includes large tracks of traditional horticultural sites, characterised as borrow pits and garden soils, which are mainly recorded to the south of the subject site. One such site S15/480, investigated as part of the Waikato Expressway, may continue into the Project footprint. Field survey did not confidently relocate evidence for this site in the proposed PC14, however that archaeological evidence is present in the subject site and below the topsoil remains a reasonable conclusion.

Evidence for a dwelling, probably occupied by RJ Lamb, who was the soldier awarded Lot 199 in 1864, may be present within the subject site. Archaeological evidence may include structural postholes, material culture (i.e. glass, ceramics, metal), rubbish pits and a well. A section of iron pipe was noted in the field adjacent to a dwelling visible on from 1939 aerial images, this may be the same as the Lamb dwelling but would require intrusive investigations to confirm.

The land was drained from the 1870s/1880s, some of the drains currently within the subject site likely originated from this time. Such features are not considered to hold notable archaeological values, in part because of their simple functional nature, and because they tend to be maintained by machine removal of silt build-up which would lead to their modification.

There is a minor risk that other archaeological features or deposits will be encountered during any earthworks within the subject site. Such material is likely to include evidence for horticultural practice (i.e. gardening and tools), fire-features, storage pits, European farming evidence, and further unreported dwellings and/or farm buildings.

Based on the available published information, and the results of recent fieldwork, it is concluded that there are likely to be archaeological deposits within the Project. These are most likely concentrated close to the depressions seen on the LiDAR and where the possible garden soils were identified in the hand-augers, and in the location of the probable Lamb dwelling. However, since there is no current reason to suspect that extensive archaeological evidence is present with the development there are no known reasons to alter the PC14 proposal based on archaeological values.

An application for an archaeological authority is recommended for any development works in proximity to S15/480 and in proximity to the possible Lamb dwelling.

1. INTRODUCTION

1.1. PURPOSE & SCOPE

The purpose of this Archaeological Assessment is to assess the pre-1900 archaeological potential of the subject site. This assessment has also considered the location of historic heritage sites where these are scheduled in the relevant council District Plans and provides comment if historic heritage sites will be affected.

1.2. PROJECT BACKGROUND

Fonterra owns and operates a milk processing facility in Hautapu (the Factory) It is exploring land optimisation opportunities for its farmland holdings at Hautapu following the procurement of resource consents to upgrade the Wastewater Treatment Facility (WWTF). The Hautapu Factory wastewater irrigation network consists of four Fonterra owned farms Bardowie, Bruntwood, Buxton and Fencourt. In 2022 a new resource consent was granted to discharge treated wastewater to land and the Waikato River, with greater flexibility due to the higher standard of nutrient removal treatment offered by the WWTF upgrade.

The new consent includes the ability to discharge a higher volume of treated wastewater to the Waikato River during the typical 'wet season' season (May to October) and irrigate to a smaller land holding when it is dry. Therefore, once the WWTF upgrade is operational in late 2026 there will be a surplus of land needed for irrigation.

A review of Fonterra's farms was undertaken that considered irrigation operations capacity, physical and environmental constraints, farming operations, policy planning and value. The review outcome determined that the least preferred farm for continued operation was identified as Bardowie and on this basis it was decided to pursue alternative land use options for the farm.

The current zoning of the Bardowie land is Rural. Fonterra is now progressing Stage 2 of the rezoning of the Bardowie land through PC 14. The Plan Change process will determine factors such as proposed land uses, servicing arrangements and infrastructure locations.

Archaeological Assessment Plan Change 14, Fonterra

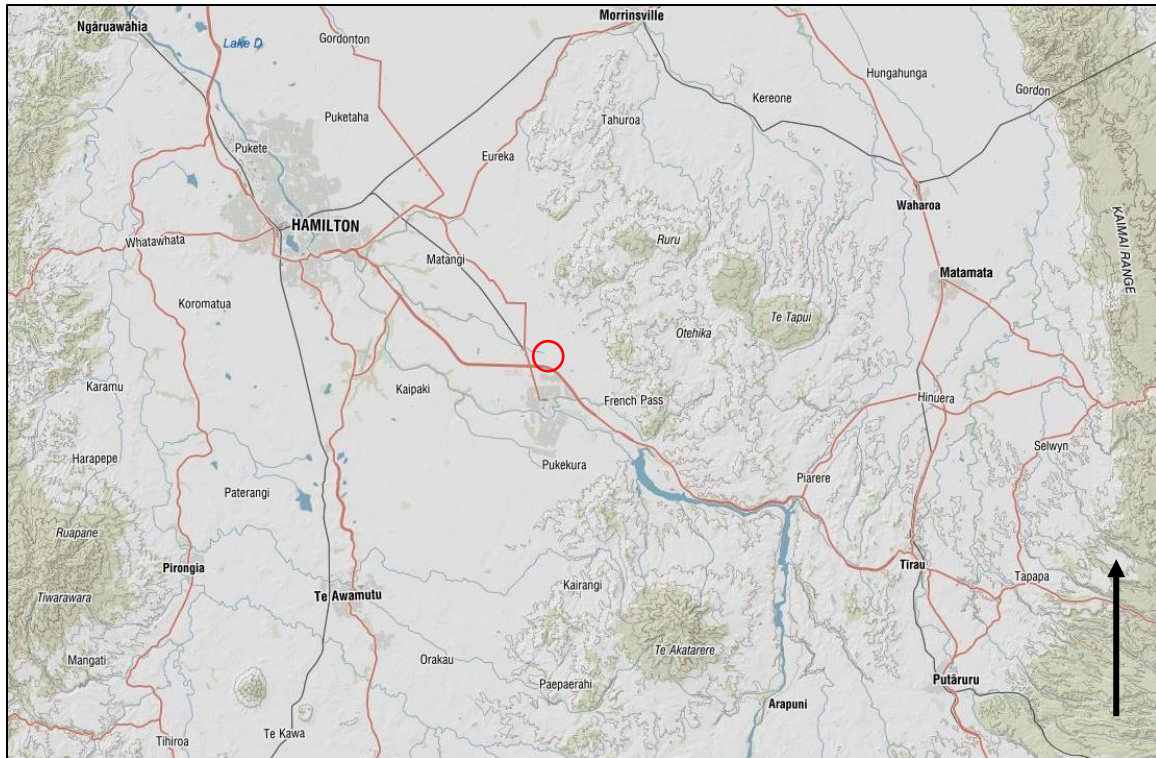


Figure 1: Location map (general project area highlighted with red circle).¹

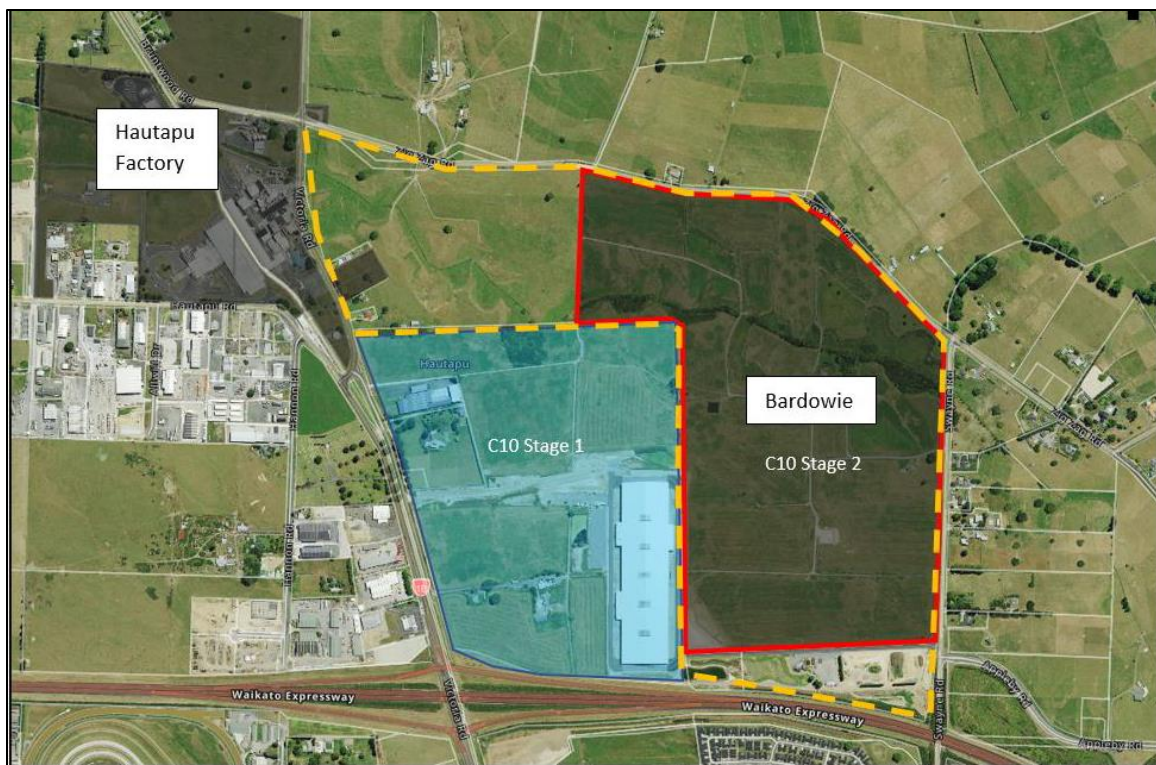


Figure 2: Aerial image showing extent of Bardowie footprint.

¹ <https://soils-maps.landcareresearch.co.nz>

2. REGULATORY FRAMEWORK

2.1. RESOURCE MANAGEMENT ACT 1991

A number of sections of the Resource Management Act 1991 (RMA) provide for the recognition and protection of historic heritage.

The *Resource Management Act 1991* (RMA) requires District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while sustaining the potential of natural and physical resources for future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (section 6f).

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities.

Historic heritage includes:

- historic sites, structures, places, and areas.
- archaeological sites.
- sites of significance to Māori, including wāhi tapu.
- surroundings associated with the natural and physical resources (RMA section 2).

These categories are not mutually exclusive and some archaeological sites may include above ground structures or may also be places that are of significance to Māori.

Where resource consent is required for any activity the assessment of effects is required to address cultural and historic heritage matters (RMA Schedule 4).

The Project falls within the boundaries of the Waipā District Council.

2.2. HERITAGE NZ POUHERE TAONGA ACT 2014

The purpose of the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA) is to promote the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand (HNZPTA section 3). Emphasis is placed on avoiding effects on heritage.

The HNZPTA provides blanket protection to all archaeological sites meeting the definition in the Act, whether they are recorded or not. Protection and management of sites is managed by the archaeological authority process, administered by HNZPT. It is illegal to destroy or modify archaeological sites without an authority to do so from HNZPT.

The HNZPTA (s6) defines an archaeological site as:

- (a) Any place in New Zealand including any building or structure (or part of a building or structure) that:
 - (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where that wreck occurred before 1900; and

(ii) provides, or may provide through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) Includes a site for which a declaration is made under Section 43(1) of the Act².

Any person who intends to carry out work that may modify or destroy an archaeological site, or to investigate an archaeological site using invasive archaeological techniques, must first obtain an authority from HNZPT. The process applies to sites on land of all tenure including private, public and designated land. The HNZPTA contains penalties for unauthorised site damage.

The archaeological authority process applies to all archaeological sites that fit the HNZPTA definition regardless of whether the site is recorded in the NZAA Site Recording Scheme or registered with HNZPT; or if the site only becomes known about as a result of ground disturbance; and/or the activity is permitted under a district or regional plan, or a resource or building consent has been granted, or the ground is subject to a designation.

The HNZPTA replaced the *Historic Places Act 1993* (HPA) in May 2014.

HNZPT also maintain the New Zealand Heritage List/Rārangī Kōrero (The List). The List can include archaeological sites. The purpose of The List is to inform members of the public about such places, and to assist with their protection under the RMA.

It is possible that archaeological sites, as defined in the HNZPTA, may be disturbed by this Project. Any archaeological sites identified during the ground works at this site will be protected under the HNZPTA, and their discovery may pose delays to works unless an archaeological authority has been issued that allows the work.

3. METHODOLOGY

This assessment has used the following sources to provide a historical and archaeological background of the Project Footprint:

- The NZAA's online database ArchSite
- Waipā District Plan (WDP)
- Historic LINZ survey plans
- Historic aerial photographs
- Previous consultants' reports.

Site visits were undertaken to the Project footprint by the author in July 2023.

4. PHYSICAL ENVIRONMENT AND SETTING

The Bardowie Farm is a 71 ha farm that is traversed by the Mangaone Stream flowing through the northern area. Bardowie has historically operated as a dairy farm irrigated with treated wastewater from the Hautapu Factory and over the past five years has been operating as a 'cut carry' unit.

² Such declarations usually pertain to important post-1900 remains with archaeological values.

The subject site is some 3km north of the Waikato River. The river is the major geographical feature of the landscape. It was an important source of fresh water and transport for both Māori and early European settlers.

The ground is relatively flat and in farmland, mainly dairy pasture. Dominant soil profiles are well-drained (Horotiu soil) and imperfectly drained (Horotiu-Te Kowhai complex) (Figure 3). Horotiu and Horotiu-Te Kowhai soils were often modified by pre-European Māori for gardening purposes, these soils are referred to as ‘modified garden soils’ or Tamahere soils in this report.

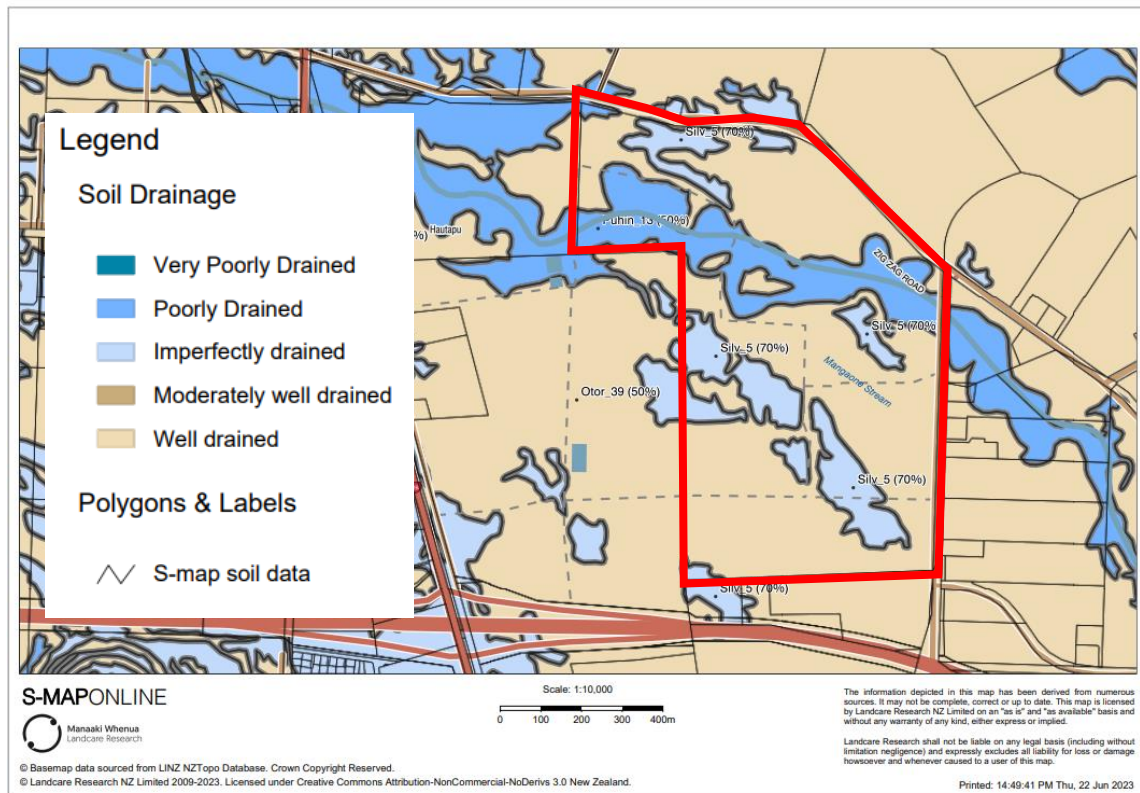


Figure 3: Soil map, general project area highlighted.³

5. HISTORICAL BACKGROUND

5.1. MĀORI ERA

The Project is within the Middle Waikato Basin, a geological formation which is visible on Figure 1. The pre-European archaeology of Middle Waikato Basin is characterised as representing a subsistence economy based primarily on horticultural activity which is focused on the production of kūmara. There are numerous publications on pre-European gardening practices (e.g. Burtenshaw et al 2001, Furey 2006, Gumbley 2021, Gumbley et al 2003, Trotter and McCulloch 2001) and it is not intended to repeat this information in detail here.

³ <https://soils-maps.landcareresearch.co.nz>

In summary, Polynesian settlers brought with them to New Zealand six cultigens including kūmara, taro, and yam. Kūmara was by far the most significant of the cultigens grown. In order to successfully grow their introduced staple food crops in the district's different environment and climate, Māori had to change and adapt their traditional methods to improve conditions for plant growth and maturation (Furey 2006). In the Middle Waikato Basin kūmara were grown on specific soils chosen deliberately based on the qualities of the parent soil and the access to underlying sands and gravels and fresh water. Sands and gravels were mined from the underlying Hinuera Surface, formed by the ancient braided system of the Waikato River. The quarries, which are known as 'borrow pits', are often several meters wide and over two metres deep, dug through the upper subsoils. These sands and gravels were then incorporated into the upper surface creating distinctive garden soils. There are extensive tracks of garden soil along the lands adjacent to the Waikato River and its tributaries extending over much of the land from Meremere to Arapuni. Intensive horticultural activity is recorded around and partially within the subject site.

5.2. 19TH CENTURY

From the 1820s European goods were entering the Waikato region in the form of muskets, crops, and domesticated animals. Wheat was extensively grown in the Waipā District (Stowers and Field 2014). Māori became proficient and productive growers, selling their surplus to the Auckland market, transporting goods via canoes along the Waipā and Waikato Rivers (Stowers and Field 2014; O'Malley 2016). No evidence has been uncovered to date to indicate that the subject site was farmed by Māori during this period.

Following the Crown invasion of the Waikato in 1863, the British government confiscated much of the land in the Waipā district. The subject site was part of the 50-acre farm lots awarded to the military. In general military allotments were not taken up or developed in the 1860s and 1870s as the soldiers did not have the finance to drain and develop the area, this is returned to in the following section.

Towards the end of the 1870s dairy farms were established in the region, focusing on the Fencourt Land Company butter factory, which was established in 1885 at Hautapu. From the 1880s growth in the Waipā and Waikato districts was facilitated by the opening of railway lines, including from Auckland to Wellington and the Cambridge offshoot as well as increasing numbers of roads. Previously reliant on a river steamer service, these new transport routes allowed the easier transport of goods to markets in Auckland, Hamilton and Thames (Stowers and Field 2014).

At the beginning of the 1900s numerous co-operative dairy companies had been formed throughout the country. Watt and Hally's factory at Hautapu was not big enough to take the milk from the newly established dairy farms which evolved from the large estates being cut up for closer settlement. The Cambridge Co-operative Dairy Company (incorporated 17 July 1901) bought Watt and Hally's factory for £2,068 and was promised the milk from 1,000 cows. In April 1908 Fred Potts won the tender of £1,890 8s for a new brick factory building at Hautapu, to replace the one taken over from Watt and Hally.⁴

5.3. BARDOWIE ESTATE

This section summarises the post-1864 tenure of the subject site. The 1864 survey plans of military awards (reproduced as Figure 7 in Section 5.4 below) show the names of Robert Swayne, Corporal Reilly, J. Molloy, and R.J. Lamb on the allotments 199-202 together forming the Project footprint.

⁴ <https://cambridgemuseum.org.nz/796-2/>

According to the records held at the Cambridge Museum,⁵ Robert Swayne was born in Launceston, Tasmania in 1851 and came to New Zealand ten years later. He started his career at the Post Office in Ngaruawahia and at the age of 13 came to Cambridge. Robert is stated to have taken up land at Fencourt in 1872. This is likely to be the same land as his script within the subject site, further evidenced by the naming of Swayne Rd, forming the eastern boundary of the subject site. It is not clear if he was farming or living on this land.

Cornelius Reilly was born in County Kerry, Ireland, and enlisted for the Honourable East India Company in 1840. He was discharged to pension in 1861, aged nearly 40. He served there with 3rd Waikato Regiment,⁶ it is not known if he took up his 50-acre section.

Joseph Molloy was born in c.1833 in Ireland. He enlisted in the 3rd Waikato Militia in 1863 in Otahuhu as a Private, with his occupation a tailor. It is not known if he took up his 50-acre script, and it is reported that his lot (202) was sold in 1870 to a Mr McLennan (Cameron *et al* 2018).

Joseph Richard Lamb was born in Lincoln in c.1847. He enlisted in Cambridge in February 1865, with his occupation as cooper/ substitute soldier. In 1867 his occupation is listed as a carpenter. On the Cambridge rates assessment list for 1869-70 he paid 2 pence an acre on 51 acres – totalling eight shillings and sixpence. He is also noted in 1872 on a farm map drawn by Charles Chitty in a report on the district to the Armed Constabulary Commissioner's Office (this is provided below -Figure 9).⁷ This indicates that Joseph likely did occupy his lot within the subject site.

It is stated that John Kirkwood purchased many of these 50-acre allotments to consolidate into a title, but he sold them in 1875 to William Innes Taylor (Rowarth & Wells 2005:2). Rowarth & Wells (2005:1) state that Taylor purchased 750 acres of land immediately north of the Cambridge Town belt, including the subject site, and named his estate *Bardowie*, after a small town north of Glasgow, Scotland.

Much of Bardowie was swamp and 'was widely' considered to be a barrier to the improvement of its immediate environs. It was covered with stunted flax and swampy growth and was under water all the year round (*ibid*). Taylor is identified on the Chitty farm map as having a residence on Victoria Rd, south-west of the subject site.

Rowarth & Wells record that William's son James Taylor (1856-1938) was to settle the Bardowie estate in 1875. James first erected a tin shed, on a piece of dry land not from the town boundary (on the site of the current Cambridge High School) (*ibid*: 2). A series of drains were established which fed into the gully running east to west across the northern section of the estate, he continued to drain the estate into the 1900s (Figure 4). The drains were successful enough to allow him to surface sow English grasses (*ibid*). He established swede turnips and erected sod fences planted with hawthorn, Rowarth & Wells state that 'even today, one hundred years later, we may still observe of these parts of the original farm' (*ibid*:3).

The homestead is stated to have been built in 1880-81 at current Lots 2-3 DPS7280 adjacent to the Cambridge Pony Club, on Victoria Street. However this is also the location of a dwelling shown in the 1872 Chitty farm map, so the homestead may have been built earlier or there may have been a prior building here which was replaced.

Bardowie was central to European settlement in Cambridge throughout the late 1800s through to the 1930s. During this time there were many advertisements for polo and hunting club events in the local newspapers (Figure 5).

⁵ <https://cambridgemuseum.org.nz/>

⁶ New Zealand Medal Roll (wo.100/18); India Office Records L/Mil/12/284; Bombay General Orders 379 of 1861 and Governor Generals Orders 881 of 1859 <https://cambridgemuseum.org.nz/>

⁷ <https://cambridgemuseum.org.nz/>

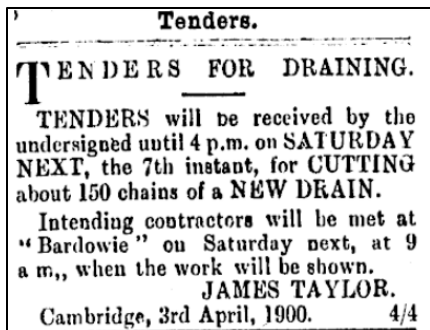


Figure 4: Advertisement for drainage tender for Bardowie, 1900⁸



Figure 5: Annual Sports advertisement, Bardowie 1900⁹

Major first world war training campsites were located in Hamilton at Claudelands, and the Bardowie Estate. Contemporary images show a large number of tents and cavalry at the estate (Figure 6).

In 1932, during the Depression, James offered the 'greater portion' of the Bardowie estate to the Government for the Unemployment Board's small-farm scheme. The plan provided for the 'cutting-up of the property into 51 sections of 8 to 224 acres'. Five sections were located alongside Zig-Zag Road; nine on the west side of Victoria Road and 37 on the eastern side of the railway line. The total area offered was about 512 acres.¹⁰

⁸ WAIKATO ARGUS, VOLUME VIII, ISSUE 616, 6 APRIL 1900, PAGE 4

⁹ WAIKATO ARGUS, VOLUME IX, ISSUE 824, 7 DECEMBER 1900, PAGE 3

¹⁰ WAIKATO INDEPENDENT, VOLUME XXXII, ISSUE 2851, 19 MAY 1932, PAGE 4



Figure 6: *Waikato pre-war training at Bardowie camp, Hautapu, Cambridge, circa 1914.*¹¹

James died in 1938 aged 83. Three portions of the remaining estate were advertised for sale shortly after. Lots 1, 2 and 4 are related to Bardowie Estate and were described as follows:

LOT 1: 'BARDOWIE' HOMESTEAD comprises 21 acres 2 roods 22: perches, situated about 1 mile from Cambridge township, adjoining Cambridge Trotting Course. Buildings comprise old large Homestead, 2 stables fenced with stalls and loose boxes, large iron manure shed, old cowshed, shearing shed. Blacksmith's shop cattle and sheep yards and dip.

LOT 2: 75 ACRES situated opposite Homestead, all in good pasture and level, subdivided into 5 paddocks with live hedges around boundaries, watered by electric pump. No buildings.

LOT 4: 59 ACRES, situated opposite Hautapu Factory, known as the 'Zig Zag' Farm. All in grass. Buildings consist of 2 old cottages and old cowshed.¹²

Further down in this report it is considered that these lots are not related to the subject site, the study are likely being part of the earlier small farm scheme.

When, what is assumed to be the last of the Bardowie Estate was sold in 1959, the farm was approximately 250 acres (Rowarth & Wells 2005).

5.4. HISTORIC SKETCHES & SURVEY PLANS

The earliest survey plan identified is from 1865 (Figure 7) and illustrates the 50-acre sections 199-2002 awarded to Swayne, Reilly, Molloy, and Lamb within the subject site. G. Lamb is noted on the adjacent section 192. Zig-Zag Rd, Swayne Rd and Cambridge Rd are all shown and the swampy land

¹¹ Photos from Richard Stowers' collection <https://www.stuff.co.nz/national/last-post-first-light/67950172/richard-stowers-tells-the-story-of-waikatos-anzacs> (retrieved 26/06/2023)

¹² WAIKATO TIMES, VOLUME 124, ISSUE 20722, 4 FEBRUARY 1939, PAGE 14

to the north of the subject site is illustrated. This plan shows no evidence of pre-1900 sites of archaeological interest.

An 1870 sketch map of the main features around Cambridge is provided in Figure 8. This shows the main farms at this time including 'Reynold's Farm' and 'Buckland's Station'. The Karihiru Creek (sic – Karapiro Stream) is shown, and a track running north, also on the south side of the creek is the annotation 'old native graveyards'. The sketch is not to scale and is orientated poorly, so it is difficult to determine the exact location of the subject site, however there are no annotations relating to the named individuals from the 1865 survey plan within the subject site, and no other annotations are evident in the general area of the Farm.

Chitty's 1872 farm map, also a sketch, shows the name of Lamb either within or close to the subject site. I Taylor and the cemetery are shown along a Tramway (Victoria Street) and Zigzag Road is annotated as a bridle path from Mangakawa to Tamahere.

Captain Newell's sketch map dated to c.1874 portrays all of the sites and settlements familiar to him at that time. The extract showing the general study area reproduced in Figure 10 depicts several names in the outskirts of Cambridge. The bold red line is assumed to be Victoria Street, Zigzag Road a smaller dashed line, and the cemetery the original and current Hautapu Cemetery. The name Lamb is faintly drawn alongside a dwelling, in a similar location to the Chitty farm plan. As with the Chitty farm plan, this is assumed to refer to Joseph Richard Lamb who is detailed above, although there was another Lamb on the adjacent section (192), so it may refer to that soldier. No further names correspond to those of military settlers on the earlier survey plans, or the Kirkwood or Taylor purchases.

Rowarth & Wells (2005:v) provide a mapped extent of the Bardowie Estate, including the location of the Taylor homestead (Figure 11).

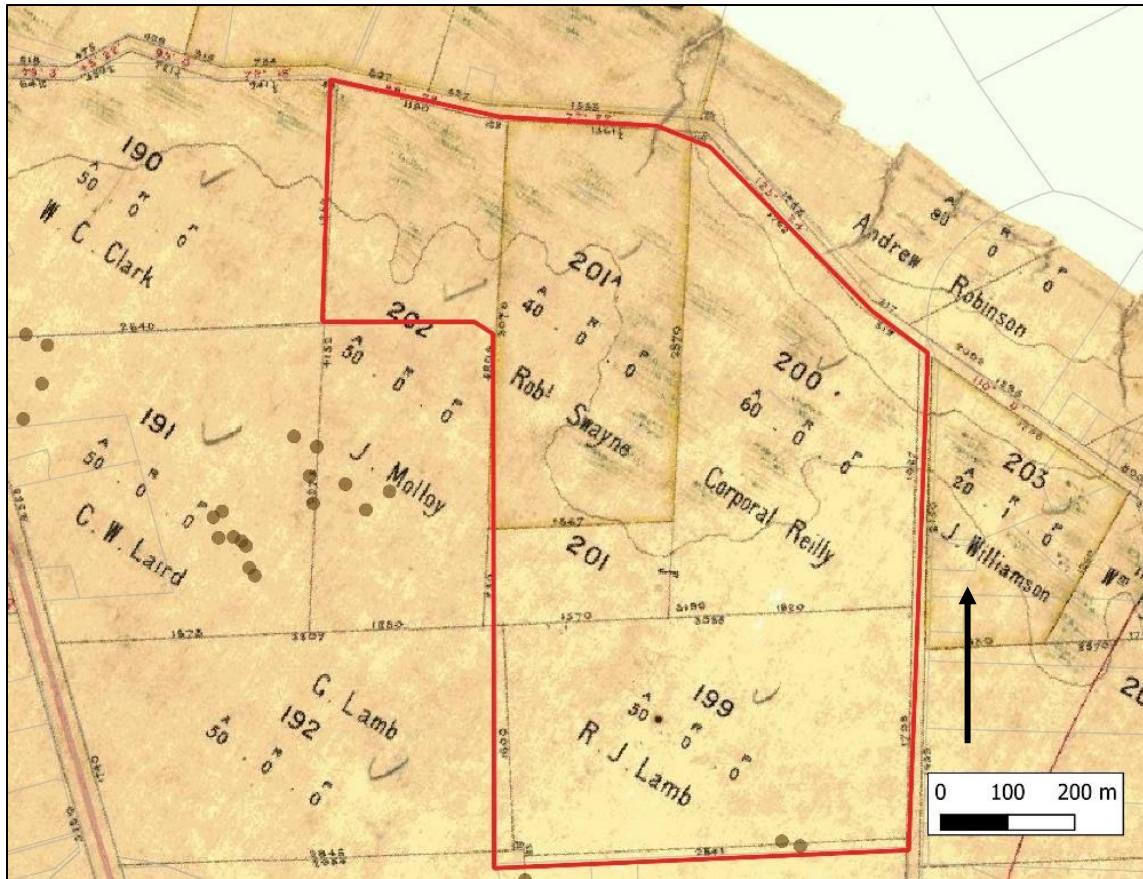


Figure 7: PART SO97 (1865), showing names of military scripts Rob. Swayne, Corporal Reilly, J. Molloy, and R.J. Lamb, subject site outlined in red.

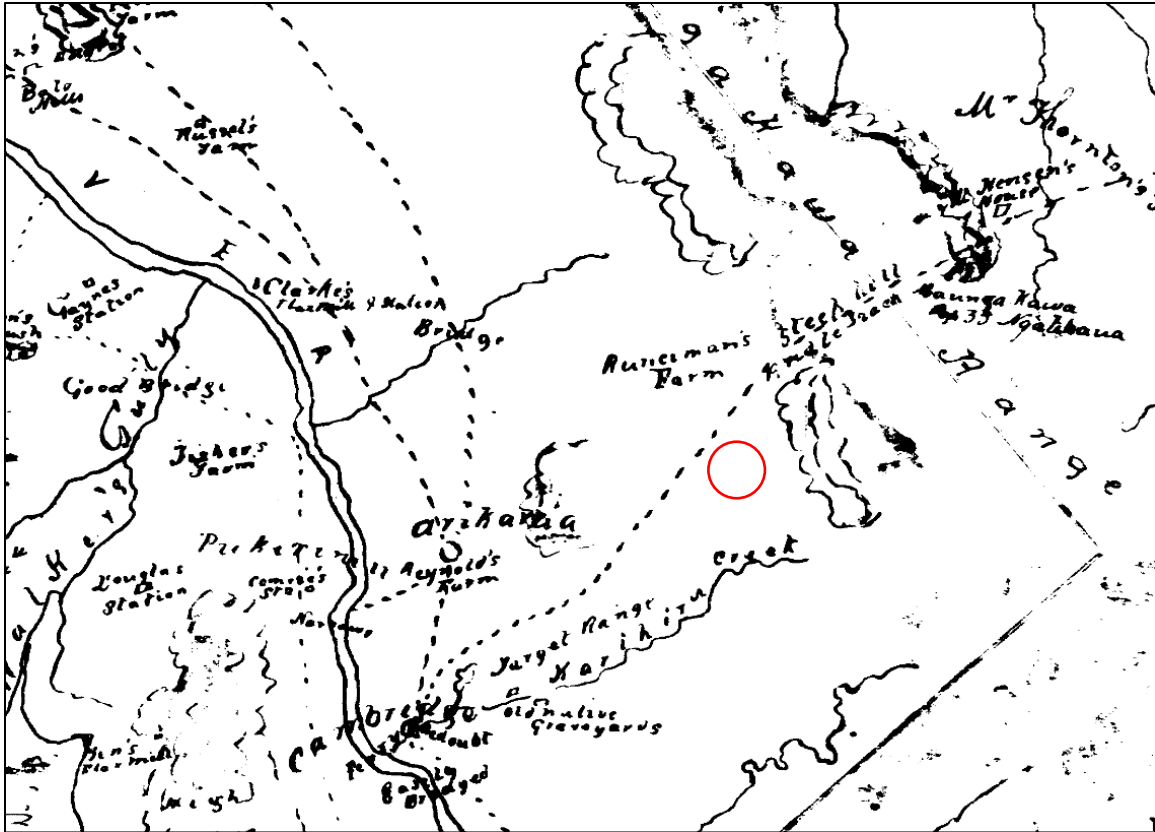


Figure 8: Extract of Sketch Map of the Waikato District (c.1870).¹³ Approximate study area highlighted.

¹³ Map 2561 From the digital collection at the University of Waikato Library

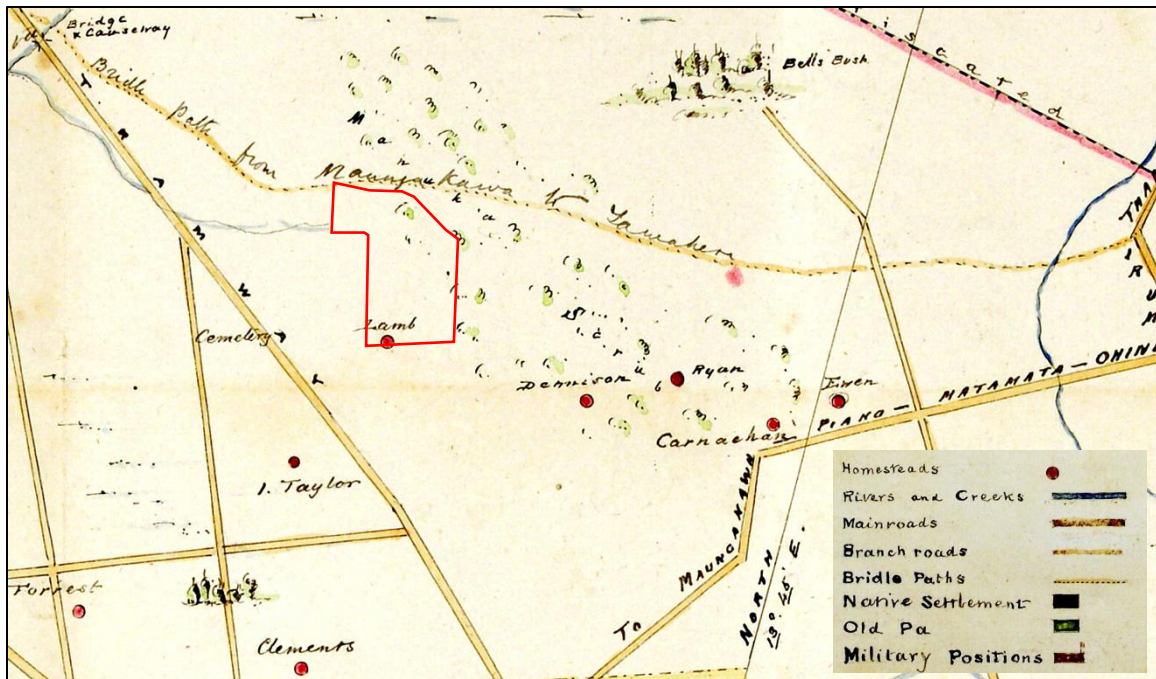
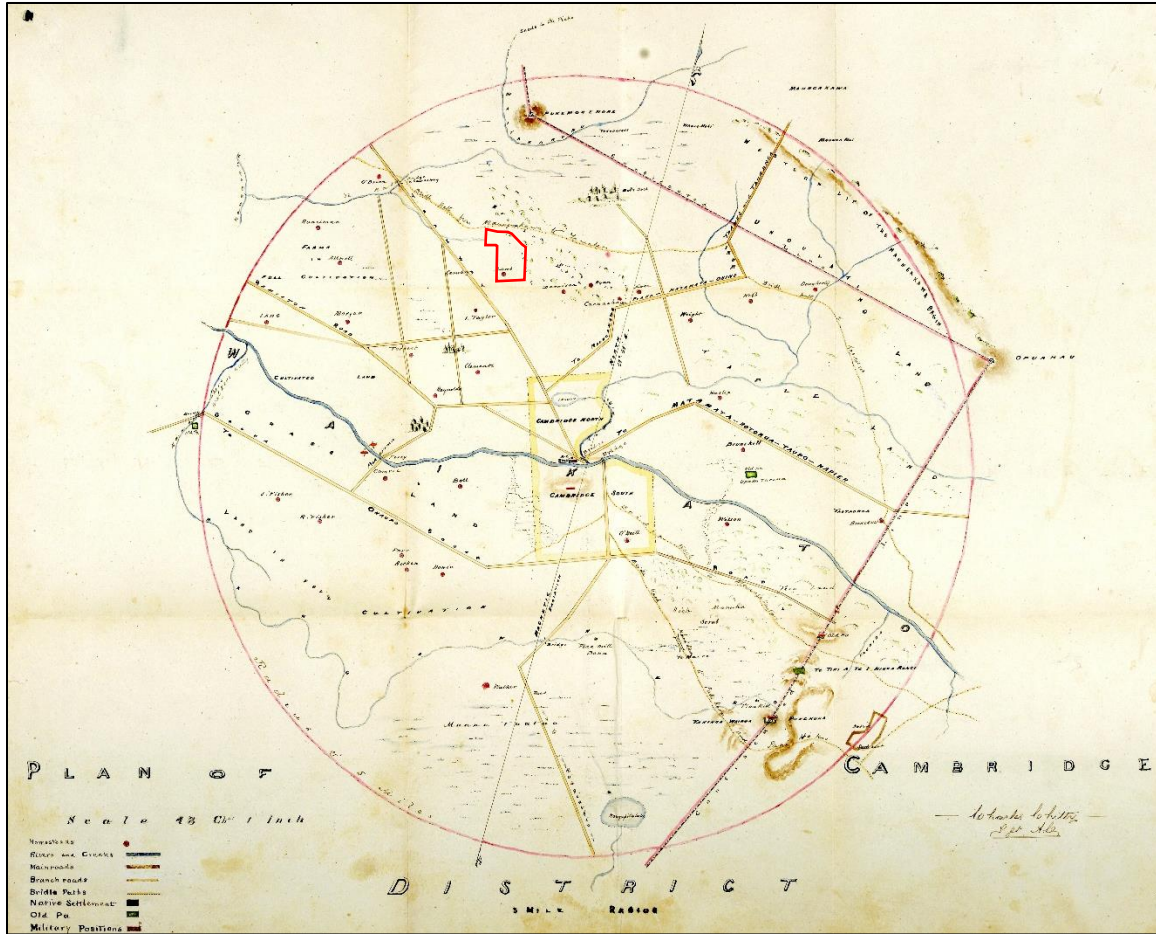


Figure 9: Charles Chitty's 1872 Farm Map. Above in full, below extract showing approximate subject site (Cambridge Museum).



Figure 10: Captain Newell's Sketch Map of the Waikato c. 1874. Approximate Bardowie Estate highlighted faint orange; Lamb annotation arrowed.¹⁴

¹⁴ Paper and ink reproduction from the collection of the Waikato Museum. The detail provided from the museum states: This map, thought to have been drawn by military leader Captain Stuart Newall, shows the Waikato as John Callaghan and the Gibbons brothers new it in the early 1870s.

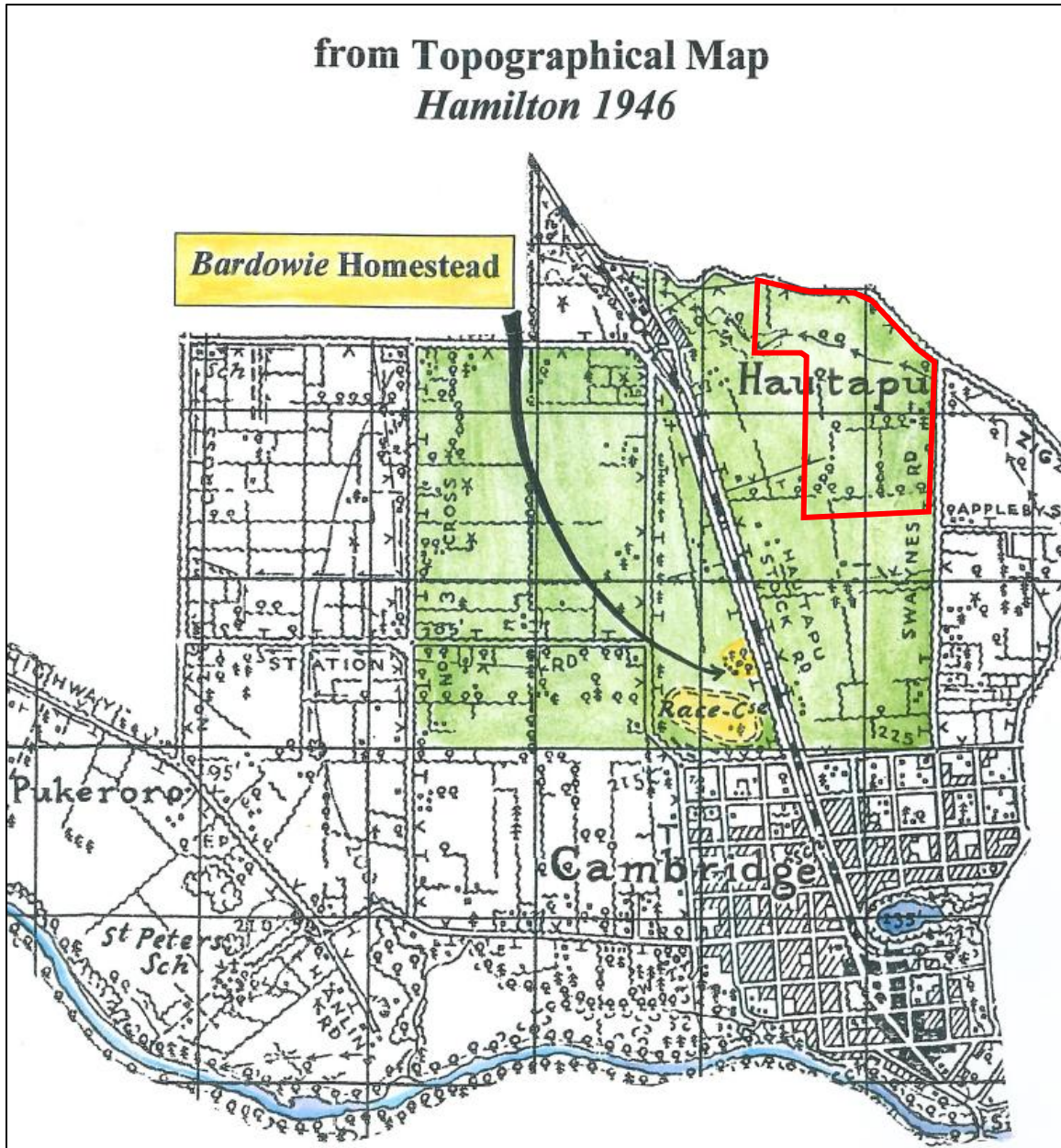


Figure 11: Extent of Bardowie Estate (Rowarth & Wells 2005: v). Project boundary highlighted red.

No cartographic sources which identify which sections were sold and when has been identified. Figure 12 has been produced based on the plan provided in Rowarth & Wells (2005:v, Figure 11), and the description of section sizes for the sale in 1938. Which if any of the sections sold in 1932 has not been ascertained, however based on the research provided above, the subject site appears to have been within the 'zig-zag farm' curtilage and was likely part of the 1932 subdivision.

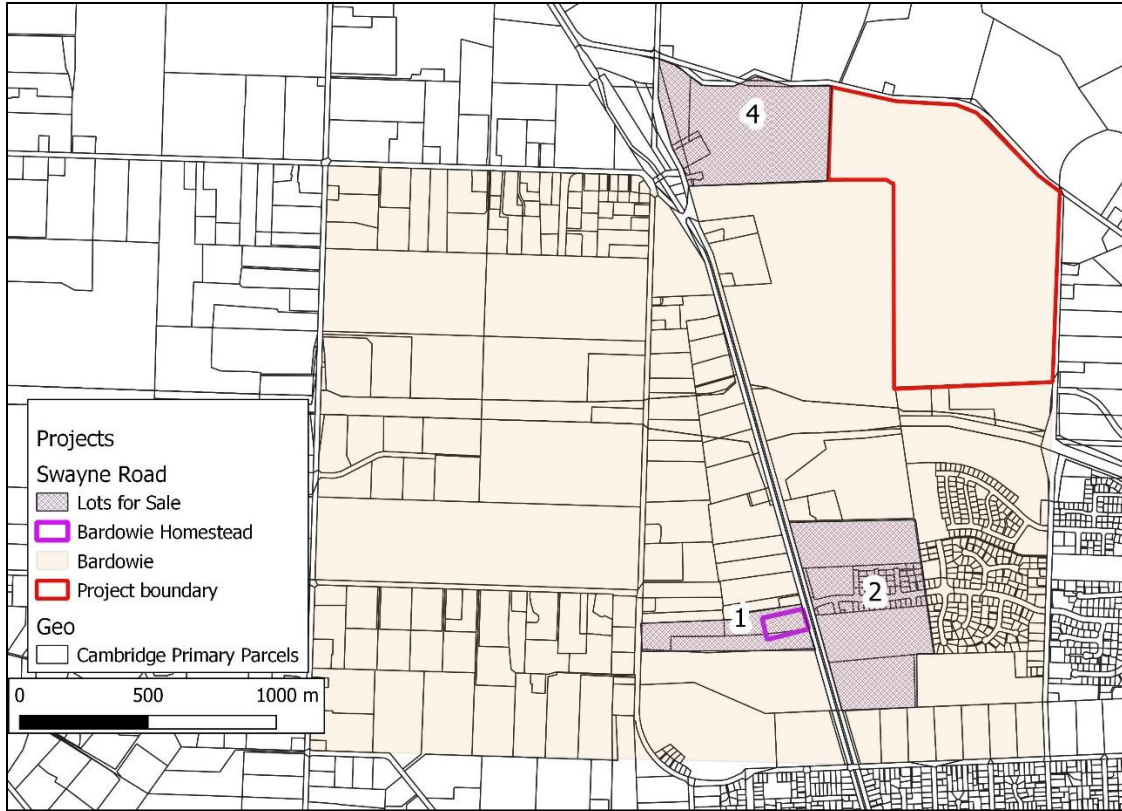


Figure 12: Composite plan of Bardowie showing the estate, likely Lots 1, 2, and 4 advertised in 1938, and subject site.

5.5. AERIAL PHOTOGRAPHS & LIDAR

Aerial imagery from 1939 has been examined to identify any visible surface features of archaeological interest in the subject site. The earliest image (1939) shows three buildings, likely dwellings in the subject site. The same three buildings are visible in the 1943 aerial image provided in Figure 13. The aerial imagery shows the land to be predominantly in short, grazed pasture. The gully system is visible in the northern end of the project, a cut drain is notable within this gully as are drains connecting to it. The land is divided into paddocks lined with hedges and fences.

LiDAR imagery clearly shows the drainage work within the subject site, and three circular depressions are visible (Figure 14).



Figure 13: Aerial photograph 1943 (source Retrolens.co.nz). Three dwellings arrowed, west central and east.

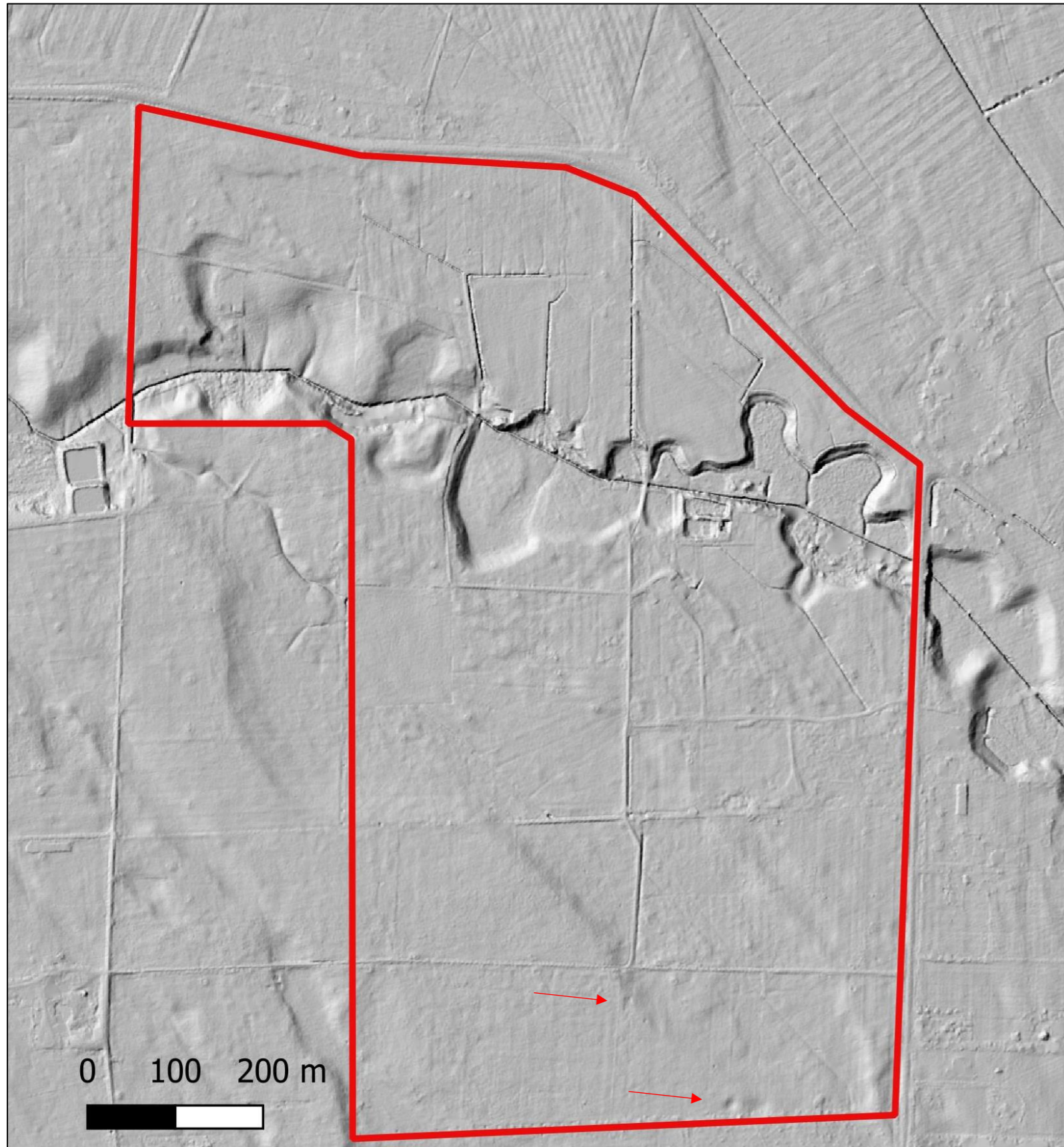


Figure 14: LiDAR image of Subject Site, anomalies arrowed.

6. PREVIOUS ARCHAEOLOGICAL WORK

6.1. ARCHSITE

There are several recorded archaeological sites within 1000m of the Project with site S15/480 likely encroaching within it. Figure 15 identifies the archaeological sites, and Table 1 summarises some of the site details. The database is dominated by extensive horticultural sites, most identified to the south of the subject site.

S15/480 is recorded to be a borrow pit cluster at Swayne Road (NZAA SRF provided in appendix). It was originally recorded by Neville Ritchie in 1993. Ritchie noted that a group of eight borrow pits were located to the west of Swayne Road, opposite the Appleby Road intersection. Six of the borrow pits were located in a grazed paddock; while the remaining two borrow pits were located to the north of the main cluster in a kiwi fruit orchard. The six southernmost borrow pits were investigated as site S15/324 and are discussed in Campbell and Hudson (2014). The two remaining pits were recorded as a separate site (S15/480) and reported on by Campbell *et al* (2016). In addition to the two borrow pits, there were a number of pits and firescoops found in the area. It had been heavily modified through orcharding.

The 1939 soil map (Grange *et al*) identifies Tamahere soils (modified garden soils) focused on a levee of the Hinuera Surface in the southern part of the subject site. Two borrow pits have also been identified close to the southern boundary. These are mapped on Figure 16, and appear to be a continuation of S15/480.

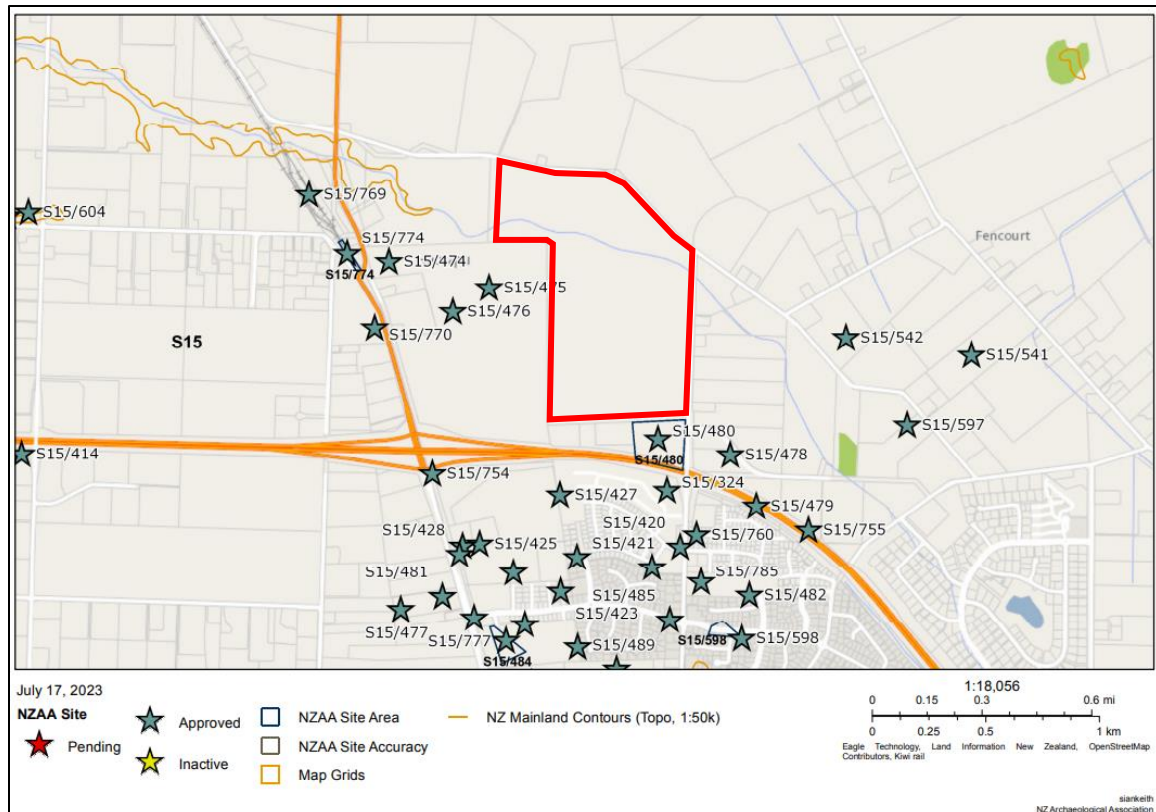


Figure 15: Contour map indicating Historic Heritage and archaeological sites within 1500m of the Project Footprint.

Table 1: Recorded Archaeological Sites within 1500m of the Project Footprint.

NZAA Site #	Site Type	Description
S15/324	Horticulture	Borrow pits and associated modified garden soil. Obsidian flakes were found along with four oven scoops during investigation of part of the site ahead of construction of the Waikato Expressway.
S15/420	Horticulture	Borrow pit less than 6 m in diameter.
S15/427	Horticulture	Two borrow pits and associated garden soil.
S15/474	Horticulture	3 borrow pits in an area of 120 x 20 m, visible on aerial photo SN266/834/62.
S15/475	Horticulture	8 borrow pits in an area of 180 x 70 m, visible on aerial photo SN266/834/63.
S15/476	Horticulture	4 borrow pits in an area of 90 x 20 m, visible on aerial photo SN266/834/63. Could not be relocated 2018.
S15/478	Horticulture	7 borrow pits in an area of 180 x 110 m, visible on aerial photo SN266/834/64.
S15/479	Horticulture	4 borrow pits in an area of 90 x 60 m, visible on aerial photo SN266/834/64.
S15/480	Horticulture	3 borrow pits in an area of 70 x 50 m, visible on aerial photo SN266/834/64. Several pits and fire scoops were also found during investigations.
S15/754	Horticulture	Single borrow pit.
S15/760	Horticulture	Two borrow pits are visible in the 1943 aerial photograph SN266-834/63 25 m and 50 m east from the Swayne Road boundary. Neither pit is visible on the surface today.
S15/769	Hautapu Station	Site of the Hautapu Train Station recorded on historic plan SO 3508/10 dated 1884, the year the station opened.
S15/770	Hautapu Cemetery	Hautapu cemetery holds a number of pre-1900 burials. The earliest death identified on a gravestone was that of Dougald Fisher in 1859
S15/774	Cambridge Branch	Cambridge Branch rail line

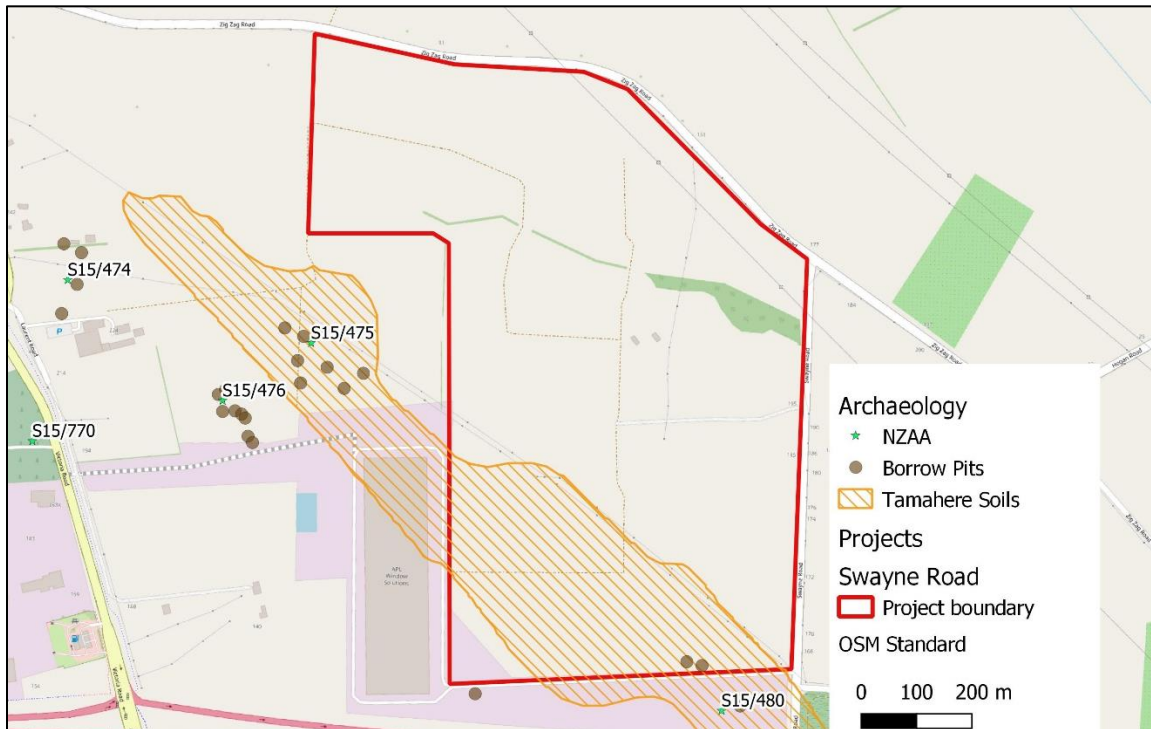


Figure 16: Modern map showing extent of garden soils recorded in 1935 (Tamahere Soils) and associated borrow pits.

6.2. SURVEYS & INVESTIGATIONS

No records were found of the Project footprint being the subject of archaeological survey, assessment, or investigation, prior to the current phase of work.

Gumbley and Hutchinson (2013) undertook a desktop assessment of the state of the resource of the pre-European Māori garden sites in the Waipā District. They added a large number of traditional horticultural sites to the record including several close to the Project footprint.

Cameron *et al* (2018) undertook an archaeological assessment of Proposed Plan Change 11 of the Bardowie Industrial Precinct. This is the land immediately west of the subject site (Figure 16 and Figure 17). The land contains recorded sites S15/474-476, all traditional gardening sites. Their field survey identified 'the presence of six borrow pits near recorded S15/474 (three were originally recorded), one borrow pit at S15/475 (eight were originally recorded), and none of the four borrow pits recorded as S15/476 were able to be identified' (ibid: 33). The authors state that 'It is noted that a recent soil study indicated that Tamahere soil is not present on Bardowie Farm and that the soil previously classified as Tamahere is actually a Horotiu silt loam with some gravel present.' (ibid: 28), although they do not reference the soil survey report details.

A review of the digital report library held by HNZPT identified several archaeological reports to the south of the Project (Figure 17). A selection of those undertaken closest to the current development are summarised here.

At 95 Swayne Rd sites S14/421, 422, and 427 were investigated under authority 2014/49 (Gumbley 2018). Site S15/421 included three borrow pits, an area of gardening soil and fireplaces and postholes. Site S15/422 contained four borrow pits and similar features and deposits to S15/421. Site S15/427 also had borrow pits and garden soils along with a large number of European features, mainly post holes associated with a house and piggery (Gumbley 2018: 45-51).

Several nearby sites were investigated as part of the Waikato Expressway project under authority 2013/55 (Figure 17). At site S15/480 two borrow pits were identified along with gardening soils, bin pits and fire scoops (Campbell and Hudson 2014:82). Further details on this site are discussed above as this site appears to continue into the Project footprint.

S15/478 and S15/479 provided no evidence of archaeological features or deposits was found (Campbell *et al* 2016:78). S15/324 comprised seven borrow pits, 20 fire scoops and eleven pits and several small structures indicated by the presence of postholes (Campbell and Hudson 2014 :37-38). Obsidian flakes were also recovered (ibid.: 59).

There was no visual evidence of the two depressions seen at the southern boundary of the project identified from the LiDAR image (Figure 14, and Figure 18). The third anomaly, just north of these, was apparent as a c.0.5m oval depression (Figure 19).

Hand auguring was undertaken at intervals across the extent of the Tamahere soils identified on Figure 16 and close to the potential borrow pits. These were undertaken to determine the soils profiles and assess if modified garden soils are present. All results suggest an intact soil profile consisting of c. 30cm topsoil overlaying ash-fall silts. In six of the 37 augur holes inserted there was possible evidence for modified soils, although this remained inconclusive (the locations are mapped in Figure 20). Auguring did not identify the presence of the two depressions to the south, the northern depression was augured to a depth of c.50cm and continued to comprise of fill below this depth.

At the time of the site visit geotechnical test pits were being excavated across the property. Where open, these were examined for the presence of archaeological material and to determine soils profiles. No archaeological evidence was identified in these pits.



Figure 18: Image looking east across southern boundary.



Figure 19: Image of northern depression

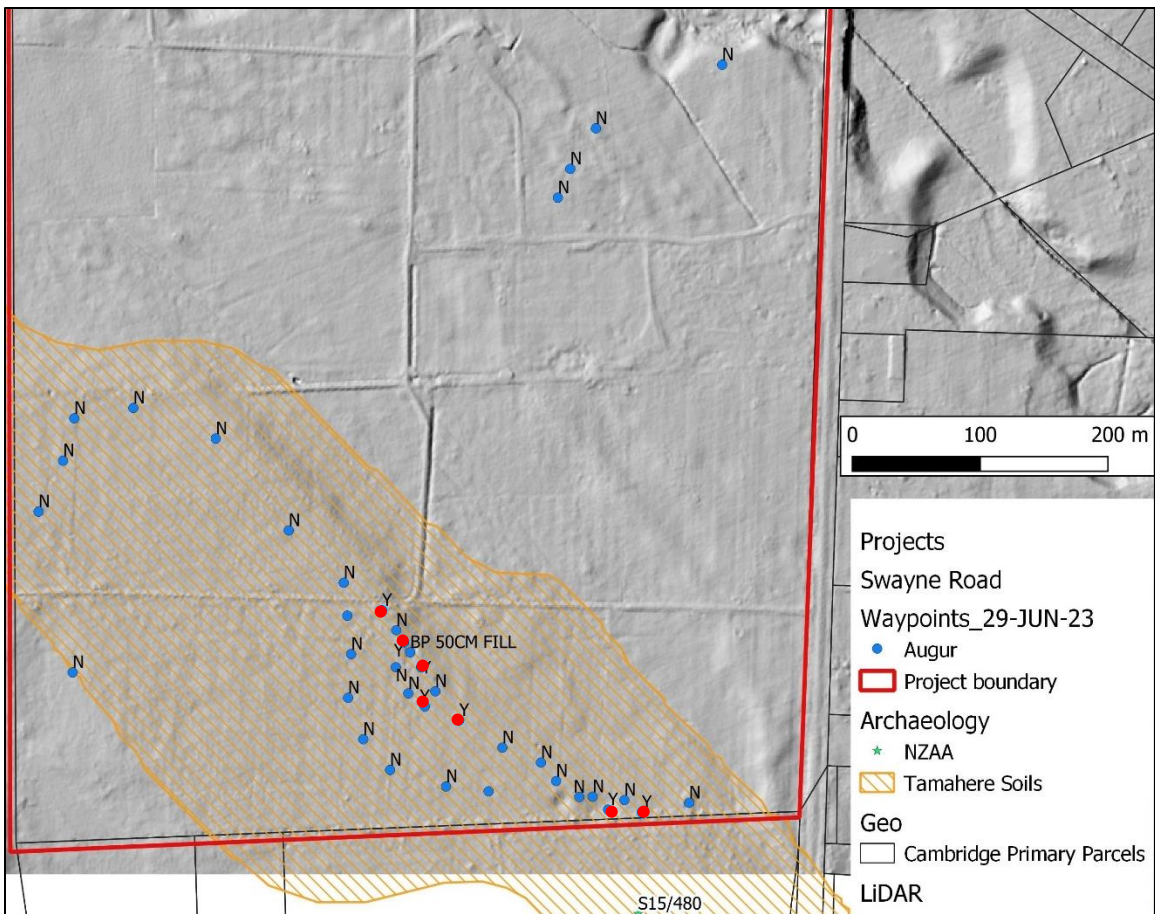


Figure 20: Location of augur points. Those shown in red tested as possible garden soils.



The location of each of the three dwellings identified on the early aerial image (Figure 13) was surveyed. The most easterly dwelling close to Swayne Rd is still present. This is a c.1920s-1930s house (Figure 21). The only notable architectural feature is that it has two front doors, there are later additional to the rear of the property.

Figure 21: Eastern most dwelling c.1920s-1930s.

The central dwelling is no longer present, the land here is slightly hummocky. Historic midden is visible in the exposed soils of the farm race. This includes brick, ceramic and glass. From the artefact observed, all appeared to be 1920s-1940s (Figure 22).



Figure 22: Looking north across the location of the central pre-1939 dwelling, and below, a collection of the historic midden.

The western most dwelling is no longer present and there is no evidence for a building here (Figure 23), except for a section of iron water pipe identified on the surface.



Figure 23: Looking west over the across the location of the western pre-1939 dwelling.

The deeply cut and open field drains are stated to have been established during James Taylor's tenure (Rowarth & Wells 2005). However many are fenced and holding water, so it is clear that at least some of these are subject to regular maintenance and therefore unlikely to hold any significant archaeological value (Figure 24).



Figure 24: Images of cut drains, unmaintained to the left, and maintained to the right.

8. SUMMARY OF EVIDENCE

A portion of S15/480 appears to continue into the southern boundary of the Farm. Tamahere soils have been recorded here, and three anomalies are visible on the LiDAR data. Only one of the depressions is visible in the field. This depression may be a borrow pit, however further investigative work would be necessary to confirm (i.e. excavation).

The site visit did not confirm the presence of garden soils, although six of the augers showed potential garden soils. This may be due to subsequent farming on the site. Of note much of the area identified as Tamahere soils from Grange *et al* (1935) provided no evidence for gardening, the comment from Cameron *et al* (2018) indicating that a recent soil survey re-classified the soils present on the adjacent block from Tamahere soils to gravelly Horotiu soils, may also be pertinent in this instance.

The historic plans and records suggest that RJ Lamb had a dwelling on this site, or close by. There is a dwelling shown from 1939 in the approximate location of the 1872 Chitty farm plan, and Lamb's name is indicated on the 1874 sketch plan. The field evidence for this dwelling was limited to a metal water pipe.

Field drains, commenced in the 1800s, are present on the land, however it is unlikely that they are intact after some 150 years of subsequent clearing and use. Figure 25 is a plan showing the approximate extent of S15/480 and the location of the possible Lamb dwelling.

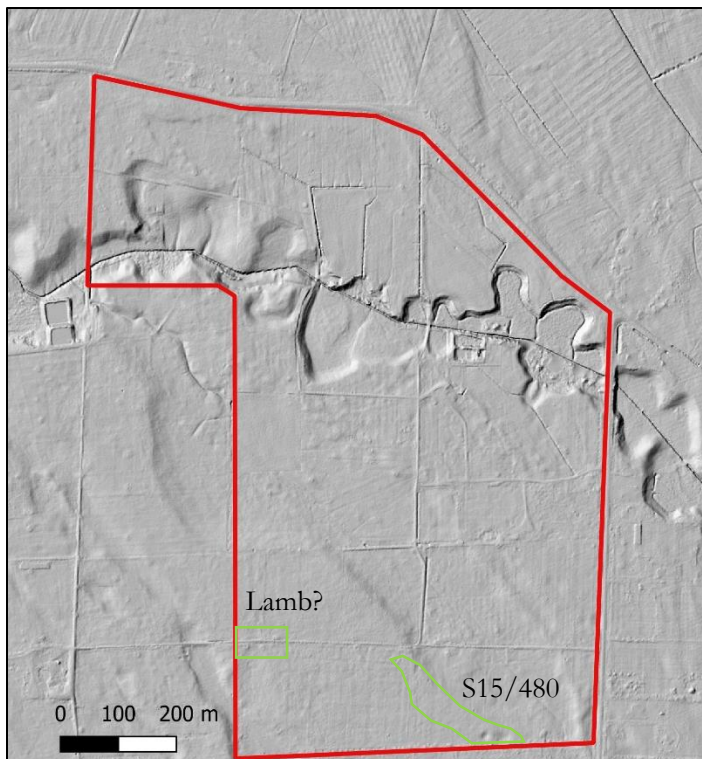


Figure 25: Archaeological Constraints Map

9. CONSTRAINTS AND LIMITATIONS

This report is an assessment of the impacts of the proposed Farm Plan Change 14 proposal on historic heritage, focused on pre-1900 archaeological values. There are no statements on cultural significance nor are the views of tangata whenua represented in this report.

Statements are made as to the location and nature of recorded archaeological sites and their archaeological values. The archaeological information is derived from both published material including the HNZPT Digital Archaeological Report Library and NZAA ArchSite Database as well as information from archaeologists who have undertaken research and HNZPT authority work in this part of the Waikato.

Archaeological site location data should be regarded as a guide only as the locational accuracy of archaeological sites recorded in ArchSite is variable. Accuracy for some recorded sites is only to 100 m grid squares and many of these have been recalculated from earlier 100 yard coordinates which can increase the location error. Those sites that have not been recorded accurately are indicated on the ArchSite maps with a square and are only accurate to within, at best, 100 m of the actual site location. Archaeological sites that have been visited since the advent of GPS may have more accurate recorded locations. The full extent of recorded sites is often not known and the single point coordinate provided by ArchSite is often based on only the visible surface archaeological remains. This does not necessarily represent the true subsurface extent of archaeological sites as defined in the HNZPTA, as most archaeological remains lie below the ground surface.

10. ASSESSEMENT OF HISTORIC HERITAGE / ARCHAEOLOGICAL VALUES

10.1. DISCUSSION OF VALUES

The Waikato Regional Policy Statement (RPS), and the Waipā District Plan identify several criteria for evaluating the significance of historic heritage places. In addition, Heritage NZ, has provided guidelines setting out criteria that are specific to archaeological sites. These sets of criteria have been used to evaluate the value and significance of archaeological site S15/480 and the potential Lamb dwelling.

10.2. ARCHAEOLOGICAL VALUES (HNZPT)

The following is an assessment of archaeological values of S15/480 based on the criteria required by HNZPT, it is assumed that at least a portion of this site continues into the Farm:

- *Condition:* Unknown, but likely the ground has been modified as two of the LiDAR anomalies are not visible. There are no visible borrow pits in general area of the depressions visible on the LiDAR, and auguring here did not relocate these features, it is likely that whatever the nature of these is, they have been infilled. The large visible depression may be a borrow pit, however it was not possible to confirm this from auguring. The land has also probably been ploughed which can mask evidence for garden soils. Only possible garden soils were identified in six of 37 augurs holes inserted.
- *Rarity:* Traditional gardening sites comprising of borrow pits and modified garden soils are a common features of this landscape, and many such sites have been investigated north of Cambridge over the last 10 years.

- *Contextual Value:* Traditional gardening sites such as S15/480 are part of a vast pre-European Horticultural landscape stretching along the Waikato River from Meremere to Arapuni. These sites would have been associated with the many pā sited along the banks of the river and in the surrounding hills.
- *Information Potential:* This is dependent upon the condition of the underlying archaeological evidence. S15/480 site has also been investigated, at least in part, as part of the Waikato Expressway. It is unlikely that what remains of this site within the Farm boundary will provide archaeological data which deviates from what was already uncovered.
- *Amenity Value:* There are no known amenity values associated with this land.
- *Cultural Associations:* This is left for affected iwi to determine.

The following is an assessment of archaeological values of potential for the Lamb property to be present within the subject site based on the criteria required by HNZPT:

- *Condition:* Unknown/ subsurface.
- *Rarity:* Whilst it is clear that there were European dwellings peppered through the wider Cambridge area from the 1860s, there is little in the archaeological record documenting this time period. Dwellings were sparsely distributed in the 1860s and 1870s, and their relocation and investigation by archaeological methods is not well represented in the archaeological database. Should the remains of the Lamb dwelling be present within the subject site it should be considered relatively rare for the archaeological record in the Cambridge area.
- *Contextual Value:* The Lamb property is related to the post-1864 military occupation and soldier-settler period of Cambridge, and the onset of European farming.
- *Information Potential:* There is opportunity to expand our understanding of the 1864-1880s European occupation of the 50-acre farm blocks. The social history can be ascertained from the material culture left behind, and the style, size and materials used in relation to early dwellings.
- *Amenity Value:* There are no known amenity values associated with this land.
- *Cultural Associations:* This is left for affected iwi to determine.

10.3. HISTORIC HERITAGE VALUES (RMA)

The following is an assessment of Historic Heritage values based on the RMA definitions. Should there be heritage material present the following statements on their values may be considered:

- *Archaeological:* Refer to Section 10.2.
- *Architectural:* There is one historic upstanding building present. This is c.1920s-1930s. It is beyond the scope of an archaeological assessment to determine what, if any, architectural values this building holds.
- *Cultural:* This is for tangata whenua to determine.
- *Historic:* With the exception of a WWI training camp somewhere within the Bardowie Estate, there are no known historical events or figures associated within this land.

- *Scientific:* There are no known historical scientific values associated with this land.
- *Technological:* There are no known historical technological values associated with this land.

There are no known historic sites, structures, places, or areas, in the Waipa District Plan within the Farm. It is for tangata whenua to determine if there are sites of significance to Māori, including wāhi tapu, and surroundings associated with the natural and physical resources.

11. ASSESSMENT OF EFFECTS

Dependent upon the nature of future development within the subject site, the proposed rezoning of the Bardowie Farm has the potential to affect a portion of one previously recorded archaeological sites – this is S15/480. Up to three possible borrow pits are visible on LiDAR, and the 1939 soils survey identify modified gardening soils (Tamahere soils) across the lower third of the Farm. Field survey did not relocate two of the depressions visible in the LiDAR, and third, while visible remained inconclusive. The survey also did not confirm that Tamahere soils were present, although six of the 37 augers showed potential garden soils, all of these were close to the location of the depressions.

There is potential for the western most dwelling visible in aerial imagery from 1939, to be the Lamb dwelling visible on sketch plans from the 1870s. This location also corresponds to the soldier Joseph Richard Lamb who was awarded Lot 199 in 1864. The only field evidence for this dwelling is a section of iron water pipe visible on the surface.

Layout plans and design for the proposed future development in this area have not been prepared at present and avoidance of the archaeological sites should be considered in the design of the future development (refer Figure 25). That stated, S15/480 and the potential Lamb dwelling are considered to have limited archaeological value, and if it is not possible that they can be avoided by future development, the effects on the overall heritage values of North Cambridge will be minor.

Effects on the heritage values of the subject site, and wider archaeological landscape, can be mitigated through investigation and reporting under the provisions of the HNZPTA. A programme of archaeological monitoring of topsoil removal should be implemented at the construction phase to determine the presence of archaeological material. Mitigation of archaeological sites and features should be by investigation, recording, sampling, and analysis in line with current standard best practice.

Management of the potential for uncovering any other archaeological material should be detailed in an Archaeological Site Management Plan formed in consultation with HNZPT and affected tangata whenua.

12. CONCLUSIONS & RECOMMENDATIONS

This assessment has determined that there is potential for site S15/480 to continue into the subject site, and that a dwelling probably occupied by JR Lamb from c.1864-1880, is located within the boundary. It is considered that there is potential, albeit minor, that other subsurface archaeological evidence will be uncovered during earthworks within this land. It is therefore recommended that:

- Future development plans should take account of the locations of S15/480 and the possible Lamb dwelling. If either location cannot be avoided, an Authority must be applied for under Section 44(a) of the HNZPTA and granted by Heritage NZ prior to the start of any works that will affect them. (*Note that this is a legal requirement*).

Archaeological Assessment Plan Change 14, Fonterra

- To manage the risk of additional unrecorded sites being exposed during earthworks, and to prevent costly delays should they be exposed, it is recommended that all future development works within the Bardowie Farm be included in the Authority application.
- Further assessment will be required once plans for the future development have been prepared and this report should be updated accordingly.
- Tangata whenua should be consulted regarding the cultural effects of the proposed private plan change and possible future development. This will also be required as part of the authority application.

13. REFERENCES


- Allen, P. 1969. Military Settlement in the Middle Waikato Basin. Thesis presented in partial fulfilment of the requirements for the Degree of M. Phil in Geography. University of Waikato.
- Burtenshaw, M., G. Harris, J. Davidson and F. Leach 2001. Experimental growing of pre-European cultivars of kūmara (sweet potato, *Ipomoea batatas* [L.] Lam.) at the southern margins of Māori horticulture. *New Zealand Journal of Archaeology* 23: 161–188.
- Cameron, E., B. Larsen, and R. Clough. 2018. Proposed Plan Change 11 to The Waipā District Plan – Bardowie Industrial Precinct: Archaeological Assessment. Unpublished report prepared for Bardowie Investments Ltd
- Campbell, M., A. Cruickshank, J. Harris, J. Craig and B. Hudson. 2016. Waikato Expressway, Tamahere-Cambridge Sections: Archaeological Monitoring and Investigations, 2013 and 2014 (HPA Authority 2013/855). Report to Heritage New Zealand Pouhere Taonga, The New Zealand Transport Agency and Opus International Consultants.
- Campbell, M and B. Hudson. 2014. The Thornton Road Pā (S15/66) and the Swayne Road Site (S15/324), Cambridge Section of the Waikato Expressway: Final Report (HPA Authority 2013/55). Report to Report to Heritage New Zealand Pouhere Taonga, Opus International Consultants and the New Zealand Transport Agency.
- Furey, L. 2006. Māori Gardening: An Archaeological Perspective. Science & Technical Publishing, Department of Conservation, Wellington.
- Grange, L.I., Taylor, N.H., Sutherland, C.F., Dixon, J.K., Hodgson, L., Seelye, F.T., Kidson, E., Cranwell, L.M., Smallfield, P.W. 1939. Soils and agriculture of part of Waipa County. *New Zealand Department of Scientific and Industrial Research Bulletin* 76.
- Gumbley, W. 2018. Archaeological Investigation Report: S15/421, S15/422 and S15/427, 95 Swayne Road Cambridge New Zealand. W. Gumbley Ltd report for Transland 2009.
- Gumbley, W. 2021. The Waikato Horticultural Complex: An archaeological reconstruction of a Polynesian horticultural system. A thesis submitted for the degree of Doctor of Philosophy of The Australian National University.
- Gumbley, W., T.F.G. Higham and D.J Lowe. 2003. Pre-European horticultural adaptations of soils in the Middle Waikato Basin: review and evidence from S14/201 and S14/158. *New Zealand Journal of Archaeology* 25, 5-30.
- Gumbley, W and M.G. Hutchinson 2013. Pre-European Māori Garden Sites in Waipā District: An assessment of the state. Hamilton.
- O'Malley, V. 2016. The Great War for New Zealand Waikato 1800-2000. Bridget Willaims Books.
- Stowers, R. and K. Field. 2014. Waipā. Home of Champions. Celebrating 150 Years. Te Awamutu: Waipā Community Charitable Trust.
- Trotter, M. and B. McCulloch 2001. Once were borrowers. *Archaeology in New Zealand* 44(3): 206–214.

Other Sources

ArchSite – NZAA database of recorded archaeological sites
LINZ Historic Survey Plans (Quickmaps)
Retrolens.co.nz
Landcareresearch.co.nz

14. APPENDIX

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: S15/480</p>
	<p>SITE TYPE: Maori horticulture</p> <p>SITE NAME(s): Swayne Road North</p> <p>DATE RECORDED: 23/03/2012</p>

SITE COORDINATES (NZTM) Easting: 1817269	Northing: 5805970	Source: Site Record Form
---	--------------------------	---------------------------------

IMPERIAL SITE NUMBER:	METRIC SITE NUMBER:
------------------------------	----------------------------



Finding aids to the location of the site
 The site is next to the Swayne Road over bridge as part of the Cambridge section of the Waikato Expressway. It was located opposite the intersection of Appleby Road.

Brief description
 3 borrow pits in an area of 70 x 50 m, visible on aerial photo SN266/834/64. Several pits and fire scoops were also found during investigations.

Recorded features
 Borrow pit

Other sites associated with this site

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/480
<p>Site description Updated 03/08/2016 (other), submitted by ardencruickshank Grid reference (E1817269 / N5805970)</p> <p>A borrow pit cluster at Swayne Road was originally recorded in the SRS by Neville Ritchie in 1993. Ritchie noted that a group of eight borrow pits were located to the west of Swayne Road, opposite the Appleby Road intersection. Six of the borrow pits were located in a grazed paddock; while the remaining two borrow pits were located to the north of the main cluster in a kiwi fruit orchard. The six southernmost borrow pits were investigated as site S15/324 and are discussed in Campbell and Hudson (2014). The two remaining pits were recorded as a separate site (S15/480) and are reported here.</p> <p>In addition to the two borrow pits, there were a number of pits and firescoops found in the area. It had been heavily modified through orcharding.</p> <p>See final report: Campbell, M., A. Cruickshank, J. Harris, J. Craig and B. Hudson. 2016. Waikato Expressway, Tamahere-Cambridge Sections: Archaeological Monitoring and Investigations, 2013 and 2014 (HPA Authority 2013/855). Unpublished Report to Heritage New Zealand Pouhere Taonga, The New Zealand Transport Agency and Opus International Consultants.</p> <p>Site extent is approximate only, and roughly shows the area that was heavily modified for the sand quarry</p> <p>Updated: 23/03/2012 - NZTM E1817269 / N5805970 (On Screen). 3 borrow pits in an area of 70 x 50 m, visible on aerial photo SN266/834/64. Aerial photo dates from 1943. The site has not been visited and its current condition has not been ascertained. Updated by: Campbell, Matthew.</p> <p>Condition of the site</p> <p>Statement of condition</p> <p>Current land use: Updated: 29/08/2016 - Road reserve</p> <p>Threats: Updated: 29/08/2016 - Road/ track formation or maintenance, Services/ utilities, Quarrying</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/480
------------------------------	----------------------------------

Supporting documentation held in ArchSite

View west of Feature 503, borrow pit prior to trenching.



Printed by: siankeith

30/05/2023

3 of 3