

**Memorandum: Gordonton Retirement Village – Archaeology**

To: Cameron Smith, Wayne Barlow, Graham Bishop. (Cc: Rebecca Shaw)

From: Dr Warren Gumbley.

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**Project Description**

The proposed project for which a fast-track application under the **Heritage New Zealand Pouhere Tainga Act 2014** is being applied for is the consenting of:

- The construction of a retirement village comprising of 659 residential units, cafe, apartment style accommodation and health care provisions.
- Roading, pedestrian, cycling infrastructure associated with the retirement village
- Water, wastewater and stormwater infrastructure associated with the retirement village
- Disturbance of earthworks associated with the retirement village
- Water Take Permit
- Water Discharge Permit

The purpose of this project is to establish a retirement village/estate which has a point of difference to reflect the rural values and attributes of the site and surrounding locality and to provide much needed aged care living for the Waikato District & Region. The project shall include grazing land in and around the site to break up what would be the typical perception of a retirement village. An additional point of difference is also ensuring the site provides connectivity with the village of Gordonton through pedestrian walk ways and/or cycle ways.

The project shall create a unique village/estate style layout with 7 or so 'clusters' of housing. Each cluster is intended to be of approximately 6Ha and having a density of approximately 15 -20 units per hectare (approximately 120 housings/ units per cluster).

It is intended to provide on-site amenities/ facilities including a communal facility with the main centre offering typical village amenities, cafe, apartment style accommodation and further health care provision. Provision of infrastructure will all be managed on site.

The proposed site is of irregular shape and is approximately 66.55Ha comprised in one record of title 676234 legally described as Lot 3-4 Deposited Plan 328606 and Lot 2 Deposited Plan

481700. The site has a relatively flat topography. Remnant forest vegetation occupies fragments of the site comprised within a small grove dominated by kahikatea (*Dacrycarpus dacrydioides*) with other native species present such as lemonwood (*Pittosporum eugenoides*), tī kōuka (*Cordyline australis*) and pōhuehue (*Muehlenbeckia australis*). The grove of remnant forest vegetation within the site is not marked as a Significant Natural Area (SNA) on current operative plan maps.

The site has approximately 3.8 km of stream habitat. There are seven artificial watercourses with a combined length of approximately 2.6 km and five modified watercourses with a total length of approximately 1.2 km. The site is identified to have a stream/ water body running along the west boundary adjoining with the Gordonton village identified as the Komakorau Stream.

The site is zoned as 'Rural' under the Waikato Operative District Plan (ODP) and General Rural Zone under the Waikato Proposed District Plan – Appeals Version (PDP-AV). The site adjoins Gordonton Primary School to the north also identified as Designation C31 under the ODP and Designation MEDU-29 under the PDP-AV. The site is also applicable to a Site of Significance to Māori (item 284) which is detailed to be the Otaahua Pā and is described as a Pā site with shallow ditch, depressions and a small terrace.

### **Archaeological Background**

Two archaeological sites are recorded in the national archaeological site recording scheme within the project area. These are S15/211, a pa, and S14/443, a Māori horticultural site.

S14/211 was originally recorded in 1999 based on evidence from a 1948 aerial photograph<sup>1</sup>. The photograph shows the pā located on the eastern side of the Komakorau Stream, at a junction with a tributary gully and sited on a small, broad promontory extending from the upper terrace. The pā was defended by a ditch and the junction of the promontory and the main terraces. A number of depressions representing crop storage pits are also visible in the photograph.

S14/443 was recorded in 2016 based on data derived from 2012 aerial photographs and 2008 LiDAR data. It should also be noted that the imagery attached to the file also includes polygons showing the extent of Tamahere loam tracts drawn from digitised soil survey maps. The site record identifies that S14/443 is part of a larger concentration of 31 borrow pits on the eastern side of the Komakorau Stream. S15/443 records five borrow pits: two adjacent borrow pits to the south of the pā (S14/211) and three to the north of the tributary stream.

Historical maps and plans of the area show no features that may represent archaeological sites within the development area.

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<sup>1</sup> SN525/1572/13, flown 10 June 1948.

A review of aerial photographs (including Google Earth images) shows the borrow pits noted above. These photographs also show that the pā has been affected by a sand quarry, which appears to have destroyed it.

These sites are part of the Waikato Horticultural Complex, a distinct array of archaeological sites found in the Middle and Lower Waikato Basins. These horticultural sites are characterised by manufactured soil environments where coarse material (sand and gravel) is quarried by Māori from the substrate and applied to create enhanced environments for cultivating kūmara and taro.

## **Site Investigation**

### Method

A pedestrian survey of the areas where the pā and borrow pits were identified was carried out. This survey focused on the areas close to the Komakorau Stream because this is where the borrow pits visible in the aerial photographs are clustered, along with the pā. This clustering is typical of the distribution of archaeological sites in the inland Middle Waikato Basin, where sites are strongly clustered to waterways and lakes.

The survey also included the use soil augers to identify and map the extent of Māori horticultural soils and gauge their state of preservation. This was supplemented by 15 spade-dug test-pits.

### Results

The destruction of the pā S14/211 was confirmed during the site investigations. The ground surface has been substantially lowered, and the promontory where the pā was located no longer exists. (See attached map.)

Three areas of horticultural soils were identified. Two of these areas (A and C) are relatively extensive and are on the upper terrace adjacent to the scarp leading to the floodplain. The third (B) is a small area located a short distance up the small tributary channel from the pā site.

Area A, which occupies an area of approximately two hectares, includes an extension to the area of made soil identified during the test pit survey.

Area B prodded a small area where the topsoil appears enriched adjacent to the potential BP 4. It should be noted that the large Tamahere loam polygon derived from the Soil Bureau map covers a large area where no borrow pits are apparent, and within this area, an extensive area of farm infrastructure (milking shed, silage bay, tracks and races) has been constructed which would have affected the any made soil that may have been present.

Area C represents another large area of Māori-made soils covering approximately one hectare.

Results from the test pits and soil auger surveys show that modern ploughing has truncated the upper parts of the Māori-made soil unit but that this effect is limited to the upper margins of the made soil. In places, the truncation from ploughing aside, the made soil is well-preserved and may be generally characterised as moderately well-preserved.

### Archaeological Values

As identified above, these sites are characteristic of the Waikato Horticultural Complex. This complex comprises pā and kāinga focused on extensive areas of Māori-made horticultural soils resulting from the addition of large quantities of sand and/or gravel quarried from borrow pits accessing the alluvial substrate. This system represents a significant adaptation of Polynesian horticultural methods to the region's temperate climate.

The Waikato Horticultural Complex as a whole is a nationally significant archaeological landscape.

As well as borrow pits, which are quarried from sand and gravel, the horticultural system is principally characterised by the Māori-made soils noted above. To date, two variants of this 'made' soil have been found, each representing a different but related agronomic process. The archaeological remains of these are called Bowl-Shaped Hollows (BSHs) and Transported Alluvium Layer (TAL).

The term 'bowl-shaped hollow' reflects the in-ground morphology of these features. The hollows are typically 25–40 centimetres in diameter and 20–30 centimetres deep. They are characteristically filled with sand and gravel alluvium quarried from the Hinuera Formation alluvium (C horizon). Occasionally, the remains of digging stick (kō) marks can be found at their base, evident as a 'dimple'.

BSHs are usually found in groups and regularly laid out in parallel rows, in either a grid or quincunx pattern. While the spacing varies, it averages 60 cm between each. BSHs represent the remains of structures for the growing of individual plants. It is inferred that a mound was raised above, and the plants were grown in it, but the mounds have not been preserved. They would have been destroyed to harvest each plant.

The TAL tracts are extensive layers of sand and gravel that are usually 15-25 cm centimetres thick when they have not been significantly modified by modern cultivation. This phenomenon presents as a discrete topsoil unit formed from transported sand and gravel quarried from borrow pits.

As well as the borrow pits and horticultural soils, ancillary features such as drains and crop storage pits are also found along with the remains of seasonal kāinga (domestic occupation sites).

Locally, the archaeology identified within the development area is part of a series of pā and Māori-made horticultural soils extending along the banks of the Komakorau Stream in the area of Gordonton, which forms part of a cultural landscape in the upper Komakorau Stream catchment associated with the migration and settlement of Ngāti Wairere into this area.

Given that the pā S14/211 is destroyed, no archaeological values can be ascribed. The horticultural sites have moderate archaeological values and may inform us about aspects of the migration of Ngāti Wairere and the horticultural practices the migrants employed in this area.

### Effects on Archaeological Values and Recommendations

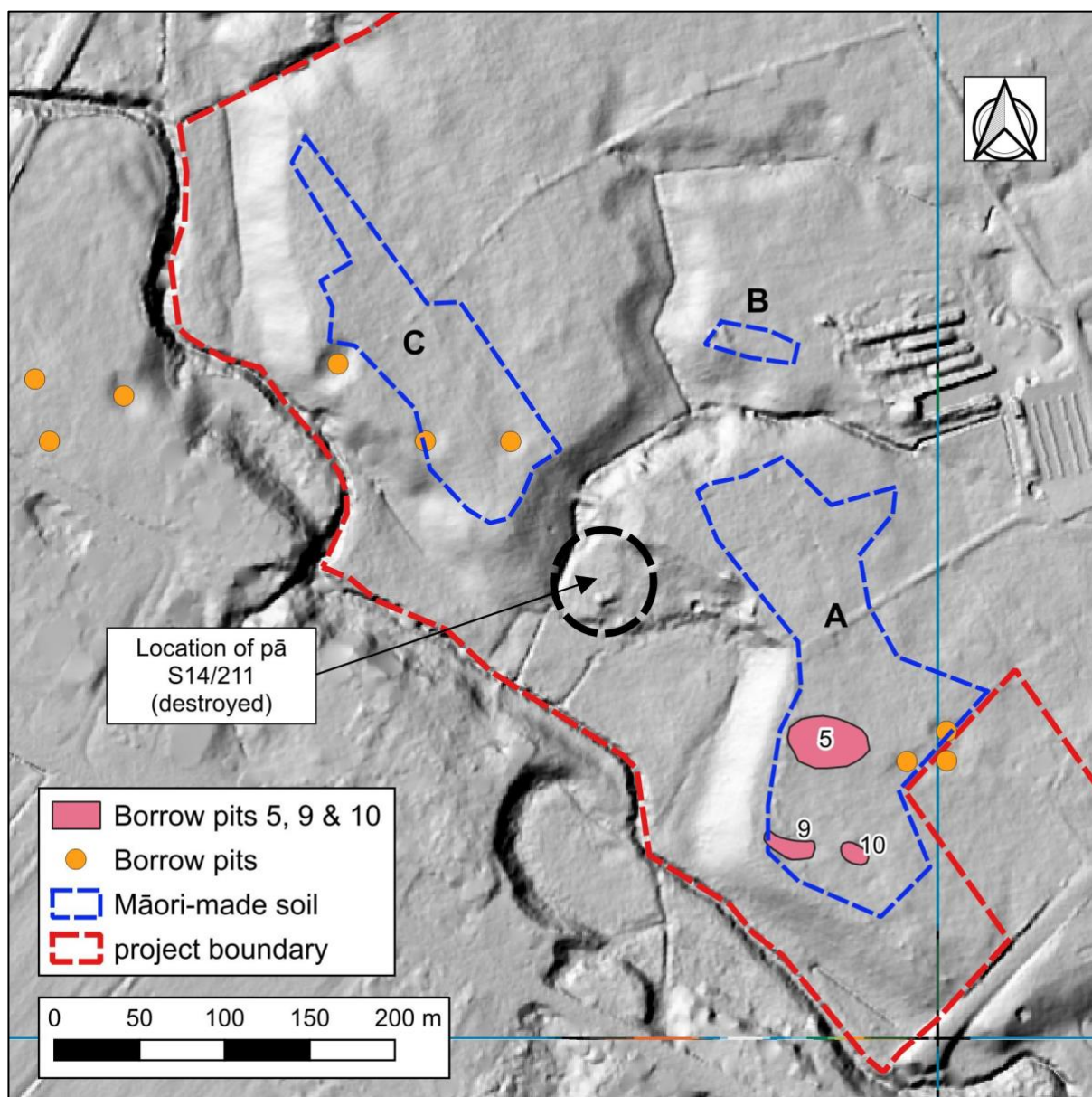
The Māori-made horticultural soils and their associated archaeology will be generally affected by development activities, particularly earthworks. Nonetheless, there is an opportunity to preserve elements of the horticultural remains. Preferably, this should involve both borrow pits and the surrounding Māori-made soils. In this case, the focus should be on the large borrow pit 5 identified in the assessment report, the two nearby borrow pits, and surrounding Māori-made soils (see attached map). This would provide an opportunity to interpret the archaeology and the surrounding cultural landscape. Consultation should be undertaken with Ngāti Wairere on this.

Any preserved area could form part of the amenity area adjacent to the Komakorau Stream, and it should be maintained in grass to help preserve the archaeology.

Otherwise, mitigation of the adverse effects will normally involve archaeological investigations prior to development commencing. This will typically be required as a condition of the Heritage New Zealand Pouhere Taonga Authority.

### **Conclusions**

With the exception of the destroyed pā (S14/211), the archaeology within the project area appears to be moderately well preserved and is assessed as having moderate archaeological values. The remaining archaeology is entirely associated with Māori horticultural activity. Heritage New Zealand Pouhere Taonga would normally grant an authority to destroy or modify archaeological sites of this nature conditional on archaeological investigations of the archaeology before destruction. There is no reason to believe that these sites would be an exception. In addition, it is also recommended to preserve 1-3 borrow pits and some associated Māori-made horticultural soils within the stream-side amenity area. This action would be consistent with good practice and an expectation from HNZPT for a representative area of archaeology to be preserved where possible.



Map showing the locations of archaeological identified archaeological features within the development site.