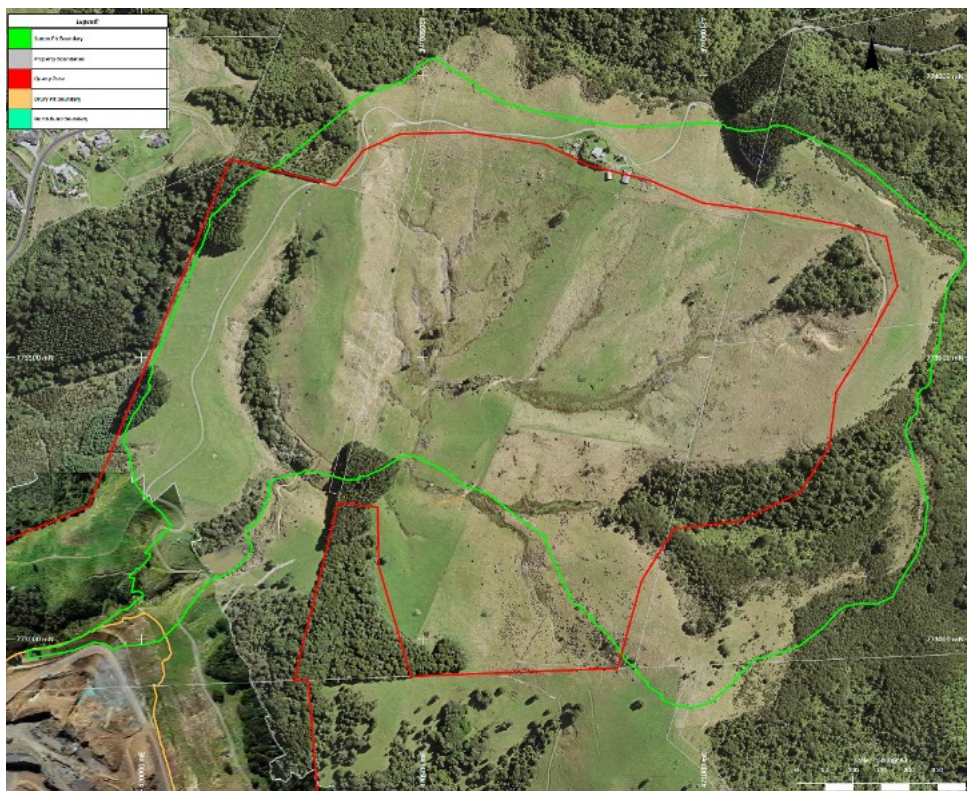


DRURY QUARRY EXTENSION, SUTTON PROJECT, DRURY, AUCKLAND: ARCHAEOLOGICAL ASSESSMENT

Prepared for Stevenson Aggregates Ltd

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By

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INTRODUCTION

Project Background

Stevenson Aggregates Ltd (SAL) is proposing to expand mineral extraction of the existing Drury Quarry (previously Stevenson's Drury Quarry) on the eastern side of State Highway 1 (SH1), south of Papakura and Drury in the Auckland region (Figure 1). The Drury Quarry is a regionally significant source of greywacke aggregate associated with Ballard's Cone, an old eroded volcanic cone on the Hunua Fault (Bombay Basalts). The proposed expansion to the current quarry pit will be directly north-east into what is known as the Sutton Block.

An archaeological assessment was commissioned by Stevenson to establish whether the proposed work is likely to impact on archaeological or other historic heritage values. This report has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

Project Description

SAL Drury Quarry is located in Drury, within the Auckland Region, and has been in operation for over 80 years. Drury Quarry is a greywacke hard rock quarry supplying concrete, asphalt and roading aggregate to the Auckland market. The Drury Quarry pit is located within the wider landholdings owned by SAL which encompasses an area of approximately 562ha. This landholding includes quarry activities, a clean fill, farmland and large swathes of native vegetation.

Based on current demand estimates, the existing pit will provide approximately 20 years of aggregate supply to Auckland. To continue to provide a local supply of aggregate resource SAL proposes to develop a new pit within the existing site, called the "Sutton Block". The Sutton Block pit has been designed to provide approximately 240 Million Tonnes of additional aggregate to supply the market.

The Sutton Block is located to the northeast of the existing pit. The development of the Sutton Block will involve the staged development of an area of approximately 108 ha to a maximum pit depth of approximately RL -60 m. The overall site layout, including staging plans, is shown on drawings SSQ_23_404, rev: 02 in Appendix C attached to the Assessment of Environmental Effects (AEE) report. The Sutton Block is designed to be a separate quarry pit although it will be serviced by the existing Drury Quarry ancillary site infrastructure and facilities. These include the "Front of House (FOH)" activities such as the weigh bridge, processing plant(s), storage bins and stockpile area, the lamella, staff facilities etc.

It is anticipated that as the existing Drury Quarry pit nears the end of its life and reduces aggregate extraction, the Sutton Block pit will increase its aggregate extraction. This will ensure a continuous aggregate supply to the market.

To enable the development of the Sutton Block, and support the extraction of aggregate, the project will also include the construction of road infrastructure to establish haul road access, overburden removal, stockpiles including bunding; and supporting infrastructure, and construction of a conveyor belt connecting the Sutton Block pit to the existing Drury

Quarry FOH area. The works will also require stream diversions, stream reclamation, wetland reclamation, vegetation removal and mitigation offset. The Sutton Block will generally be developed in the following five stages:

Stage 1 – Infrastructure establishment (three-year plan)

The initial stage of work (Years 1 -3) involves the construction of the roading infrastructure required to access the site, draining of the existing farm dam to establish a sediment retention pond, associated stream diversion, initial offset planting, commencement of overburden removal, stockpiles (including bunding), and establishment of the conveyor system. Figure 2 below shows the extent of Stage 1.

Stage 2 -Operating Quarry (15- year plan)

The second stage of work is the 15- year plan which involves the commencement of quarrying within the interim pit boundary. Whether the interim pit commences within the west or east of the pit boundary will be determined by market demand for blue or brown rock. Regardless, expansion of the pit will be incremental, deepening and widening as resource is extracted. Internal pit roads will be constructed as the pit expands. Offset planting and weed and pest control will continue. (Figure 3).

Stage 3 – Operating Quarry (30-year plan)

The third stage of works is further expansion of the interim pit boundary. Like Stage 2, the direction of the expansion will depend on market demand. However, in indicative staging plan shows the expansion of the pit to the east. During this stage of the works, the expansion of the pit will be incremental, widening and deepening as resource is extracted. Internal pit roads will be constructed as the pit expands (Figure 4).

The works involved in Stage 3 will generally include the same activities as Stage 2.

Stage 4– Operating Quarry (40-year plan)

The fourth stage of works is a further expansion of the interim pit boundary. Like Stage 3, the direction of the expansion will depend on market demand. However, in indicative staging plan shows the expansion of the pit to the east. During this stage of the works, the expansion of the pit will be incremental, widening and deepening as resource is extracted. Internal pit roads will be constructed as the pit expands (Figure 5).

The works involved in Stage 3 will generally include the same activities as Stage 2.

Stage 5- Life of Quarry Plan (50-year plan)

The fifth stage reflects the full extent of the quarry pit over an approximate 50-year period. As with Stage 4, expansion of the pit will be incremental, deepening and widening as resource is extracted. The indicative staging plans show the pit expanding to the north and east. During this stage, the temporary northern bund will be removed. Internal pit roads will be constructed as the pit expands (Figure 6).

Table 1. shows the area of earthworks proposed to be open (in hectares) within each stage of the project.

Table 1. Stage 1 – 5 earthworks (approximate open area in hectares)

Quarry Stage	Approx. Timeline	Approx Pit Floor (m, RL)	Quarry Stage Area (ha)
Stage 1 (infrastructure establishment)	3 years	135	11
Stage 2 (operating quarry)	15 years	90	29.4
Stage 3 (operating quarry)	30 years	60	54.2
Stage 4 (operating quarry)	40 years	-60	87.6
Stage 5 (LOQ)	50 years		108

Methodology

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Auckland Council's Cultural Heritage Inventory (CHI), AUP OP schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rāangi Kōrero were searched for information on sites recorded in the vicinity. Literature and archaeological reports relevant to the area were consulted (see Bibliography). Early survey plans and aerial photographs were examined for information which might indicate the location of unrecorded archaeological sites, and for information on past land use which may have affected the potential for site survival.

A visual inspection of the property was conducted on 17 December 2021, 20 April 2022, 20 September 2023 and 27 November 2024. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape relating to Māori settlement, or indications of 19th century European settlement remains). Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy. Subsurface testing with a probe and spade was carried out to determine whether buried archaeological deposits could be identified or establish the nature of the stratigraphy or possible archaeological features. Particular attention was paid to the spur and ridge lines/creek banks (topographical features where archaeological sites are often found to be located). Sites were photographed and GPS readings taken.



Figure 1. The location of the Drury Quarry, Drury – Auckland (source: Google Maps)



Figure 2. Plan view of the proposed Sutton Development - Drury Quarry Expansion Stage 1 extent (outlined in bright green) with northern bund (source: Stevenson)



Figure 3. Plan view of the proposed Sutton Development - Drury Quarry Expansion Stage 2 extent (outlined in bright green) with northern bund (source: Stevenson)



Figure 4. Plan view of the proposed Sutton Development - Drury Quarry Expansion Stage 3 extent (outlined in bright green) with northern bund (source: Stevenson)



Figure 5. Plan view of the proposed Sutton Development - Drury Quarry Expansion Stage 4 extent (outlined in bright green) with northern bund (source: Stevenson)



Figure 6. Plan view of the proposed Sutton Development - Drury Quarry Expansion Stage 5 Life of Quarry (outlined in bright green) (source: Stevenson)

HISTORICAL BACKGROUND

A brief historical background to the Māori and early European settlement of the Te Maketu and Drury area of Auckland is outlined here to provide context to the recorded archaeology of the area.

Māori Settlement¹

The wider area known to Māori as Te Maketu has a rich and dynamic Māori history which involves a number of tribal groups whose mana whenua today is based on the pattern which had emerged by the late 18th century. Documentation of the early land sales provides information on those tribes who had or claimed mana whenua across the District. Murdoch (1990) identified that, at the time of the arrival of the first Europeans in the area, the tribal groups in occupation traced their ancestry back to the Tainui waka, and were all part of the tribal confederation known as Te Waiohūa and its descendant groups. Today, the descendants of Te Waiohūa tangata whenua of Te Maketu are: Ngāi Tai, Ngāti Tamaoho, Ngāti Pou, Ākitai and Ngāti Koheriki (Ngāriki) (Kirkwood 1989:6).

Te Waiohūa controlled much of Auckland from 1690 to 1750; however, from the mid-to late 1700s conflict with Ngāti Whatua severely impacted the tribe and many members fled the Tāmaki region. Eventually the Ngāti Whatua (Te Taou) who remained in the area and Te Waiohūa agreed upon a truce and cemented this through strategic intermarriage and peace agreements (Murdoch 2011: 13-15; Harris 2014).

The long Māori history of occupation at Maketu is largely due to its strategic position alongside the old Ararimu Track that ran through the Manukau lowlands connecting the Manukau Harbour with the Waikato River. Being one of three overland trails into the Waikato from the Tāmaki Isthmus, this track skirted the Papakura swamp before taking a steep course through forested hills to the Mangatāwhiri Stream. Extensive views of the flat undulating country leading across the Manukau in the north-west and to the Bombay Hills in the south-west gave this location its distinct strategic advantage (Clarke 1983:263).

The volcanic soils of this area were also attractive to Māori for settlement and the cultivation of crops because they were fertile, dry and warm, and therefore ideal for the cultivation of tropical and warm-temperate cultivars, such as kumara (Lawlor Jul 1989). This is in contrast to the adjacent clay soils derived from mudstones and sandstones (Waikato Coal Measures) and the basal deposits of sandstones and siltstones (Waipapa Group Greywacke), which were not fertile.

Four pā were built at different times on four of the area's volcanic cones and outcrops and form part of the Te Maketu complex. The most ancient pā were probably Kaarearea Pā on Ballard's Cone (within the Stevenson Quarry Zone) and Peach Hill Pā. Closer to the Maketu Cemetery on Pratts Road was Ōpaheke Pā and the Maketu Cemetery Pā, both possibly built in the 1800s.

¹ While based on reliable documentary sources, this information should not be viewed as complete or without other context. There are a large number of iwi historically associated with the Auckland region and many other histories known to tangata whenua.

Known to Europeans as Ballard's Cone, the tangata whenua of Te Maketu also refer to this site as Kaarearea and 'Old Maketu Pa'. They believe this cone was occupied well before Te Waiohū at Te Maketu and that it was the tribal area of Ngāriki (Kirkwood 1989a:10).²

Carman Kirkwood, speaking on behalf of tangata whenua, described Te Maketu settlement area as follows:

'Gardens were in close proximity. Kumara gardens especially on the flats and the sides of the hills was grown by all the hapu. Dwellings scattered between stands of bush. Burial grounds (caves, ledges of hill-sides and contemporary earth burials) are in the region of the various hapu.

Covering an area approximately over half a mile. From the north of what we call old Maketu Pā (Stevenson's Quarry) encompassing an area south to almost Ararimu Road. This is the area known to our people as Te Maketu.

It could be compared to a very small town, but commonly called today in total a Papakāinga. Long ago each cluster of dwellings was a pā in its own right and these pā were sparsely laid out over a wide region' (Kirkwood 1989a:6).

The Ngāpuhi raids of the 1820s-1830s depopulated the region, as Hongi Hika advanced onwards through the Thames and Auckland region towards the Waikato. He apparently besieged and attacked Maketu. The attacks of Ngāpuhi united the Manukau and Waikato iwi. By the early 1830s Franklin and Waikato iwi had got hold of European guns through traders and were successfully repelling Ngāpuhi. By 1834 they were once again the dominant force in the Waikato area and iwi from the Manukau lowlands began to move back to their homelands, under the protection of the powerful Waikato chief, Te Wherowhero (Morris 1965 in Mackintosh 2003:4-5).

After the raids Ngāti Tamaoho (Te Ākitai) moved into the area of Te Maketu under the chief Te Tihi, while the Ngāti Pou chiefs returned to Tuakau and Pōkeno. However, most iwi did not reoccupy the old pa, since they were no longer an effective means of defence, but began to cultivate the land on the flat below the pa. By this time European crops were available through traders and missionaries that from the 1830s were increasingly common in the Franklin area (Morris 1965:26).

There were in fact relatively few Māori settlements such as Te Maketu in the Manukau lowlands. This area was perhaps a tribal buffer between the iwi of the Tāmaki Isthmus, Hauraki Gulf and Lower Waikato (Clarke 1983). However, in the 1840s iwi began to claim territory in the Manukau lowlands to cultivate and sell crops to the expanding town of Auckland. Despite complications and disagreements between iwi over ownership of the land, several large blocks were sold to Europeans, including the Pukekohe Block in 1843 (16,000 acres) and the Ramarama Block in 1846 (35,400 acres (Murdoch 1988:109).

By 1860 the Māori of the Franklin area had sold much of their land to the Europeans but still retained fairly extensive areas for their own use, where European methods of farming were adopted. Flourishing settlements had been established at Tuakau, Maketu, Pōkeno, Patumahoe and many other places (Morris 1965 in Mackintosh 2003:7).

² There is confusion over the exact locations of the pā sites known as 'Old Maketu' and 'New Maketu'. For a full discussion see Mackintosh 2003:10.

European Purchase and Settlement

As it had been for Māori before them, Maketu was strategically important to early Europeans because of its location at the junction of major communication routes (Goodliffe and Albert 1982:23-24). The Ararimu Track towards the east linked the Tāmaki Isthmus with the Waikato, via Mangatāwhiri, and the Hauraki Gulf. The high volcanic rock escarpment also provided expansive views of traffic moving north and south from the Manukau Harbour to Pukekohe (Lawlor Jul 1989).

In 1863 the Waikato War changed the fate of Te Maketu. On 11 July 1863 Sir George Grey issued an ultimatum that all Māori in the contested area between Auckland and the Mangatāwhiri River needed to take an oath of allegiance to Queen Victoria or move to the Waikato. Hawira Maki, a Ngāti Pou chief, was the main occupant of Te Maketu at the time and he decided to support the Māori King Te Wherowhero. This decision meant the people of Te Maketu had to sacrifice not only their homes, but also their belongings and gardens and trek across the Waikato.

Franklin District was to play a crucial role in the NZ Wars and new fortifications were erected at Te Maketu as a Māori base. From here raids were carried out on Government forces and workers stationed on the Great South Road, and on European settlers.

In 1865 the area was confiscated by the Crown from Ngāi Tai, Ngāti Paoa and Ngāti Tamaoho hapu of Waiohua iwi (Tainui). The 19,000 acres of confiscated land, including the area today covered by the Stevenson Drury Quarry, was known as the Pōkeno Block (Murdoch 1988:119) (Figure 7 and Figure 8). European farming and settlement began in the Drury/Maketu area in early 1865, when immigrants arrived from Britain and South Africa to settle on allotments surveyed out of the raupatu (confiscation) lands as part of the ‘Special Waikato Immigration Scheme’ (Figure 9). Te Maketu was an important focus of early missionary activity. Many of the South Auckland immigrants were Irish Catholics and the building of a church and school eventuated in the late 1860s within the Te Maketu Historic Reserve (Lawlor Jul 1989).

Not all the land in the area was subdivided, particularly those blocks in the hills, which were larger. In the early years of European settlement in the Franklin region people struggled to establish farms and times were tough. Ultimately, however, the majority of the area was completely cleared of forest (Morris 1965). The areas least affected by farming practices were the basalt intrusions like Ballard’s Cone and Peach Hill, where ploughing was all but impossible. However, a developing flax industry and gum digging alleviated the situation for many settlers. It was during the early European years, that Te Maketu became known as Ramarama.

Project Area

The project area encompasses part Allotments 37, 197, 191, 198 and 199 Block VIII Parish of Hunua to the north of the 5 and 10 acre sections at Maketu. In 1865 it was part of a larger landholding owned by James Farmer. By 1886 there were multiple owners – H. Andrew (Allot 199), E.F. Tole (Allot 197), J. Smith (Allot 37), H. Smith (Allot 191 and B. Warramore (Allot 198) (Figure 10).

More recently the area has been quarried and intensively developed for farming. Stevenson Resources has owned and operated a quarry at Drury since 1939. In the late 1940s discussions with iwi and Stevenson Quarry management saw a portion of Ballard’s Cone (Kaarearea Pa) informally set aside as a wāhi tapu reserve when kōiwi (human remains)

were uncovered during tree felling operations (Lawlor Jul 1989). In 2018 construction firm Fulton Hogan purchased the quarrying and concrete plant assets at Drury Quarry from Stevenson Ltd.

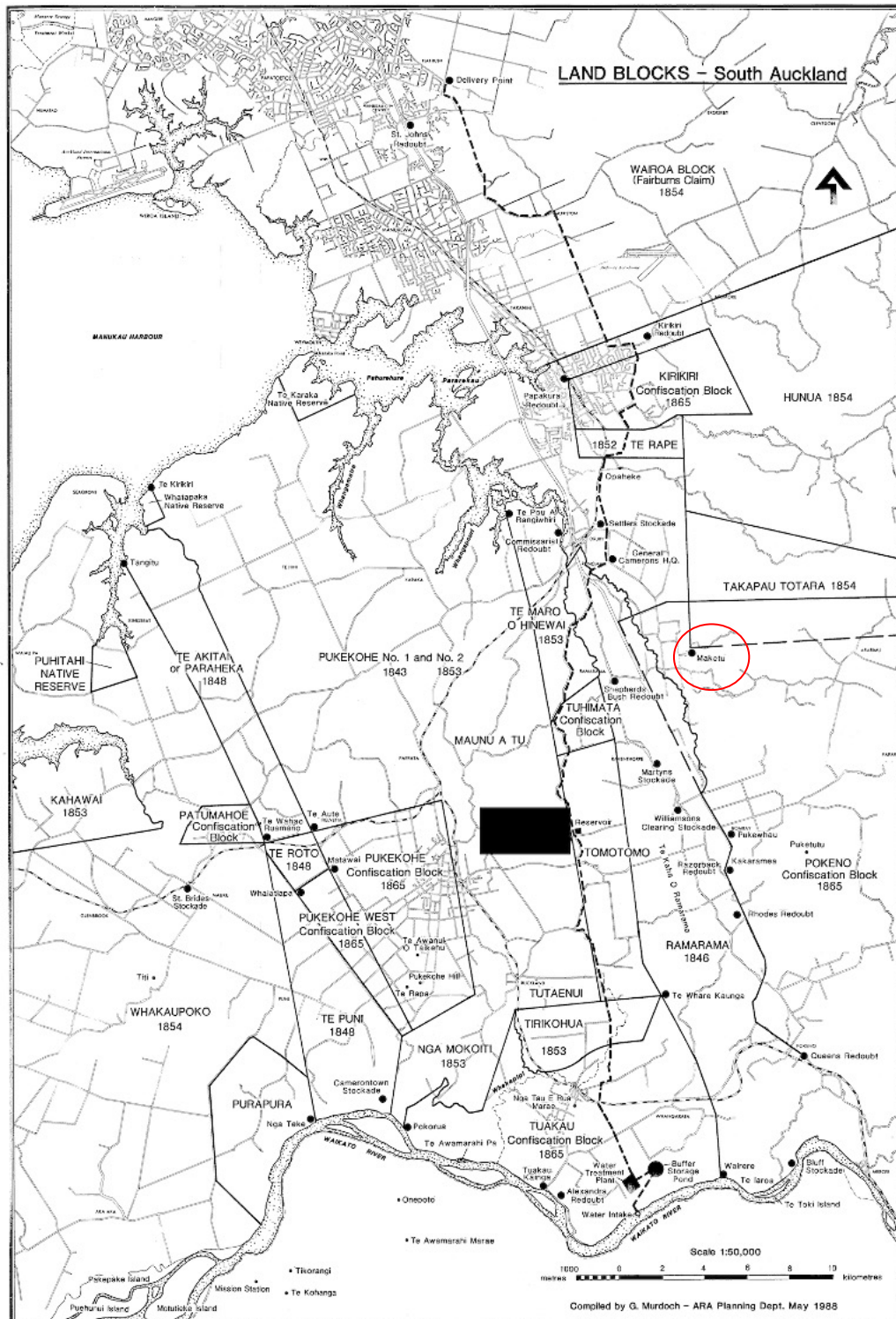


Figure 7. Early land blocks in the Drury area. The location of Maketu within the Pokeno Confiscation Block is circled (source: Murdoch 1988: fig. 14)



Figure 8. Close-up of map of land around the Manukau Harbour, dated 1860, showing subdivided lots in the Drury-Ramarama area. The location of the Sutton Block within the 1865 Pokeno Confiscation block is arrowed (source: Auckland Libraries Heritage Collections, Map 4450)

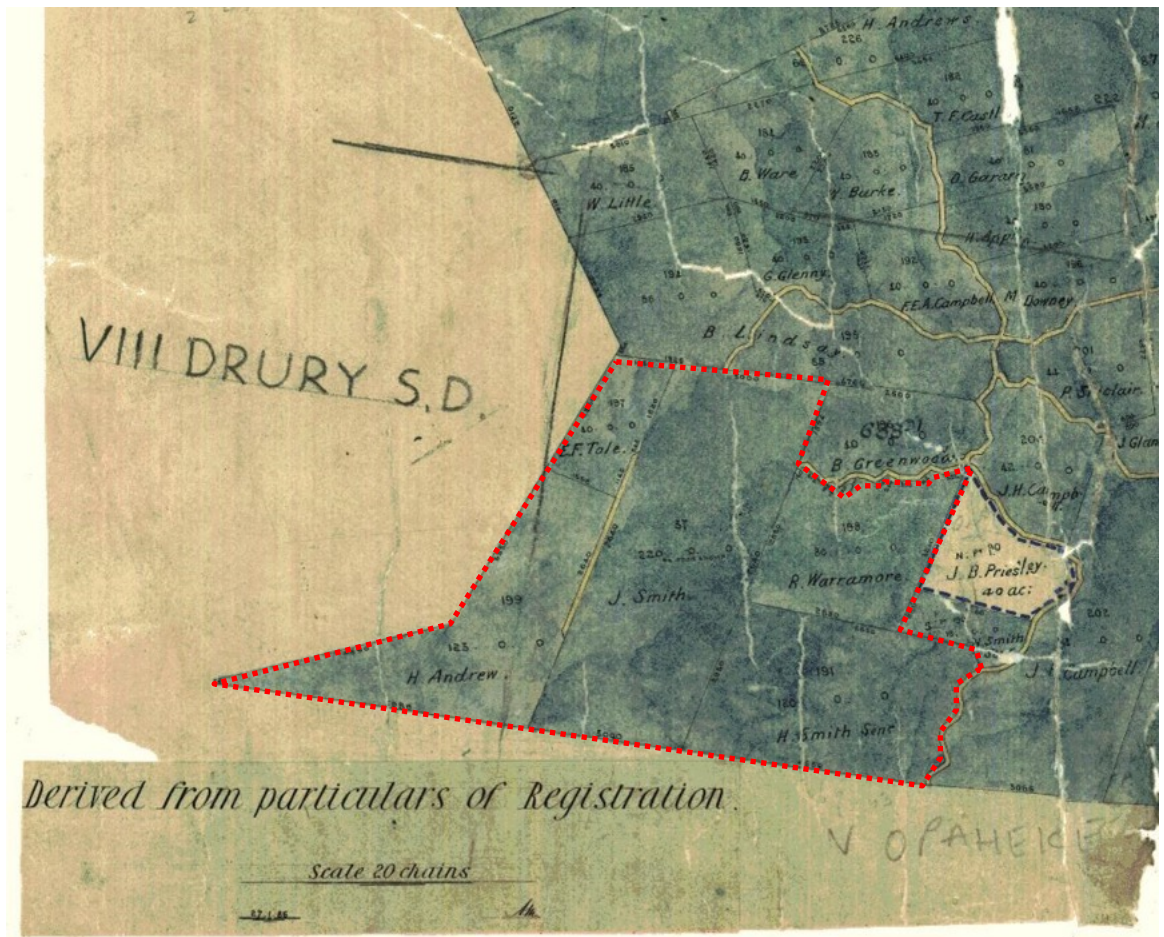


Figure 10. Detail from survey plan SO 43 (27 Jan 1886), Allots of Hunua Parish showing the landowners of Allotments 37, 191, 197, 198 and 199 (Sutton Block) (red dotted outline) (source: Quickmap)

DRURY QUARRY ZONE – ARCHAEOLOGICAL SITES

Several archaeological surveys and assessments have been carried out in the past over the existing Drury Quarry Zone and immediate Peach Hill/Maketu environs, and also within the wider Drury area. The archaeological surveys include: the original survey of the Bombay–Papakura Escarpment east of Ramarama (Goodliffe and Albert 1982); a comprehensive survey of the Stevenson property in 1989 (Lawlor Jul 1989), when the Auckland Regional Authority (ARA) was proposing the construction of a Regional Refuse Landfill within the existing Quarry Zone; survey of a proposed quarry expansion area within the neighbouring Sutton Block (Foster Feb 2006); and for the proposed construction of the Thorburn Quarry Overburden Fill Expansion proposal east of the quarry pit (Tatton and Clough Oct 2017). Additional survey and assessment of site R12/723 (Terraces/Stonework/Cultivations) within the Quarry Zone has also been carried out for a proposed quarry pit expansion mitigation planting plan (Tatton and Clough Sep 2018) and to relocate some of the ‘front of house’ quarry activities from their current location in the Drury South Industrial Zone back into the existing Drury Quarry Zone boundaries (Tatton and Clough Mar 2020).

Archaeological survey has also been carried out over an extensive area for the Drury South Business Project (DSBP). This area is located in the Drury Basin to the east of State Highway 1 (SH1), between the Drury Interchange in the north, and Ramarama interchange in the south (Foster Dec 2010; Dawson and Clough Sep 2017). The Drury Quarry is located at the base of the Hunua foothills on the eastern edge of the DSBP, with the Quarry Zone extending into this DSBP.

Sixteen archaeological sites are recorded within and in a 1km radius of the Drury Quarry Zone (Figure 11;

Table 2). Seven of these sites are located within the Drury Quarry Zone and Quarry Buffer Area, three of these being within or in close proximity to the project area (see Figure 11 and Figure 12;

Table 2):

- R12/278 Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, pā
- R12/330 Midden;
- R12/721 Reported Adze Findspot;
- R12/722 Reported Mine Shaft, Terrace, Hearth;
- R12/723 Pits, Terraces, Stonework, Cultivations?;
- R12/724 Plants, Fence, Stonework, Earthworks (Farmstead?); and
- R12/725 Terraces (Possible).

The landscape including and surrounding the Drury Quarry Zone has suffered considerably over the last 150 years from a long series of landscape modifications (Lawlor Jul 1989). Lawlor suggests that throughout the Maketu area Māori stoneworks, previously the foundations of terraces, buildings, pathways, garden clearance structures and plot boundaries, most likely were initially modified by early European settlers to construct European boundary walls and stock fences (Lawlor Jul 1989). More recently, over the last 40 years, the area has been quarried and intensively developed for farming. Bulldozing, tracking and possible discing has occurred around the periphery of Ballard’s Cone

(Kaarearea Pa) and throughout the surrounding area. There has also been the displacement of stonework on top of the rock outcrop and the dismantling of ruins (Lawlor Jul 1989).

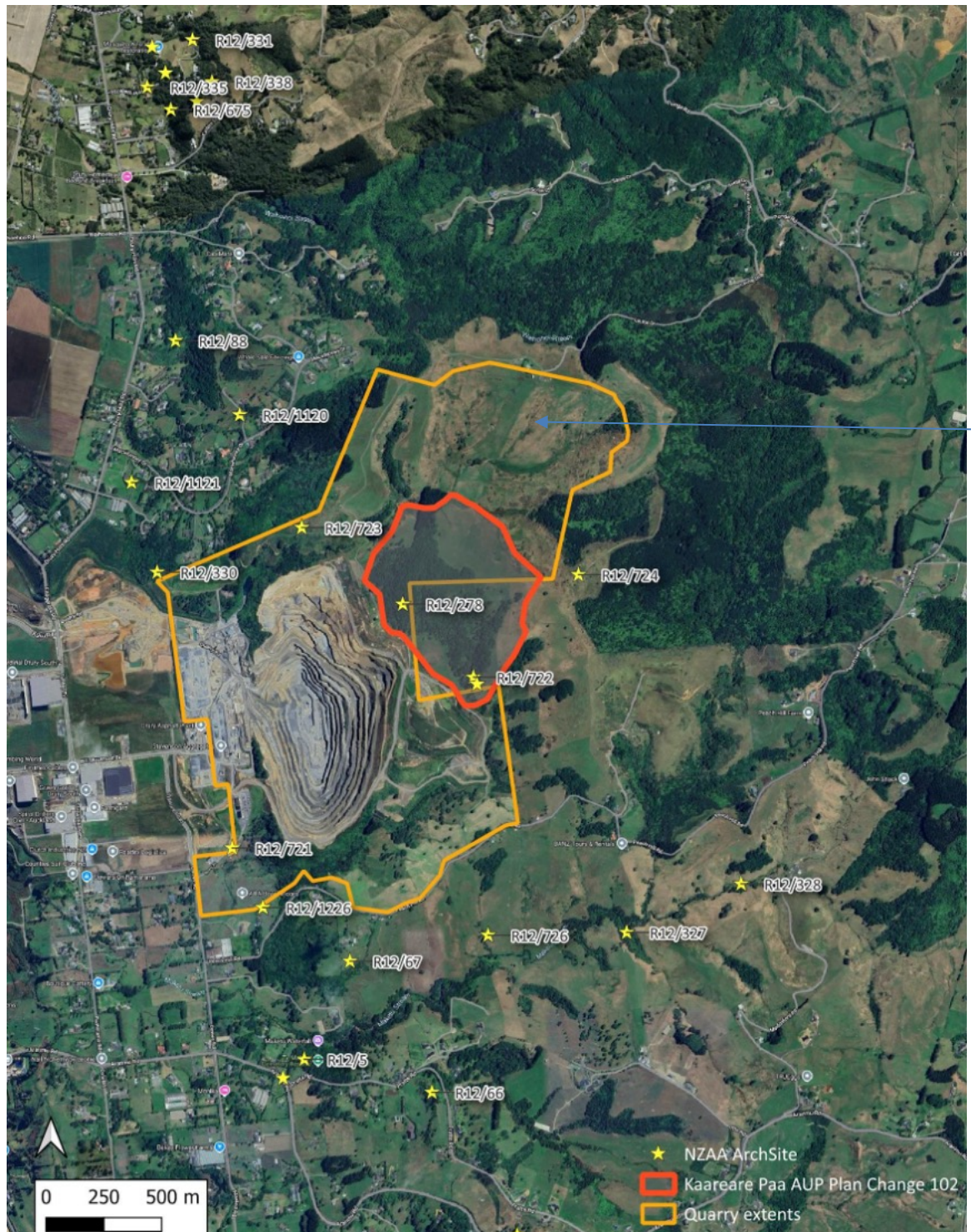


Figure 11. Location of recorded archaeological sites within and in the vicinity of the Drury Quarry and Project area. The extent of the quarry zone is outlined in orange and the project area in the Sutton Block to the north arrowed (source: NZAA ArchSite)

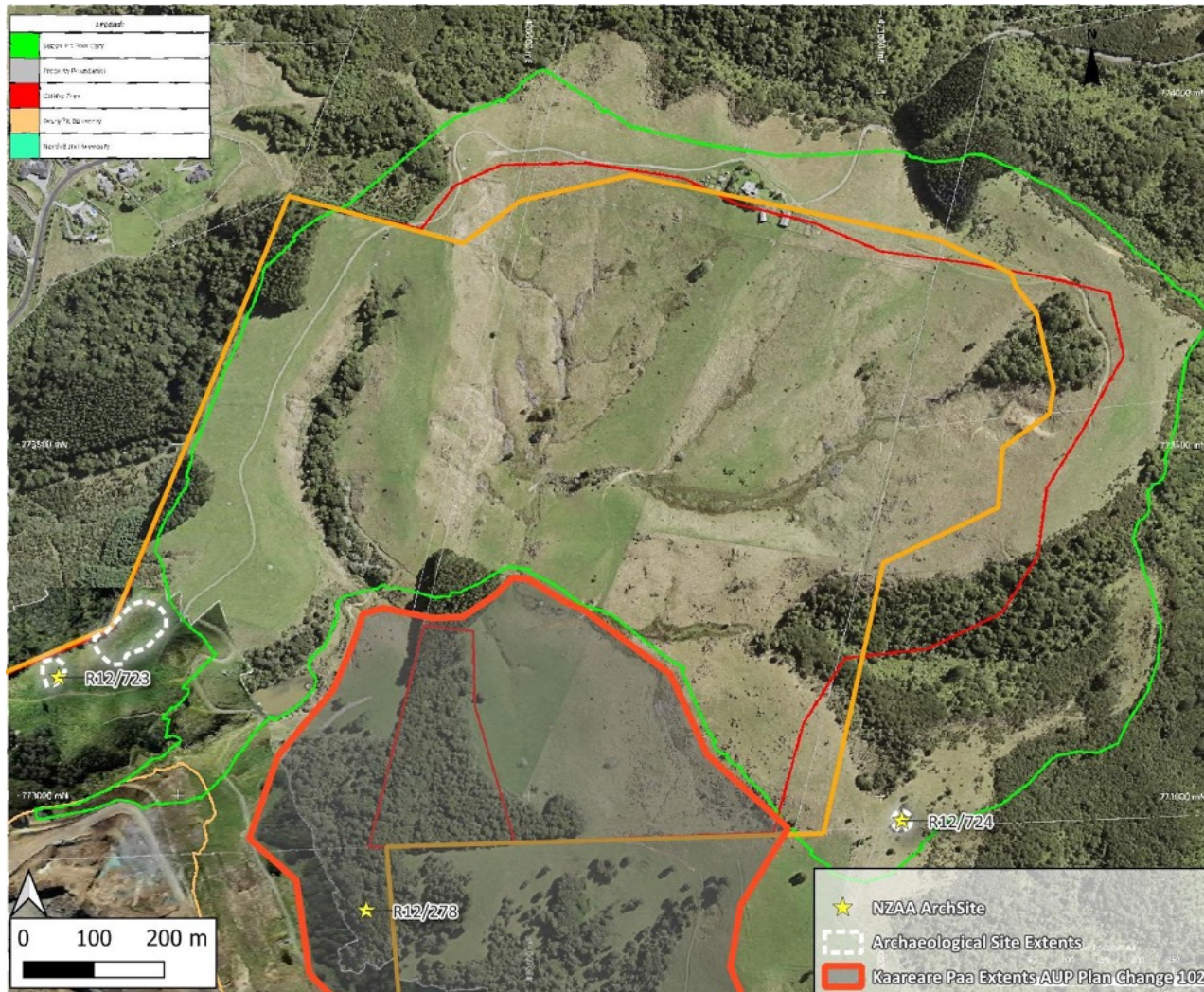


Figure 12. The location and extents of recorded archaeological within the Drury Quarry Zone (red outline) and within the project expansion area (green outline) – R12/278, R12/723 and R12/724 (source: Stevenson)

Table 2. Recorded archaeological sites within and in the vicinity of the Drury Quarry Zone. Sites within or adjacent to the Project area are shaded grey, those in the wider Drury Quarry Zone shaded brown

CHI #	NZAA #	Site Type	Site Name	Location	NZTM Easting	NZTM Northing	PAUP schedule #
6858	R12/5	Pa Urupa Wahi Tapu Mission Station	Te Maketu Cemetery reserve and ratts Road recreation reserve Te Maketu Historic Cemetery reserve	Pratts Road Drury Te Maketu	1776522	5887520	UPID02253 Category B
11516	R12/6	Burial Cave		Pratts Road Ramarama	1776429	5887440	
6872	R12/66	Pa	Pratts Road Ridge Pa	49 North Road Clevedon	1777072	5887367	
6873	R12/67	Pa Reserve - Historic	Maketu Peach Hill	Peach Hill Maketu Historic Reserve	1776594	5887985	
10206	R12/278	Burials Stonework Earthworks Pa	Kaarearea Pa Te Maketu Ballards Road Cone	1189 Ponga Road 475 Quarry Road 206 Peach Hill Road Drury	1777021	5889591	UPID00693 Category B
8089	R12/318	Pit Terrace		Ararimu Road Ramarama	1777430	5886742	
9378	R12/327	Pit		Maddaford Road Ramarama	1777928	5888043	
9380	R12/329	Pit		Maddaford Road Ramarama	1777928	5888043	
6266	R12/330	Midden		Drury	1775925	5889640	
8624	R12/602	Terraces		Ararimu Road Ramarama	1776731	5886441	

CHI #	NZAA #	Site Type	Site Name	Location	NZTM Easting	NZTM Northing	PAUP schedule #
	R12/721	Findspot (Adze)		Davies Road Ramarama	1776227	5888440	
10180	R12/722	Mine Shaft		Former Thorburn Block Stevensons Quarry Peach Hill Road Ramarama	1777125	5889242	
8129	R12/723	Pits Terrace Stonework		Drury Quarry Drury	1776562	5889828	
10100	R12/724	Farmstead		Peach Hill Ramarama	1777725	5889543	
8634	R12/725	Terraces		Peach Hill Road Ramarama	1777226	5889142	
7091	R12/726	Findspot (adzes) Midden (Shell)		Maketu Stream Ramarama	1777328	5888042	

As mentioned above the Sutton Block and the majority of the project area was previously surveyed in 2006 by Foster, when the area was first proposed for quarry expansion and a proposed plan change to the Papakura District Plan for an extension of the Drury Quarry Zone. Previous to that Lawlor's 1989 survey focused on the original Stevenson property including Ballard's Cone and the southern edge of the Sutton Block. Archaeological field survey was also undertaken in the vicinity of Ballard's Cone by Felgate, Walter and Tanner in 2002 and by Ian Lawlor again in Nov 2005 and Feb 2006 in the company of Dennis Ngataki of the Huakina Development Trust and kaumatua of Ngāti Tamaoho.

As a result of the proposed district plan change to the Drury Quarry Zone the extent of archaeological remains associated with R12/278 Kaarearea Pa was determined in consultation with tangata whenua to protect it as a significant archaeological site and wāhi tapu, and also as a significant landscape and geological feature. However, in 2024 as a result of AUP OP Proposed Plan Change 102 the scheduled historic heritage Extent of Place for R12/278 was expanded and is shown in the AUP OP surrounded by the Special Purpose - Quarry Zone (Figure 13).

Three recorded sites within the Drury Quarry Zone are located within or are in close proximity to the proposed Sutton Block quarry expansion area – R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā), R12/723 (Terraces, Stonework, Cultivations?) and R12/724 (Plants, Fence, Stonework, Earthworks).

No additional sites were identified within the Sutton Block by Foster in 2006. The previous landowner Ned Sutton reported to Foster that when the ridge top within the Sutton Block was being bulldozed level for the airstrip a circular pit over 1 metre deep and lined with small packed stones was exposed. This feature was destroyed by the earthworks. In addition, Mr Sutton reported that he had found a small number of adzes during disking on the property. All but one he characterised as 'rough'. The one exception he described as 'looking like black jade'. It may be that this adze was made of Nelson argillite. Unfortunately, at the time this report was prepared Mr Sutton had packed them away when he moved off the property and had not been able to find where he had put them (Foster 2006:6).

There was also very little evidence within the Sutton Block of volcanic soils that would have been highly suited to traditional Māori agriculture and which might indicate further evidence of settlement. The previous landowner Ned Sutton indicated to Foster in 2006 where on the block he had found volcanic soils to be present when he was undertaking deep disking, a practise that was undertaken over the property except in bush areas and on steep slopes (Figure 14). Foster concluded that the only large area where volcanic soils remained was immediately to the north-east of R12/278 Kaarearea Pa on the flanks of the volcano. It would seem likely that pre-European occupation was concentrated on the volcanic cone and in other similar volcanic areas to the south at Maketu. Elsewhere there are infertile clay soils derived from the Waikato Coal Measures. These soils would not have been particularly attractive for traditional agriculture (Foster 2006:6).

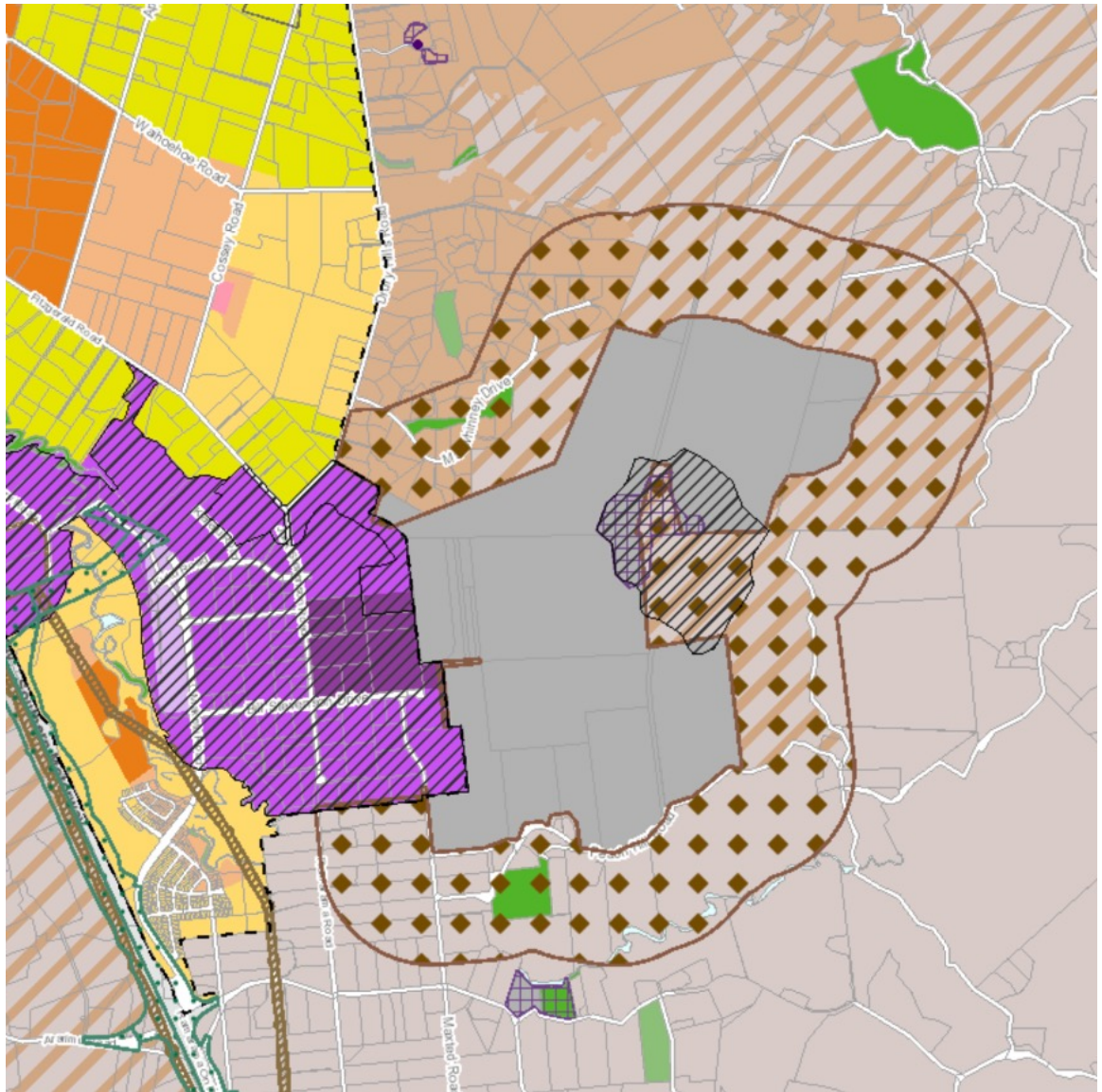


Figure 13. AUP OP overlay map showing the location and defined Extent of Place (EoP) of scheduled historic heritage place R12/278 (black hatched lines) (note, the purple hatched lines beneath show the previous scheduled EoP) surrounded by the Special Purpose - Quarry Zone (grey) and the Quarry Buffer Area Overlay (brown hatching with diamonds).

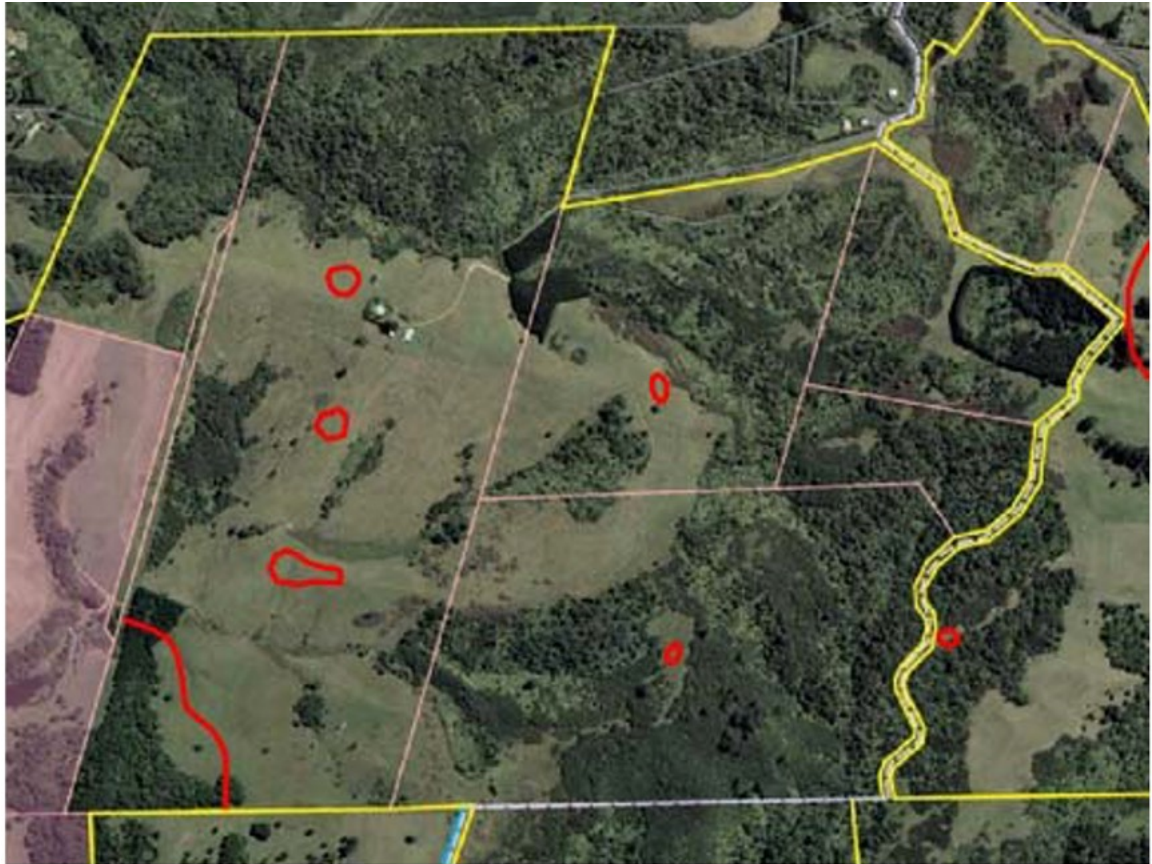


Figure 14. Areas of remnant volcanic soils noted by Ned Sutton on the Sutton Block (source: Foster 2006)

R12/278 Kaarearea Te Maketu – Burials, Stonework, Earthworks, Pā

Central and dominant within this archaeological landscape is R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā). This site is an extensive habitation complex and burial area located on Ballard's Cone, an old eroded volcanic cone on the Hunua Fault, located above and east of the existing Drury Quarry pit. It comprises many stone alignments and heaps, some with facing remnants, stone rows and low walls which delineate terraces and embanked platforms and numerous earthworks. Although no defensive structures have been identified, the top platform and some of the surrounding terraces take advantage of steep rocky bluffs and the topography affords natural protection to the site (Lawlor Jul 1989).

Kaarearea Pa R12/278 cover parts of three properties owned by Stevenson (the existing quarry zone, the former Sutton property and the former Thorburn property).

Lawlor (Jul 1989) provides a clear summary of the site and parts of this are included here:

‘... The site is very extensive. Stoneworks appear to be very old ruins and they comprise many stone alignments and heaps, some with facing remnants, stone rows and low walls which delineate terraces and embanked platforms. Stone rectangular terraces are the likely locations of where (houses) while other stoneworks identify path-ways through the site.’

‘... The earthworks are numerous. They include terraces, a tihi-like platform and pit depressions. The depressions are located at the south-western and north-western ends of the top platform ... The pit depressions are identified as remnants of semi-subterranean

structures most likely used as rua kumara (storage pits). Collectively a cluster of 12 pits around a rocky knoll in the south probably represent the main food store of the site.

Together the structures and features identify an extensive habitation complex. Although no defensive ditches have been recorded, the top platform and some surrounding terraces are uniquely placed to take advantage of the steep rocky bluffs. The topography affords natural protection to the site.'

'Ned Sutton, the landowner of the north-eastern part of the site, has informed me that he has seen many human bones among the stonework and terraces.'

'... The volcanic rock and ash soils, so obviously the focus of settlement occupation and gardening activities, have been used to define the site area. Supporting evidence includes a kanuka stand, indicating regenerating native vegetation and a possible old garden area [Thorburn property]. ... The springs [on both the Thorburn and Sutton properties] exiting from beneath the boulder outcrops and scree areas would have provided fresh water and swampy patches would have been ideal for taro cultivation. Two possible channel features were identified running down-slope from springs [Thorburn property]. Since Mr Thorburn has informed me that he has not drained this area it appears likely that these are old features. Surface disturbance presently precludes a positive identification.

I believe the site is unique because of the archaeological evidence and associated vegetation cover. Much can be learnt about Māori use and impact on this landscape. Although the stonework has suffered much from fossicking and farming, when the remains are compared with those on adjacent volcanic outcrops (e.g. Peach Hill pa site R12/67), they appear well preserved. The site and surrounding area would score high when such values as integrity and setting are considered. The fact that there is a long association between the site and the local Māori community adds to the importance of this historic place.'

R12/278 Kaarearea Pā site is a scheduled Category B site on the Historic Heritage Overlay (Schedule 14: ID 00693) in the AUP OP. It has a defined Extent of Place and is identified as having additional rules for archaeological sites and as a place of Māori interest and significance. Recently proposed Plan Change 102 to the AUP OP (2024) increased the scheduled Extent of Place, which is shown in Figure 13. A formal agreement and protocol were previously agreed between Stevenson and iwi in relation to R12/278 to provide protection for the site in the future. Fencing and a defined setback distance from the fence were established which relates to the previous scheduled area.

On the western side surface stone originally extended at least as far as the quarry road but was cleared by bulldozer to more or less the present tree line many years ago. It is probable that this area would have contained gardens, similar to those at site R12/723. However, the clearance has destroyed whatever evidence there may have been. On the western side the present tree-line was established by the farmer who preceded the Suttons on the property. He not only cleared the bush but also piled up stone as he cleared the land. He appears to have been responsible for the number of more recent stone piles on the edge of the bush both on this property and on the Thorburn property to the south. The Suttons made use of the volcanic soils on this side for growing potatoes. Mr Sutton commented that in all the cultivation he undertook in this area he never noted anything that he would associate with Māori occupation, but did note that he had found a wooden fern root beater in the spring at the north-eastern end of the cone.

At the northern tip of the bush is a pine plantation extending into the Sutton Block. Under these pines are a number of terrace features. Subsurface testing of these terraces showed that they are the result of natural slumping and there is no indication that there was any

pre-European occupation or gardening on them (Foster 2006). The southern boundary of the pines is marked by an 8-strand fence. A short distance further south are two small springs (where Mr Sutton found a fern root beater) with evidence of Māori stonework close by. These springs would have been an integral part of the habitation complex at R12/278. On top of the western ridge above the springs, but within the present bush, and where the land starts to rise towards the top of the cone are many large boulders and clefts. This is one of the areas identified by Mr Sutton as a place he had seen human bone in the past.

R12/723 Terraces, Stonework, Cultivations?

R12/723 was first recorded in 1989 by Ian Lawlor, who described it as Pits/Stonework/Terrace along a ridge with basalt rock outcrops and boulder screes. On a flat knoll 150m down from the high point of the ridge he recorded two pit features (c.3 x 3m) interpreted as possible rua kumara (kumara pits). On the north side of the ridge was a boulder scree where a ring-bordered stone heap was located on a small terrace, as well as other possible additional stonework that was covered in thick gorse at the time. Lawlor also recorded that farm tracks had been bulldozed through and around the sides of the site and possibly considerable rock clearance and discing had occurred over the area.

In 2002 a subsequent archaeological inspection of R12/723 found it was difficult to interpret Lawlor's original site record as the visible 'features' were indistinct on the ground. The two pit features recorded by Lawlor were identified as vague depressions on a possible terrace. A bulldozed farm track had been put through immediately behind these features and stones had been cleared on either side in the process (Figure 15). The stonework features described by Lawlor to the north under gorse were not relocated. The site was described as subject to erosion and farming practices.

In 2006 Foster described R12/723 as a number of stone-free terraces running down the rocky ridgeline with a farm track cut along the ridge also. Test pits dug on the terraces identified an ash-enriched Māori garden soil, which was absent off these areas. Below the high point of the ridge Foster identified the two small depressions or possible storage pits recorded by Lawlor. Testing of the depressions indicated that they were shallow and ill-defined and not storage structures. They may in fact be old tree throws. Foster concluded that there was no evidence of discing in the test pits and the presence of modified garden soils meant R12/723 was a well-preserved traditional garden site that should be retained in its current condition. Foster also highlighted the likely historic and landscape association of R12/723 with the extensive site R12/278 Kaarearea Pa, the area between R12/723 and R12/278 being important in landscape terms, providing a link between the two sites, which would be destroyed if there were future quarry operations through this area (Foster 2006:9).

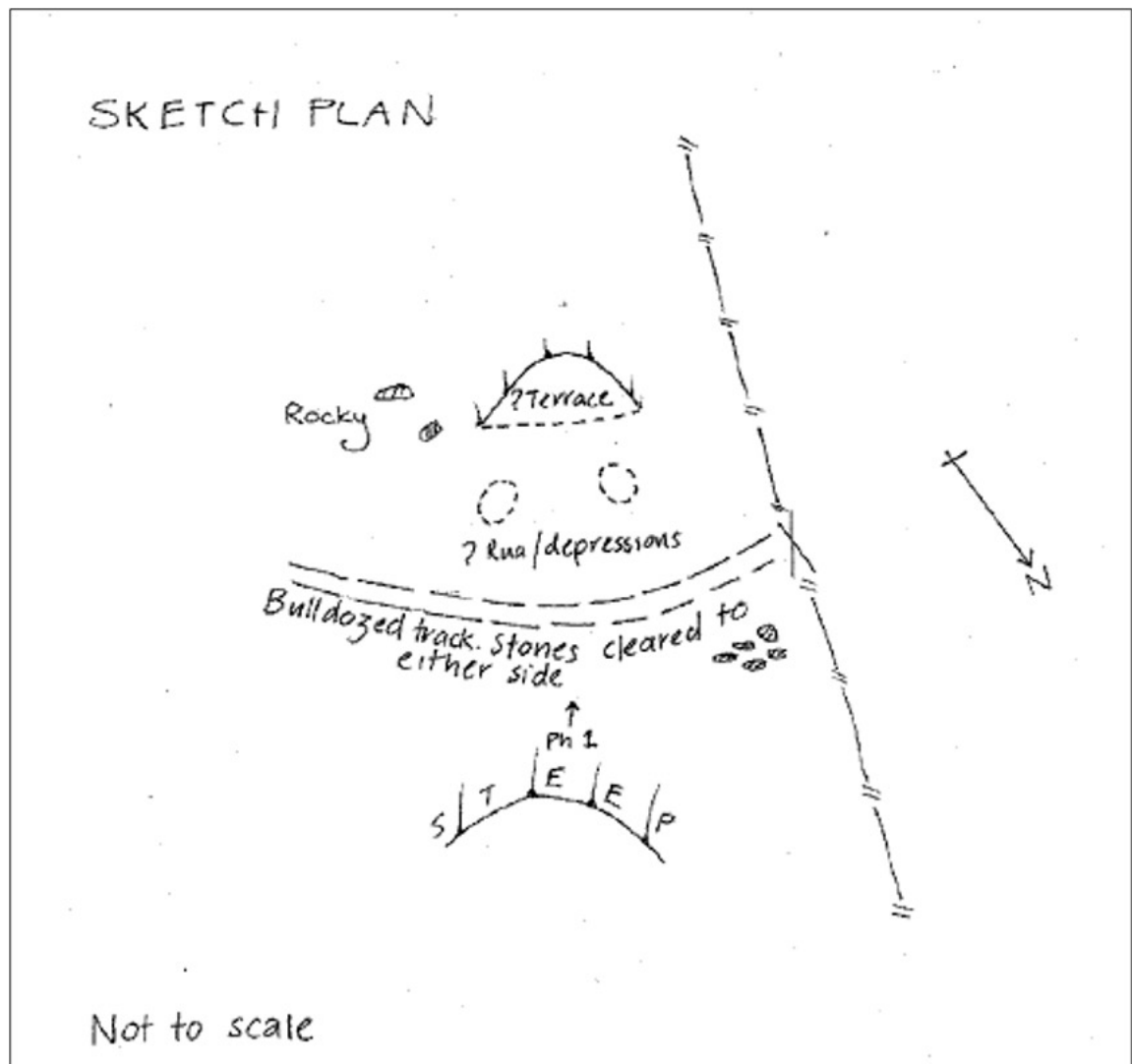


Figure 15. The archaeological features recorded in 2002 at R12/723 (source: NZAA ArchSite site record R12/723)

In 2018 at the request of Stevenson a site inspection of R12/723 was carried out by the first author with Edith Tuhimata of Ngāti Te Ata. The purpose of the inspection was to relocate and determine the extent of this archaeological site and provide recommendations to guide the proposed terrestrial mitigation planting to ensure that archaeological values are not impacted on.

R12/723 is located on a ridgeline running along the northern boundary of the quarry zone, approximately 500m north of the existing quarry pit. This location has extensive views to the west across the lowlands to the Manukau Harbour, from the Bombay Hills in the south to Tāmaki in the north which, like Ballard's Cone, would have provided a strategic and commanding defensive advantage for Māori (Figure 16).

The ridgeline runs from a gently sloping hill side in the north-east and drops off towards the south-west, with steep sides and gullies to the south and north (Figure 17). Currently the ridgeline and southern gully slopes are in pasture and grazed by cattle. The northern slopes of the ridge are covered in thick exotic scrub, including gorse, woolly nightshade and privet.

The ridgeline is dominated by two basalt boulder outcrops, the upper outcrop along the high point of the ridge and a small lower outcrop below down the steep slope of the ridge. As described by Foster in 2006 several possible terraces were identified within the upper boulder outcrop. However, the clearance of stone for a narrow farm track and other farming activity has clearly disturbed this area. The possible terrace features are indistinct, making the identification of Māori stonework from recent farming disturbance difficult to confirm (Figure 16 and Figure 17). The ridgeline drops away steeply to the south-west to the lower boulder outcrop. No archaeological features were identified on this steep slope. The terrace and two small depressions were relocated within the lower boulder outcrop. As described in 2002, a farm track has been bulldozed across the ridge to the east of this terrace feature and rocks have been cleared to either side (Figure 18).

The stonework features described by Lawlor to the north under thick exotic scrub were not relocated but are likely to still be present under this vegetation.

The extent of R12/723 has been determined by both previous and recent inspections on an aerial photograph (Figure 19). The presence and extent of the archaeological features on the northern slope of the ridgeline to the property boundary has been estimated at this stage. A Conservation Area for proposed terrestrial mitigation planting and lizard relocation covers part of the extent of R12/723.



Figure 16. Looking south-west along ridgeline within the upper boulder outcrop of R12/723 with expansive views over the Manukau lowlands



Figure 17. Looking east up the ridgeline within the upper boulder outcrop at R12/723. Note the cleared stone for a farm track through this area (dashed line). Possible terrace features arrowed



Figure 18. Looking down the steep ridge to the second boulder outcrop of R12/723. A bulldozed farm track (dashed line) runs across the back of a terrace (arrowed). Note the exotic scrub on the northern slopes to the right of the photo



Figure 19. Estimated extent of R12/723 (dashed black line) within the upper (right) and lower (left) boulder outcrops. The extent of the archaeological features on the northern slope to the property boundary has only been estimated at this stage. 'T' indicates possible terraces features. The dotted red line indicates the alignment of farm tracks where bulldozing and rock clearance has occurred

R12/724 Plants/fence/stonework/earthworks

This site was recorded in 1989 as plants/fence/stonework/earthworks. It was suggested that it may be the site of a farmstead, possibly dating from the 1860s. However, discussions between Foster and Ned Sutton in 2005 revealed that a Mrs Priestley had lived at this location in a nikau hut and her husband lived nearby in a separate hut. This occupation dates to the 1920s. Ned Sutton also pointed out three further locations where the Priestley's built their separate huts as they moved around every few years (see site record form in Appendix 1 for locations which are outside the project area). The Priestley's do not appear to have owned the property, but they may have rented it or may even have been squatters on otherwise unoccupied land.

The earthworks referred to in the site record form for R12/724 are the remnants of a structure subsequently built by the Suttons for loading firewood onto carts.

FIELD ASSESSMENT

Field Survey Results

The proposed Drury Quarry extension area is located north of the Drury Quarry Pit within the Special Purpose - Quarry Zone. It includes the area referred to as the Sutton Block. Archaeological field survey of the proposed quarry expansion area was carried out on 17 December 2021 and 20 April 2022 by the author with Edith Tuhimata and Zachary Sirett of Ngāti Tamaoho Trust. Subsequent survey in 2023 and 2024 was undertaken along the northern extent of the project area with Beau White for the Ngāti Tamaoho Trust and the eastern extent of the project area.

The proposed quarry expansion area comprises a wide basin of land sloping down from the flat open ridgelines of the surrounding hill country in the north, west and east and in the south from Ballard's Cone. The area is predominantly in grazed pasture with patches of native scrub and weed vegetation associated with several ephemeral and intermittent watercourses culminating in wetland areas at the base (Figure 20 and Figure 21). A small surviving area of native bush is present on a rocky outcrop to the north of Ballard's Cone and a dammed pond (Figure 22 and Figure 23). The gentle north-east slopes extending down from Kaarearea Pa on Ballard's Cone in the south of the Sutton Block are in pasture but have been ploughed and cropped in the past. Cropped fields were present along the flat ridgeline in the west of the block at the time of the recent field survey. An existing farm house is located on the ridgeline at the northern extent of the proposed expansion area and in the area of the proposed north bund. The ridgeline within the far north-east extent of the proposed quarry expansion area has been bulldozed for an airstrip. This modification is evident in a 1961 aerial photograph (Figure 24). The bush area in the south-eastern extent of the proposed quarry expansion area is in a steep gully.

As previously described, central and dominant within the landscape is the eroded volcanic Ballard's Cone (Kaarearea Pa, Te Maketu), located above and east of the existing Drury Quarry pit and on the southern boundary of the proposed quarry expansion area (Figure 21 and Figure 22). Kaarearea Pa R12/278 (Burials, Stonework, Earthworks, Pā) is an extensive habitation complex and burial area. The scheduled Extent of Place of R12/278 (AUP OP ID 00693) is where in situ archaeological remains are known to be present and also includes the previously cropped gentle slopes and stream valley north-east of Kaarearea Pa on Ballards Cone. The southern extent of the proposed quarry expansion area has been designed to exclude the entire scheduled Extent of Place of R12/278 Kaarearea Pa under proposed Plan Change 102 (AUP OP) (Figure 12).

No additional unrecorded archaeological features were identified outside the scheduled extent of R12/278 and within the proposed quarry expansion area. As previously described by Foster, immediately north of the defined extent of R12/278 and outside the fence line is a narrow strip of pine plantation. Under these pines are a number of subtle terrace features which are the result of natural slumping and there is no indication that there was any pre-European occupation or gardening on them (Figure 23).

The extent of R12/723 within the Quarry Zone Boundary has been determined by both previous and recent inspections (Figure 19). Part of this site is location within an identified Conservation Area for proposed terrestrial mitigation; however, the north-eastern part of this site lies outside the Conservation Area. The proposed quarry extension area has been designed to avoid the known extent of R12/723 and any as yet undetermined archaeological features on the northern slope of the ridgeline to the property boundary (Figure 12).

Site R12/724 was relocated during the field survey south-east of the Drury Quarry Zone boundary but within the proposed quarry expansion area within Allotment 191. As previously described, it comprises a series of amorphous surface features in proximity to a group of totara trees, which Foster previously identified as the remains of a structure built by the Sutton family to load tea tree firewood onto carts (Figure 24). The long channel feature and likely ‘stone paving’ is associated with an old fence line (Figure 25). The proposed quarry expansion area will impact on these features, however, while of some historic interest they post-dates 1900 and are not within the definition of an archaeological site within the NHNZPTA.

No additional unrecorded archaeological or other historic heritage sites were identified either by background research or by previous and recent archaeological field inspection on the proposed quarry expansion area within the Sutton Block.



Figure 20. Looking south-east from the northern boundary of the Sutton Block. Ballard's Cone R12/278 is on the right in the trees



Figure 21. Looking north from R12/278 across the paddocks of the Sutton Block



Figure 22. Rock outcrop and remnant native bush above the dam and pond north-west of Ballard's Cone



Figure 23. Rock outcrops in the remnant native bush above the dam



Figure 24. 1961 aerial photograph of the Sutton Block and proposed quarry expansion area. The bulldozed airstrip is circled. The existing Drury Quarry is shown bottom right (source: Retrolens SN1397 Run 3244 Photo 39)



Figure 21. Looking west from the eastern boundary of the Sutton Block towards R12/278 Ballard's Cone in the native bush (centre)



Figure 22. Looking south-east from R12/723 to Ballard's Cone R12/278 covered in native bush



Figure 23. The boundary fence between R12/278 and the pine forest within the Sutton Block



Figure 24. Amorphous surface features and ‘stonework’ associated with R12/724



Figure 25. Channel formed along an old fence line at R12/724

DISCUSSION AND CONCLUSIONS

Summary of Results

Stevenson Aggregates Ltd is proposing to expand mineral extraction of the existing Drury Quarry on the eastern side of State Highway 1 (SH1), south of Papakura and Drury in the Auckland region. The proposed expansion to the existing quarry pit will be directly north-east into the Sutton Block which lies primarily within the Special Purpose Quarry Zone under the AUP OP.

Two recorded archaeological sites within the Drury Quarry Zone are located in close proximity to the proposed quarry expansion area – R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā) and R12/723 (Terraces, Stonework, Cultivations?) and one site is located within the proposed quarry expansion area - R12/724 (Plants, Fence, Stonework, Earthworks).

R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā) is located immediately to the south of the proposed quarry expansion area. This site is an extensive and significant Māori habitation site. R12/278 is a scheduled Category B historic heritage place on the Historic Heritage Overlay in the AUP OP, with a defined Extent of Place. It is also identified as having additional rules for archaeological sites and as a place of Māori interest and significance.

The southern extent of the proposed quarry expansion area has been designed to exclude all known in situ archaeological remains and the entire scheduled Extent of Place of R12/278 Kaarearea Pa.

The proposed quarry extension area has been designed to avoid the known extent of R12/723 (Terraces, Stonework, Cultivations?) and any as yet undetermined archaeological features on the northern slope of the ridgeline to the property boundary.

The location of recorded R12/724 (Plants, Fence, Stonework, Earthworks) is within the proposed quarry extension area. However, this site is possibly an early 20th century domestic occupation site, but more likely a later 20th century farming feature and therefore, does not fall under the archaeological provisions of the HNZPTA.

No additional unrecorded archaeological or other historic heritage sites were identified by background research or by previous and recent archaeological field inspection on the proposed quarry expansion area within the Sutton Block.

Māori Cultural Values

This is an assessment of effects on archaeological values and does not include an assessment of effects on Māori cultural values. Such assessments should only be made by the tangata whenua. Māori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the general area with the tangata whenua is evident from the recorded sites, traditional histories and known Māori place names. The extent of Kaarearea Pa is now owned by Stevenson Properties Ltd in several property titles. There is a formal agreement and protocol between Stevenson Aggregates Ltd and iwi in relation to R12/278 to provide protection for the site in the future.

Stevenson have been engaging with five tangata whenua groups. Engagement began with Ngāti Tamaoho in November 2021, and from April 2022 has included Ngāti Te Ata

Waiohua, Te Ākitai Waiohua, Ngāi Tai Ki Tamaki and Ngāti Whanaunga. A number of key matters of concern were identified. In relation to archaeology those concerns primarily related to the proposed pit and haul road being close to Kaarearea Pa (R12/278) and the rock terraces and stone works (R12/723) site. Stevenson have worked to address these concerns in a number of ways. That has included moving the proposed pit further away from the pā site. There was an investigation into moving the haul road to another location, but based on feedback from the iwi groups it was decided to continue with the existing route. There was also a recognition when designing the pit that a buffer needed to be provided between R12/723 and the proposed pit. The proposed pit is now set back 16m from R12/723. As noted above, representatives from Ngāti Tamaoho have been involved in all archaeological field surveys relating to this project.

Survey Limitations

It should be noted that archaeological survey techniques (based on visual inspection and minor sub-surface testing) cannot necessarily identify all sub-surface archaeological features, or detect wāhi tapu and other sites of traditional significance to Māori, especially where these have no physical remains.

Archaeological Value and Significance

The AUP OP Regional Policy Statement (RPS) identifies 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 (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2019: 9-10).

The archaeological value of sites relates mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history using archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation. For example, generally pā are more complex sites and have higher information potential than small midden (unless of early date). Archaeological value also includes contextual (heritage landscape) value. Archaeological sites may also have other historic heritage values including historical, architectural, technological, cultural, aesthetic, scientific, social, spiritual and traditional values.

Seven archaeological sites are recorded within the Drury Quarry Zone. Two recorded sites within the Drury Quarry Zone are located in close proximity to the proposed quarry expansion area (R12/278, R12/723), and one recorded 20th century site is located within the proposed quarry expansion area (R12/724). R12/278 and R12/723 are part of the wider archaeological landscape known to Māori as Te Maketu, which has a rich and dynamic Māori history. Four pā were built at different times on four of the area's volcanic cones and outcrops and form part of the Te Maketu complex, the most ancient pā probably Kaarearea Pa at Ballard's Cone.

The archaeological landscape within the Drury Quarry Zone is centred on R12/278 Kaarearea Pa, which has been evaluated according to the relevant statutory criteria and has been scheduled for protection as a Category B historic heritage place on the Historic Heritage Overlay in the AUP OP (ID 000693), with a defined Extent of Place. Category B indicates that it is considered to have considerable significance to a locality or greater

geographic area. It is a site of major significance to tangata whenua and a regionally significant archaeological site. Site R12/278 has been scheduled on the basis of its knowledge and mana whenua values, but would also score high when such values as integrity, setting and context are considered, as it is part of the wider heritage landscape of related sites within the Te Maketu area, containing Māori and early European elements that have a connected history spanning an extended period of time.

Site R12/723 has value both for its contribution to the archaeological landscape around Ballard's Cone, and for its information potential, while site R12/724 relates to post-1900 activities within this landscape but has local historic heritage value.

The RPS criteria has been used to assess the value and significance of site R12/724 (Plants, Fence, Stonework, Earthworks) (see Table 3). Overall, site R12/724 has little historic heritage significance.

Table 3. Assessment of the historic heritage significance of site R12/724 (Plants, Fence, Stonework, Earthworks) based on the criteria in the AUP OP (Chapter B5.2.2)

Criterion	Comment	Significance Evaluation
a) historical: The place reflects important or representative aspects of national, regional or local history, or is associated with an important event, person, group of people or idea or early period of settlement within New Zealand, the region or locality	May be associated with early 20 th century domestic occupation but is likely a later 20 th century farming feature	Little
b) social: The place has a strong or special association with, or is held in high esteem by, a community or cultural group for its symbolic, spiritual, commemorative, traditional or other cultural value	No known social values	None
c) Mana Whenua: The place has a strong or special association with, or is held in high esteem by, Mana Whenua for its symbolic, spiritual, commemorative, traditional or other cultural value	To be determined by mana whenua	Not assessed
d) knowledge: The place has potential to provide knowledge through scientific or scholarly study or to contribute to an understanding of the cultural or natural history of New Zealand, the region, or locality	Unlikely to provide any knowledge to contribute to an understanding of local history beyond what is already recorded	Little
e) technology: The place demonstrates technical accomplishment, innovation or achievement in its structure, construction, components or use of materials	No known technological value	None
f) physical attributes: The place is a notable or representative example of a type, design or style, method of	Not a notable or representative example of early 20 th century domestic	Little

construction, craftsmanship or use of materials or the work of a notable architect, designer, engineer or builder;	occupation or later 20 th century farming activities	
g) aesthetic: The place is notable or distinctive for its aesthetic, visual, or landmark qualities	The place is barely visible on the ground and on private property so inaccessible	Little
h) context: The place contributes to or is associated with a wider historical or cultural context, streetscape, townscape, landscape or setting	The place contributes little to the wider historical context	Little

Effects of the Proposal

It is always recommended that archaeological sites should be avoided by development where possible. The proposed quarry extension area has been designed to avoid impacting on the known extents of all archaeological sites in close proximity – R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā) and R12/723 (Terraces, Stonework, Cultivations?). Access to the proposed quarry extension area will be through the existing Drury Quarry pit and access roads.

There will be no direct impact on the known archaeological features associated with R12/278. The southern extent of the proposed quarry expansion area has been designed to exclude all known in situ archaeological remains and the entire scheduled Extent of Place of R12/278 Kaarearea Pa. In consultation with tangata whenua the southern extent of the proposed quarry pit expansion has been designed to exclude the gentle slopes and stream valley north-east of Ballards Cone and now within the revised Extent of Place of Kaarearea Pa. This will also reduce the impact on the heritage setting and aesthetic values of this site.

The likely historic and landscape association of R12/723 with R12/278 Kaarearea Pa has been previously highlighted in 2006 by Foster. He identified the area between R12/723 and R12/278 as being important in landscape terms and providing a link between the two sites. The widening of the existing farm track to form the proposed access road to the quarry expansion area between these two sites will compromise this association between the two sites and the context of R12/278 within the wider archaeological landscape within the Drury Quarry Zone. Other access options between the existing Drury Quarry pit and the proposed expansion area around the south of Ballard's Cone have also been considered. However, they were rejected due to the likely impact to archaeological remains associated with R12/278.

The avoidance of any impact on known archaeological features and the scheduled Extent of Place of R12/278 by proposed quarrying activities and the ongoing future recognition, protection and management (pest control, vegetation management, fencing) of Kaarearea Pa R12/278 and R12/723 by Stevenson will provide some compensation for the effects of the proposed quarry expansion on heritage setting, aesthetic and landscape values. The future rehabilitation of the quarry expansion area after the completion of quarry operations would also contribute to the restoration of these contextual and landscape values.

The proposed quarry expansion will impact on recorded site R12/724 (Plants, Fence, Stonework, Earthworks). However, this site is possibly an early 20th century domestic occupation site, but more likely a later 20th century farming feature and therefore, does not fall under the archaeological provisions of the HNZPTA. While of some historic interest, overall it has limited historic values. To mitigate any effects on these values any remains

or features revealed during topsoil stripping to prepare the quarry expansion area could be recorded during archaeological monitoring.

No additional unrecorded archaeological or other historic heritage sites were identified by background research or archaeological field inspection in 2006 or in 2021, 2022, 2023 and 2024 on the proposed quarry expansion area. However, in any area where archaeological sites have been recorded in the general vicinity it is possible that unrecorded subsurface remains may be exposed during development. Archaeological features and remains can take the form of burnt and fire cracked stones, charcoal, rubbish heaps including shell, bone and/or 19th century glass and crockery, ditches, banks, pits, old building foundations, artefacts of Māori and early European origin or human burials.

It is considered possible that unrecorded subsurface archaeological sites may be exposed during development given the archaeological landscape associated with R12/278 and R12/723 in the south-western extent of the proposed quarry expansion area. Therefore, it is recommended that an Authority under the HNZPTA is applied for in respect to the Stage 1 (infrastructure establishment) earthworks in this area as a precaution and obtained prior to the start of earthworks, so that potential delays can be avoided should sites be exposed.

Stage 1 of work (Years 1 -3) involves the construction of the roading infrastructure required to access the site (widening the existing access road to a 12m wide haul road), draining of the existing farm dam to establish a sediment retention pond, associated stream diversion, initial offset planting, commencement of overburden removal, stockpiles (including bunding), and establishment of the conveyor system. The Stage 1 earthworks area to remove overburden (all topsoil before encountering rock) will cover approximately 11 hectares with a total volume of 915,910m³. After topsoil stripping the depths of earthworks within Stage 1 will vary, as this is not just a linear project, but will average a depth of 1.5m (see Appendix 2: Stage 1 Earthworks Plans).

Statutory Framework

In accordance with clause 17, Schedule 5 of the Fast-track Approvals Act 2024, sections 5, 6 and 7 of Part 2 of the RMA must be taken into account.

Resource Management Act 1991 Requirements

Section 6 of the RMA recognises as matters of national importance: ‘the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources’. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: ‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Māori, including wāhi tapu; (iv) surroundings associated with the natural and physical resources’.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the provisions of the RMA. The AUP OP is relevant to the proposed activity.

There is a scheduled historic heritage place, Kaarearea Pa R12/278, located on the property and in the immediate vicinity of the proposed quarry expansion area (Schedule 14.1: ID 00693, Category B). This is subject to additional rules for archaeological sites or features and is identified as a place of Māori interest or significance. The proposed activity will not directly affect any known in situ archaeological remains and scheduled Extent of Place of R12/278 Kaarearea Pa.

This assessment has established that the proposed activity will have no effect on any known archaeological remains. However, given the proximity of the extensive and significant Māori habitation and burial site R12/278 and Māori gardening site R12/723, there is the potential to affect unidentified subsurface archaeological remains that may be exposed during development. If suspected archaeological remains are exposed during development works, the AUP OP Accidental Discovery Rule (E12.6.1) must be complied with. Under the Rule works must cease within 20m of the discovery and the Council, Heritage NZ, Mana Whenua and (in the case of human remains) the NZ Police must be informed. They will then determine the actions required from statutory and cultural perspectives. The Rule would no longer apply in respect to archaeological sites if an Authority from Heritage NZ was in place.

It is also recommended that an advice note regarding the provisions of the HNZPTA is included, as an Authority under that Act will be required for any modification and investigation of archaeological remains.

Heritage New Zealand Pouhere Taonga Act 2014 Requirements

Section 42(4)(i) of the Fast-track Approvals Act 2024 allows a substantive application to include an archaeological authority as described in sections 44(a) or 44(b) of the Heritage New Zealand Pouhere Taonga Act 2014 that would otherwise be applied for under that Act.

The HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

‘archaeological site means, subject to section 42(3), –

(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 the 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).’³

³ Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be demolished. Under Section 43(1) a place post-dating 1900 (including the site of a wreck that occurred

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)). Applications that relate to sites of Māori interest require consultation with the appropriate iwi or hapu and are subject to the recommendations of the Māori Heritage Council of Heritage NZ.

While no known archaeological sites will be affected by the proposed works, it is considered possible that unrecorded subsurface archaeological sites may be exposed during development given the archaeological landscape associated with R12/278 and R12/723 in the south-western extent of the proposed quarry expansion area.

To avoid any delays should unidentified subsurface features be exposed by the proposed works, it is recommended that an Authority under sec 44(a) of the HNZPTA is applied for in respect to the Stage 1 (infrastructure establishment) earthworks as a precaution. This should be obtained before any earthworks are carried out. The conditions of the Authority are likely to include archaeological monitoring of preliminary earthworks, and procedures for recording any archaeological evidence before it is modified or destroyed. This approach would have the advantage of allowing any archaeology uncovered during the development of the property to be dealt with immediately, avoiding delays while an Authority is applied for and processed.

after 1900) that could provide ‘significant evidence relating to the historical and cultural heritage of New Zealand’ can be declared by Heritage NZ to be an archaeological site.

Conclusions

This assessment has established that the proposed Drury Quarry expansion will have no direct effect on any known archaeological sites. The proposed resulting quarry pit has been designed to avoid the extents of all recorded archaeological sites in close proximity – R12/278 (Kaarearea Pa, Te Maketu – Burials, Stonework, Earthworks, Pā) which is scheduled on the AUP OP, and R12/723 (Terraces, Stonework, Cultivations?).

The proposed quarry expansion will impact on recorded site R12/724 (Plants, Fence, Stonework, Earthworks). However, this site is possibly an early 20th century domestic occupation site, but more likely a later 20th century farming feature and therefore, does not fall under the archaeological provisions of the HNZPTA. While of some historic interest, overall it has limited historic values. To mitigate any effects on these values any remains or features revealed during topsoil stripping to prepare the quarry expansion area could be recorded during archaeological monitoring.

No additional archaeological or other historic heritage values were identified within the proposed areas of activity as a result of either background research, previous archaeological survey or recent field survey.

The widening of the existing farm track to form the proposed access road to the quarry expansion area between sites R12/278 and R12/723 will compromise the historic and landscape association between the two sites and the context of R12/278 within the wider archaeological landscape within the Drury Quarry Zone. However, the avoidance of any impact on known archaeological features and the scheduled Extent of Place of R12/278, and the ongoing future recognition, protection and management (pest control, vegetation management, fencing) of Kaarearea Pa R12/278 and R12/723 by Stevenson would provide some compensation for the effects of the proposed quarry expansion on heritage setting, aesthetic and landscape values. The future rehabilitation of the quarry expansion area after the completion of quarry operations would also contribute to the restoration of these contextual and landscape values.

In any area where archaeological sites have been recorded in the vicinity it is possible that unrecorded subsurface remains may be exposed during development. It is considered possible that unrecorded subsurface archaeological sites may be exposed during development due to the proximity of recorded archaeological features and therefore it is recommended that an archaeological Authority under the HNZPTA is applied for in respect to the Stage 1 (infrastructure establishment) earthworks so that potential delays can be avoided should sites be exposed.

RECOMMENDATIONS

- The locations and extents of the two recorded sites R12/278, R12/723 should be taken into account and clearly identified in the detailed quarry development plans to ensure their avoidance and protection during all future works.
- The recorded sites R12/278 and R12/723 should be fenced off prior to the start of earthworks to protect them from accidental damage from heavy machinery and other quarrying operations.
- To mitigate any effects on the limited heritage values of the 20th century domestic / farming site R12/724, archaeological monitoring and recording of any remains or features revealed during topsoil stripping to prepare the quarry expansion area could be undertaken.
- An Authority under section 44(a) of the HNZPTA is applied for in respect to the Stage 1 (infrastructure establishment) earthworks as a precaution and obtained prior to the start of earthworks in case any unidentified subsurface remains are exposed by earthworks.
- Earthworks in the vicinity of the recorded sites should be monitored by an archaeologist to establish whether any unrecorded subsurface remains are present.
- If additional subsurface remains are exposed by earthworks, the adverse effects should be mitigated through archaeological investigation to recover information relating to the history of the site and wider area, under an archaeological Authority issued by Heritage NZ under the HNZPTA.
- If no Authority has been obtained and subsurface archaeological evidence should be unearthed during construction (e.g. intact shell midden, hangi, storage pits relating to Māori occupation, or cobbled floors, brick or stone foundation, and rubbish pits relating to 19th century European occupation), or if human remains should be discovered, the Accidental Discovery Rule (section E.12.6.1 of the AUP OP) must be followed. This requires that work ceases within 20m of the discovery and notification to the Auckland Council, Heritage NZ, Mana Whenua and (in the case of human remains) the NZ Police, who will determine the actions required.
- In the event of kōiwi tangata (human remains) being uncovered, work should cease immediately in the vicinity of the remains and tangata whenua, Heritage NZ, the NZ Police and Council should be contacted so that appropriate arrangements can be made.
- The tangata whenua should continue to be consulted regarding the proposal as there are recorded sites in the project area relating to Māori settlement, including the significant scheduled historic heritage place R11/278, which is also a place of Māori interest or significance on the AUP OP.

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