

Appendix 9: Technical Report:

Archaeological Survey and Assessment, Archaeological Resource Management

ARCHAEOLOGICAL RESOURCE MANAGEMENT

Proposed Nukumaru Station Road Extension Archaeological Assessment

Ivan Bruce



17

Archaeological Assessment of Affects

Location: Nukumarū, South Taranaki

Project title: Nukumarū Station Road Extension

Proposed Works: Extension and realignment of Nukumarū Station Road

NZAA Site number: R22/323, R22/494, R22/560

Assessment Commissioned by: South Taranaki District Council

Ivan Bruce, Archaeological Resource Management, March 2017



View of Lake Waikato, photographed from sand dunes above the rail corridor, looking north.

Executive Summary

The South Taranaki District Council (STDC) is proposing to extend the existing Nukumarū Station Road (the project) to link up with Waiinu Beach Road and provide assured, safe and resilient access to affected parties south of the Lime Works bridge. This assessment was undertaken in order to advise the STDC of any likelihood that this project will affect archaeological sites and to instigate the required Heritage New Zealand Pouhere Taonga (HNZPT) authority process should this be the case. This assessment finds that archaeological sites have been recorded in the route of the proposed roading alignment and there are reasonable grounds to expect that earthworks associated with this project will affect archaeological evidence. Consequently it is recommended that any works are carried out under an archaeological authority granted by HNZPT. This report is intended to accompany an application for such an authority.

1. Introduction

1.1 This assessment was undertaken in order to advise the STDC of any likelihood that this project will affect archaeological sites and to undertake the required statutory process if archaeological sites are likely to be affected.

1.2 The assessment is based on desktop research of the wider Nukumarū District, and a pedestrian survey of the area affected by the project earthworks. Archaeological sites in the immediate vicinity were also inspected to provide context.



Figure 1: The location of the project route indicated in red. Image: (Aerial image: Taranaki regional explorer, accessed 2017). Inset: Location of the proposal in district context.

1.3 The project will cross a number of privately owned properties.

1.4 The project will involve the construction of a road alignment.

1.5 The preparation of the ground surface for this project will require the removal of topsoil and underlying sub soils prior along the proposed road alignment indicated in Figure 3. These preparatory earthworks will be undertaken by earthmoving machinery and mechanical diggers.

1.6 The project area has not yet been the subject of archaeological investigations, other than field survey. This survey, background research and report production was undertaken by Ivan Bruce between December 2016 and February 2017. This report outlines the results.



Figure 2: Stabilised dunes, under pasture and grazed by dry stock, near the Waiinu Beach Road intersection

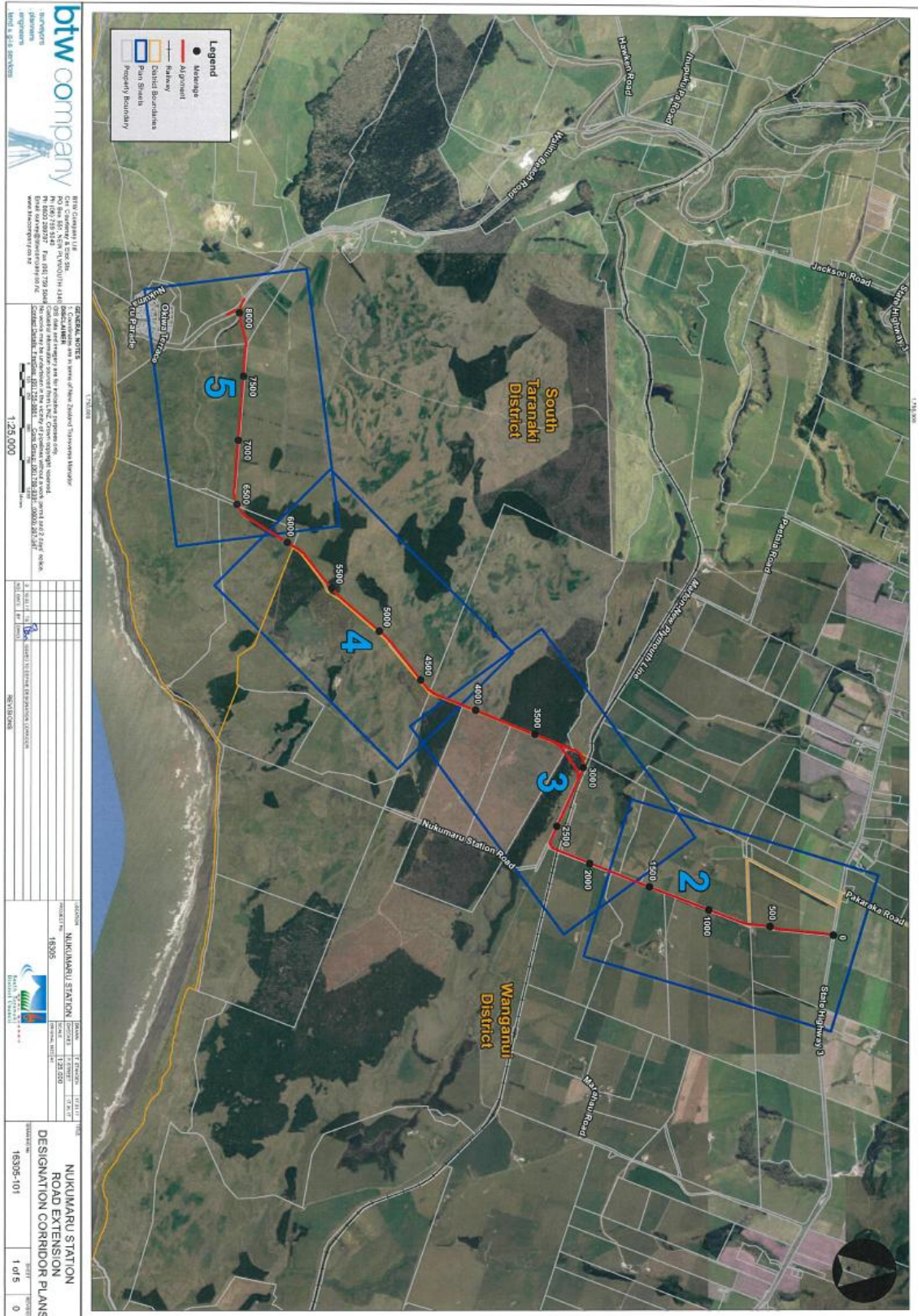


Figure 3: Detailed plan showing the proposed Nukumarū Station Road alignment as assessed. Plans 2 - 5 are included in the appendix of this report.

2. Statutory requirements

2.1 There are two pieces of legislation in New Zealand that control work affecting archaeological sites. These are the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA) and the *Resource Management Act 1991* (RMA)

2.2 HNZPT administers the HNZPTA. It contains a consent (authority) process for any work affecting archaeological sites, where an archaeological site is defined as:

Any place in New Zealand, including any building or structure (or part of a building or structure), that

- a. 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
- b. Provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and
- c. Includes a site for which a declaration is made under section 43(1)

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

2.4 The archaeological authority process applies to all archaeological sites, regardless of whether:

- The site is recorded in the New Zealand Archaeological Association Site Recording Scheme or included in the Heritage New Zealand List.
- 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

2.5 The heritage places assessed in this report are prehistoric and historic archaeological sites as defined under the HNZPTA.

2.6 The RMA requires City, 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 safeguarding the options of future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (Section 6f).

3. Assessment methodology

3.1 As part of this assessment a review of the archaeological record and archaeological literature pertaining to the area was undertaken; aerial photographic records were inspected; and historic land plans, campaign maps and geological maps were examined for relevant information. The assessment also involved a pedestrian survey of the area through which the road will cut, and archaeological sites in the vicinity were also inspected to provide context to this assessment.

4. Physical environment and setting

4.1 The project route cuts through two distinct environmental zones. Between the Waiinu settlement and Lake Waikato the road cuts through areas of sand hill country comprising a series of now largely consolidated sand dunes, generally running in a east west direction. In the mid 19th Century the sand dunes were crossed by at Maori tracks linking coastal fishing pa to the settlements on the Waitotara River. Since European colonisation the area has been used for dry stock grazing and radiata pine forestry.



Figure 4: Sand dunes becoming stabilised under grass in the southern half of the project area.

4.2 At the southern edge of lake Waikato the dunes abruptly cease and give way to Taranaki ash soils which extend northward for several kilometres before reaching steeper hill country inland of SH3. This area is characterised by flat to rolling plains. These plains are bisected by a number of gullies formed by small streams and wetland areas. Blocked off from the sea by the coastal dunes, these streams drain to a number of small lakes. Lake Waikato is situated near the project area, Lake Paetaia to the west and lake Marahau to the east; the latter being the largest of these. The productive Taranaki ash soils were well suited to Maori horticultural production and combination of these soils and wetland resources meant that the area likely sustained a large prehistoric Maori population. For the same reasons today the area is highly productive for dairy farming and agriculture.



Figure 5: Dairy herd grazing on Taranaki Ash soils and now drained wetland area beside Nukumaruru Station Road.

5. **Maori Traditional Histories and Archival Research**

5.1 Manawhenua in the Nukumaruru District is held by the Nga Rauru Kiitahi, who according to oral tradition are descended from ancestors that occupied this area prior to the landing of the Aotea Canoe at Patea circa 1350.

The tribe emanated from the celestial and spiritual trees of the gods, down from the legion of spirits who were not seen but heard, through the generations of Te Kahui Rere and the genealogies to Rauru the man. Rauru was a man of one mind. There was no going back on his word, hence he was called Rauru Kiitahi (Rauru of the one word). Ngaa Rauru Kiitahi existed prior to the arrival of the Aotea waka

5.2 This whakapapa, which also includes the later assimilation with the descendants of the Aotea Canoe, is set out at length in the preface of the Ngaa Rauru Deed of settlement (2003).

5.3 I am not aware of written traditional Maori accounts of the prehistoric occupation that refer to archaeological sites that are likely to be affected by the project although a number of publications refer to sites with the Nukumaruru District generally (Warner 1976, Feist 1983). Early land plans indicate that the area sand dune area through which this project passes

was traversed by a number of Maori tracks which lead from settlements on the Waitotara River Valley, principally Ihupuku, Kaipo, and Wereroa; to coastal settlements, situated south west of the project route. These places are small fishing pa and places for seasonal occupations, Waikaramea (correctly Waikaramihi) and Te Ihonga are examples of two such settlements named on early land plans on the coast line near the project route.

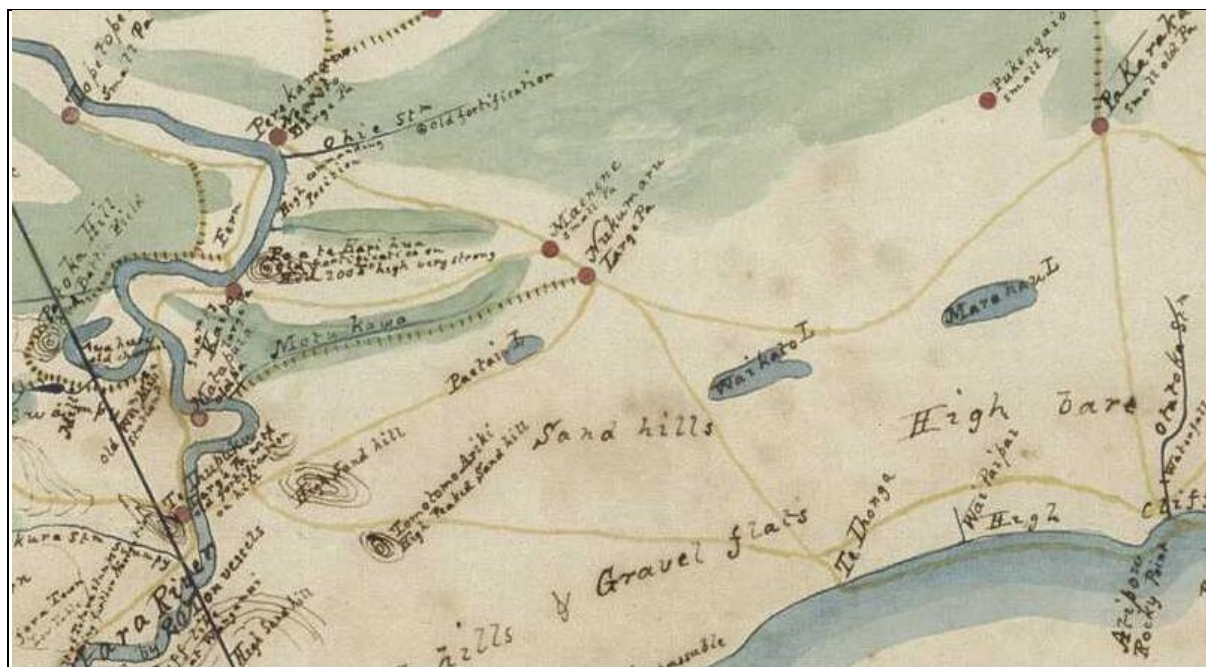


Figure 6: Extract from a sketch map of the coast from Wanganui to Manawapou produced by H. C. Fields sometime prior to the land wars. Showing Maori tracks, Villages and place names in the project area.

5.4 While the areas now dominated by dunes areas appear undesirable for prehistoric occupation, considerable landscape change has occurred here since human deforestation and the shifting nature of the dunescape has certainly covered and obscured prehistoric and historic Maori settlements in this area. The following extract of a published account written by H.C Fields in 1891 gives first hand evidence of such action. H.C. Field was a surveyor active in Wellington Provincial District 1851-1876, and produced the sketch plan of the Nukumaru area shown in Figure 6:

Between 1852 and 1856 I very frequently travelled up and down the coast between Wanganui and Waitotara, and, as the track at the Waitotara end passed for more than five miles across and among sandhills, I acquired a very accurate knowledge of the locality. As a rule, the changes were so gradual as hardly to attract notice, though occasionally, after a heavy gale, some of the sandhills

would perceptibly shift their position, the alteration being marked by the fact that the forward end of the hill assumed a steep slope, which afterwards eased off under the influence of lighter winds from other quarters, and of the traffic along the route, which was very considerable.

I did not visit the locality again till I went out, a few days after the fight at Nukumarū, to point out to General Cameron a route by which cannon and carts could easily be taken from the Nukumarū camp to a point near the mouth of the Waitotara where it was easily fordable at low tide. On this occasion I was quite surprised at the changes that had taken place. Old landmarks by which I had been accustomed to steer my course had disappeared, and nice grass flats and Maori cultivations had been buried by the sand. I have visited the same locality on several occasions since then, and each time I have observed further changes. The trampling of the stock disturbs and breaks the surface-soil; drifting begins, and in the course of a few years what has been a hill covered with fern and grass becomes a barren waste of shifting sand, which overwhelms the good flat land to leeward of it. Thus the area of the drift constantly increases, and, as the old hills shift their position, kitchen-middens and other buried articles are exposed. It was in a hollow thus formed by the drifting-away of a sandhill that I found the moa-bones, with unmistakable tomahawk-cuts upon them, in 1881; and I have never since visited the locality without finding more moa-bones.

About the year 1853 the Waitotara natives told me that their river formerly flowed out to the sea two or three miles south of its present mouth. At the time I felt very doubtful as to the correctness of the statement, as bare sand filled up what they pointed out as the old course to a height of considerably more than 100ft. Even the name "Tomotomo Ariki" (Lordly Entrance) by which they called the place failed to convince me. I have since, however, found that they unquestionably spoke the truth, as the drifting-away of the sand has left the whole course of the river perfectly well defined, though at a height of at least 80ft. above the present channel.

5.4 Tomotomo-Ariki is identified in an early plan, situated in the sand dunes in the general vicinity of project area. Early land plans name Waikato, Paetaia and Marahau lakes without noting settlement at these locations, but significant pa such as Pakaraka, Nukumarū and Maenene are recorded. This suggests that much of the extensive record of archaeological sites in the Nukumarū area may not have been occupied or in use in 1850s -

1860s, and may predate this period. There are likely to be unpublished traditional oral histories pertaining to this area and representatives from Nga Rauru should be consulted in this regard. The prehistory of the Nukumaru area is dealt with in greater detail in archaeological background.

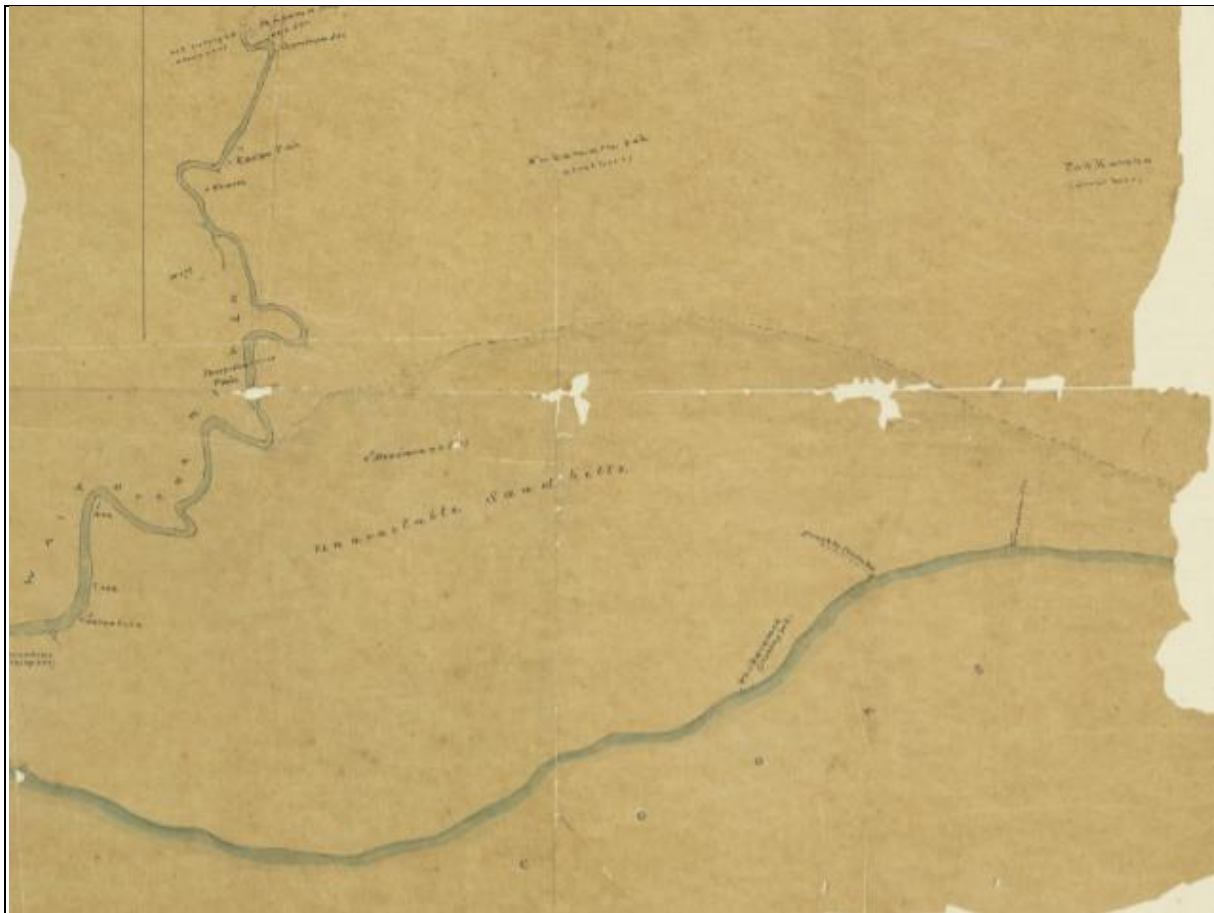


Figure 7: Another early land plan showing a Maori track, coastal settlements and inland pa (Pakaraka) within or nearby the project area.

6. Early European Period.

6.1 Among first Europeans to live in the area was the Anglican missionary Reverend Richard Taylor, who was frequently at Ihupuku, where a church was built in 1844. In 1848 Mr Stannard set up a Wesleyan mission station at Kaipo (briefly renamed Jericho), on the south side of the river to the current town of Waitotara. In 1859 the Waitotara block a deposit of 500 pounds was paid for the Waitotara Block and later purchased for 2500 pounds purchased. The sale was disputed and ultimately the land only occupied by Europeans after military intervention by (then) Lieut-General Duncan Cameron in 1865. Between 1865 and 1868 large areas of farm land were leased and sold to European settlers who began clearing and

fencing land, building houses and farm buildings. The area surrounding Lake Waikato was leased to W. Handley in 1868. Descendants of Handley still farm the area today.

7. Nukumarū - January 1865.



Figure 8: Plan of the Waitotara Block, occupied 1865.

7.1 Cameron arrived under instructions to take possession of the Waitotara Block and faced immediate opposition from Maori, who built a complex gun fighter pa at Wereroa, inland of the current town of Waitotara. From this stronghold, they held a vantage point over the Nukumarū area and Cameron's army as it crawled north from Wanganui. Cameron had left Wanganui with an army over 2000 men and made his first camp at Nukumarū on the 23rd of January 1865. This camp was situated on the edge of the Taranaki ash plains north of and below the sand dunes some 500m west of Lake Waikato.

7.2 The following day a skirmishing party was ambushed close to the Nukumarū Pa, resulting in a number of casualties on both sides. The following day Maori forces immediately attacked the British camp in broad daylight before withdrawing to the bush line in the direction of Wereroa Pa. As a result of these attacks Cameron moved his camp closer further from the edge bush line to the base of the sand dunes some 800m west of the project area on what is now largely railway reserve. The attack at Nukumarū had an impact on Cameron's future campaign with the general now refusing to move into the bush interior and in particular avoiding the obvious Maori entrenchments at Wereroa. Instead his army crept slowly

northwards along the coast. As a result of Cameron's cautious approach he was, somewhat unfairly, referred to as "the lame seagull" by the opposing Maori forces.

7.3 At Nukumarū, Cameron lost at least 17 men, including one officer. Maori losses are difficult to determine, one reliable witness reported 23 dead on the first day (Cowan 1923:49), Cameron himself reports picking up no more than eleven Maori dead (Cameron 1865). Both Maori and British dead were buried in mass graves in the dunes above the camp following the battle. The British were later exhumed following the deterioration of the grave fencing and removed to Whanganui, where they now rest at the foot of the Veteran Steps, Whanganui. I am not aware of any attempt to relocate the Maori dead, who may still be buried in the dunes in an unmarked location. The location of the fenced enclosure of the soldiers graves is marked on a map produced in 1884, however the Maori grave is unmarked and reports describing the location of the Maori graves vague. A correspondent at the battle describes the Maori dead buried in two graves " a little in the rear of our men" (New Zealand Herald, 6 February 1865). A report on the later exhumation refers to a " remains of a mound at the N.W. end of the burying ground (which was situated on the top of a razor-back sand hill or ridge...), where a number of natives were buried in one grave" (Wanganui Chronicle, 5 April 1892). My best estimate based on scarce map sources and written accounts is that the Maori grave or graves may lie on the dune ridge overlooking approximately 800m west nor west of the project route.

7.4 Nukumarū was a significant battle in the NZ wars. Notably, a Victoria Cross was later awarded to Captain Hugh Shaw for retrieving a wounded comrade under fire during the first day of this action. Four British redoubts and a substantial camp were constructed on the fields below the dune ridge to the west of Lake Waikato as well as a substantial Maori fortification at Nukumarū, unfortunately all surface trace of which has been ploughed away.



Figure 9. Sketch of the engagement at Nukumaru in 1865, showing both British and Maori positions. The project area is situated south east of the battleground, crossing the sand dunes to the south of Lake Waikato, depicted in this sketch.

8. Handley's Woolshed - November 1868

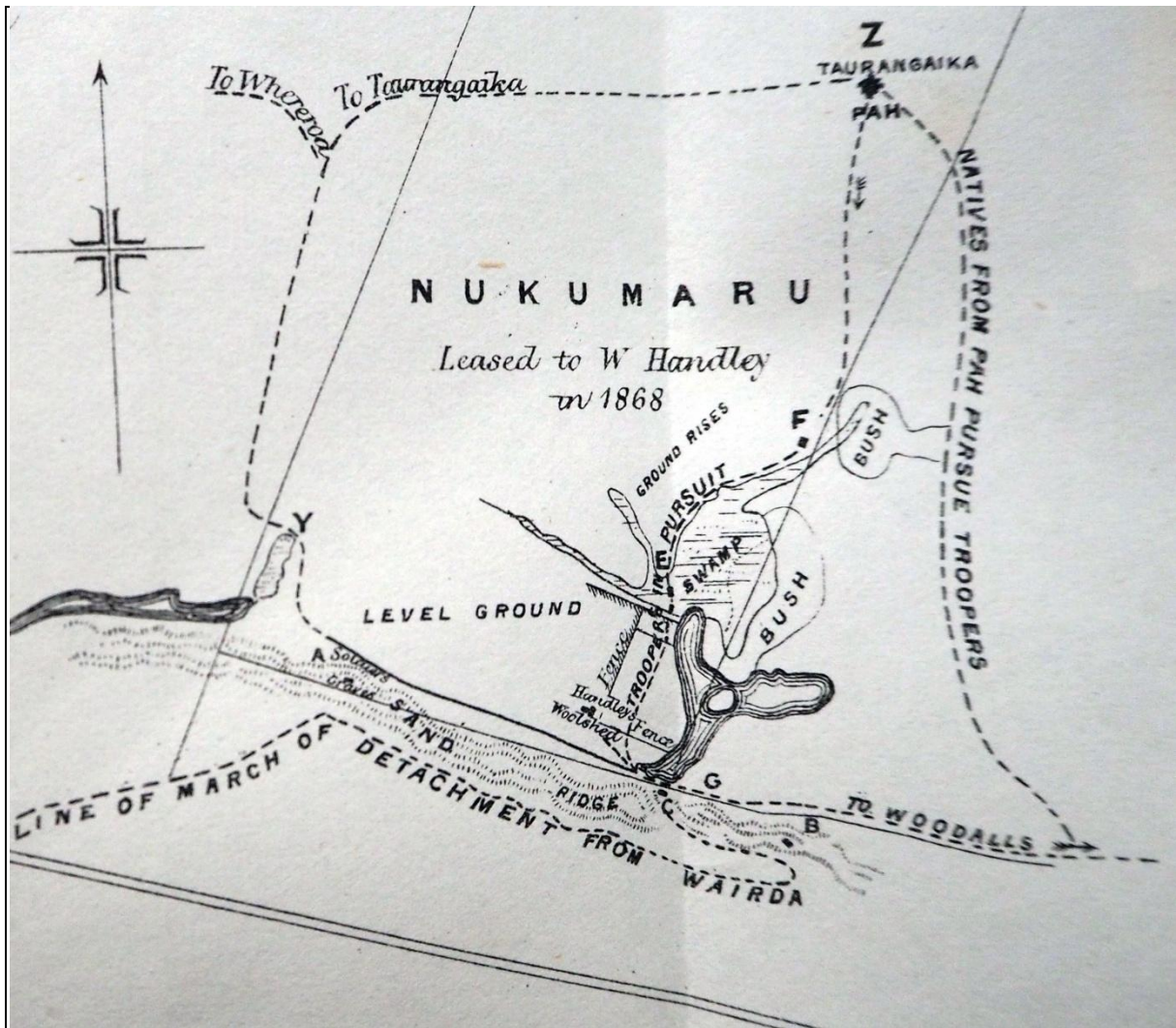


Figure 10. Extract from "Enlarged Plan of Nukumaru", showing the places mentioned in the evidence in the action Bryce v Rusden in 1886. The plan shows the location of Handley's woolshed, fences and the location of the soldiers graves buried 1865.

8.1 The area surrounding the project route was once again the focus of military action during 1868, as Colonial Government forces began their approach on Tauranga-ika. This position was a formidable gun fighting pa constructed by the Riwaha Titokowaru, the Ngati Ruanui rangitira who between 1868 and 1869 subjected the Colonial forces to a number of heavy military defeats and had reoccupied virtually all of the Taranaki Coast from Kai Iwi to Waingongoro. The site of Tauranga-ika is situated on the northern side of SH3 approximately 600m west of the northern end of project route.

8.2 In November 1868 Colonial Armed Constabulary and the Kai Iwi volunteer cavalry under Captain Newland attacked a foraging party of children in the fields surrounding

Handley's Woolshed, killing two adolescent boys with sabre and revolver and wounding others. The details of this infamous event are well described by Belich (1989), whose account is derived from the testimony of the soldiers who took part and surviving members of the Maori foraging party, given during a libel case between then Native Minister John Bryce and historian Rusden in 1886 (Bryce 1886). A plan of the events at Handley's woolshed produced during the trial shows the location of the woolshed on the level ground immediately south west of Lake Waikato. The project area passes within 250m of the former woolshed site and the project cuts through the sand dunes at the point where the Colonial troops assembled to charge.

9. Post land wars.



Figure 11: Nukumarū Station Road railway crossing, Nukumarū Station was situated on the southern side of the rail tracks below the dunes in background of shot.

9.1 On the morning of February 3 1869 following protracted entrenchment and sap construction, the Colonial forces found Tauranga-ika empty. Titokowaru having vacated the position overnight. Thereafter the theatre of war moved north and the Nukumarū district was re-occupied by European settlers. Homesteads were rebuilt and farms re-established. In 1878 the railway was extended from Wanganui to Waverley. The Nukumarū railway station was established at the foot of the sand dunes near the junction of the railways at what is now the southern end of Nukumarū Road in September of 1880. There was initially no road access to the station from the main Waitotara - Wanganui Road (now SH3) (Wanganui Herald, December 1880) and the Nukumarū Station Road was purchased and constructed

circa 1882. The station closed in 1972. As the station was built in 1878 there is potential that material predating 1900 will be encountered and the station should be treated as an archaeological site (as defined by the HNZPTA) in the first instance.

9.2 By 1870 the Cobb and Co Coach stopped at the small township of Nukumarū situated on SH3 to the west of Nukumarū Station Road, which at the time contained only two businesses, a general store and the Nukumarū Hotel, the coach used to make a brief detour en route to visit the site of Tauranga-ika Pa. The Nukumarū Hotel was opened in 1870 by a William Handley, former Sergeant in the Armed Constabulary (Wanganui Chronicle 26 November 1913). Situated on the western side of the corner of Nukumarū Station Road and SH3 the Hotel operated from 1870 - 1910 when Handley retired the hotel (Wanganui Herald, 28 June 1910). The building continued to serve as a homestead and is still seen standing in aerial photography in 1965. The structure is now demolished with concrete abutments still visible in the paddock.

10. Archaeological Record

10.1 No archaeological sites affected by the project route are recorded on the HNZPT list.

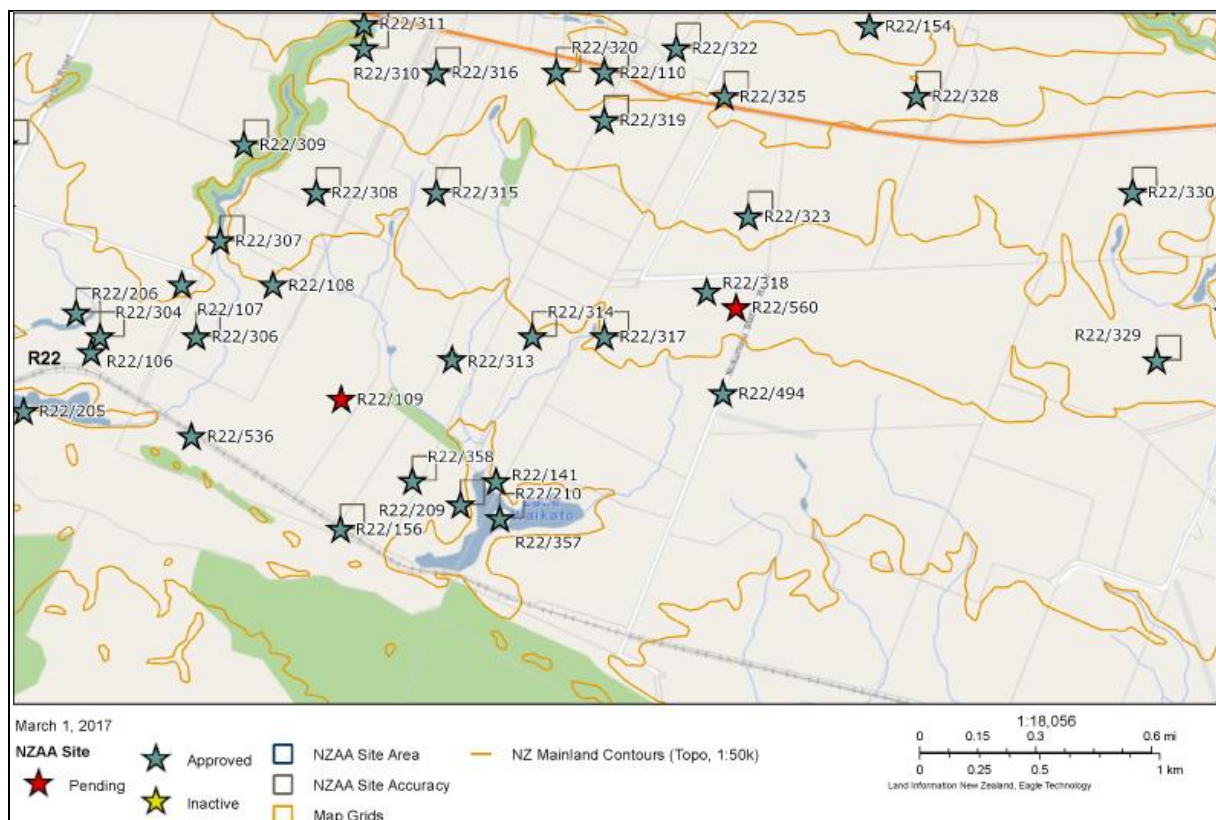


Figure 11: NZAA sites recorded near the northern half of the project route (Archsite: Accessed February 2017). Note; there are no recorded archaeological site sand dunes in the southern half of the project area between Waikato Lake and Waiinu Beach Road.

10.2 The New Zealand Archaeological Association Site Recording Scheme indicates that three recorded archaeological sites are situated on the project route.

R22/323. Pit and borrow complex. This site represents a widespread distribution of storage pits and possibly sand borrows covering the paddocks on the eastern side of Nukumaru Station Road, between the dog leg bend and SH3. The site was recorded by local archaeologist Colin Smart in 1962, based on an aerial photo survey and field survey. Smart noted that the site consisted of scattered pits in pairs, lines and groups, as well as single, over an area of 700 by 1000 yards. A review of the 1942 aerial photograph confirms Smarts interpretation. The pits have long since been ploughed over and surface evidence was not found in the 2006 NZAA site recording upgrade, however the likelihood of subsurface archaeological evidence was noted.



Figure 12: Current condition of paddocks containing site R22/323, ploughed and levelled.

R22/494. Ditch and Bank fence. A remnant section of colonial era ditch and bank fence. Situated on the eastern side of Nukumaru Station Road. Recorded in 2008.



Figure 13: Location of ditch and bank fence recorded as R22/494, ditch now back filled and bank levelled

R22/560. Find spot. The wetland area to the west of the dogleg bend in Nukumarū Station Road was the location for the recovery of a number (at least 11) wooden artefacts. A number of wooden artefacts were recovered from the small wetland area during the 1950s and donated to the Whanganui Museum by the then land owner Mr Stuart Forsyth. The location of the find spot was pointed out by the current landowner Mrs Di Handley and confirmed by Mrs Roslyn Blair (formerly Forsyth) of Maxwell, a former landowner. The artefacts recovered from here were reportedly timo and digging sticks. The wetland is culverted under the Nukumarū Station Road, and appears to have a reduced water level today when compared to 1956 aerial images, however the wetland still retains water and surviving artefacts cannot be discounted.

10.3 A large number of archaeological sites have been recorded in the Nukumarū District. Although it is unlikely that these sites will be affected by the project being assessed here, the following sites provide further prehistoric and historic context to the area in which the project is proposed.

R22/325. Originally recorded as an evenly spaced line of five surface pits running NW-SE on flat land. Recorded as part of Colin Smart's aerial survey 1962, but it is not clear from 1942 aerial image specifically which pits are referred to with this record, such is the large number of features visible in the 1942 aerial.

R22/318. Six shallow, wide depressions on top of small hill - possibly pits or bulldozer damage/modification during silage pit construction. Three additional depressions (and grass growth discrepancies) to the north, adjacent to road. originally recorded by Smart, later confirmed by NZAA site recording upgrade 2008, although in my view the NZAA location appears to be incorrect; as the site description given by Smart compares better to the site location indicated in the 1942 aerial image in Figure 17.

R22/357. Ngaihere Pa. Island pa, Situated on the Northeast corner of Lake Waikato. Contains pit features and is known to be an Urupa. Site R22/210, is a duplication of this record.



Figure 14: Site R22/318, location marked by the water tank. See 1942 aerial for confirmation.

R22/141. Pit Complex, large group of pits on the north shore of Lake Waikato. Pits are robust - averaging 3 x 3 m and up to 1 m deep in some cases. A total of 20 pits were identified. In long, unmanaged grasses - additional information may be obscured. Recent planting around pits. Fenced off from stock, visited during the NZAA Upgrade 2006.

R22/358. A group of 11 pits, containing two parallel rows of 6 and 3 pits respectively. Two large single pits associated, also an earthwork feature to the south-east. Recorded as part of Colin Smarts aerial survey 1962, surface evidence very clear in

1956 aerial, ploughed out in the 1962 aerial, no surface evidence by the time of the 2006 NZZAA Upgrade.

R22/209. Hangi stones: 10 m along and 5 m up from lake shore. recorded by Matt Campbell in 1998. Not recovered during the 2006 NZZAA Upgrade.

R22/156. Historic woolshed. Scene of an attack on Maori children by a Colonial Force in November 1868. No visible surface evidence remains but location displayed in historic land plans.

R22/109. One of the four sentry redoubts defending Nukumaru Camp to the west after the battle of Nukumaru in 1864, this redoubt appears from the 1950s aerials to have been enlarged into a standalone redoubt to house the garrison who remained after the main British field force advanced westwards. The later redoubt appears to be 50x50m square, with an entrance on the SW side, bastion on the southern corner covering the SE side, large corner bastion on the northern corner covering the NE and NW sides. Surface evidence of the site, although very clear in the 1956 aerial was ploughed away by 1962.



Figure 15: Site of the military camp is situated on the flat land beyond the bend of the railway track, to the right of the farm buildings. The project route does not extend towards this site beyond the position the photograph was taken.

R22/536. Site of a large military camp constructed in 1865. There is a mass grave for Maori killed in battle of 25 January 1865 somewhere in the area. Located nearby and to the east of Lake Paetaia, railway line passes through site. Camp area measures approximately 100m N-S x 400m E-W. Identified by campaign map, no surface evidence.

R22/198. Find spot for one black quartzite cobble with three flake scars. Recovered on outcrop of shell rock above camping area and eastern end of beach by Peter Bristow in 1990.

R22/169 Oven and artefact find spot. On Coast line south of Waiinu.

10.4 I am not aware of reports referencing previous archaeological excavations on any of the sites mentioned within the Nukumarū District. However archaeological excavations were undertaken on or around Ngaihere Pa by the Wanganui Archaeological Society (long since defunct) circa 1968 (Taylor pers comm) but I am currently unable to source reports for this these excavations. All formal archaeological investigation to date has been limited to field survey of surface archaeological features. A general survey of the Nukumarū District based on aerial photography was conducted Maxwell and Colin Smart between 1960 - 1963. Peter Bristow from the Whanganui Museum recorded sites in a survey of the coastal area and inland lakes throughout Waitotara and Nukumarū during 1988. Other contributors include Alistair Buist (1987), and Dave Rudd (2016), who have concentrated on recording land wars sites in this area. Tony Walton who has reviewed the Smart surveys during his own work in the Wanganui District between 1979 and 1986. Non systematic site visits by archaeologists Matt Campbell (1998) and Phil Latham (2008) have further fleshed out the archaeological record of the area.

Site No	Site Type	Grid reference
R22/109	Redoubt	1752265 5590129
R22/141	Pits	1752910 5589786
R22/156	Agricultural/ pastoral	1752261 5589588
R22/169	Find spot	1749162 5585586
R22/198	Find spot	1749562 5585887
R22/209	Midden/ Oven	1752761 5589688
R22/210	Pa - Island /swamp	1752925 5589632
R22/318	Pits	1753787 5590574

R22/323	Pits	1753960 5590889
R22/357	Pa - Island /swamp	1752925 5589632
R22/358	Pits	1752561 5589788
R22/494	Agricultural/ pastoral	1753855 5590151
R22/536	Military Camp	1751641 5589974
R22/560	Find spot	1753910 5590509

Table 1: NZAA sites located within or near the project route mentioned in this report.

11. Review of aerial photography

11.1 A review of early photographic runs was undertaken as part of the background research for this project. The earliest photographic runs taken between 1942 and 1956 are of the most value for archaeological purposes as they predate a phase of heaving ploughing of the district and numerous archaeological features are clearly visible. Following later ploughing undertaken circa 1962, most of these features are no longer visible, but are highly likely to survive relatively intact below the plough zone and will be able to be investigated by archaeological practice.



Figure 16: 1942 Aerial image of site R22/323, comprising the area between SH3 and the dog leg in Nukumaru Station Road. A close examination of the image shows the area is pock marked by numerous pits and or borrows. The project alignment follows the north south fence line in the centre of shot.

11.2 My impression from reviewing the aerial photography is that the site recording paradigm adopted by the NZAA site record will in some cases give a misleading view of the real archaeological record, with the extent and complexity of the sites in the immediate vicinity of the project being under emphasised. For example site R22/323 is recorded as single site, when in reality the record refers to a prehistoric Maori gardening landscape, comprising widespread groups of pits and borrows covering an area of nearly 50 hectares.



Figure 17: 1942 aerial image showing the location of site R22/318, on the western side of Nukumaru Station Road. Two other currently unrecorded pit sites are indicated.

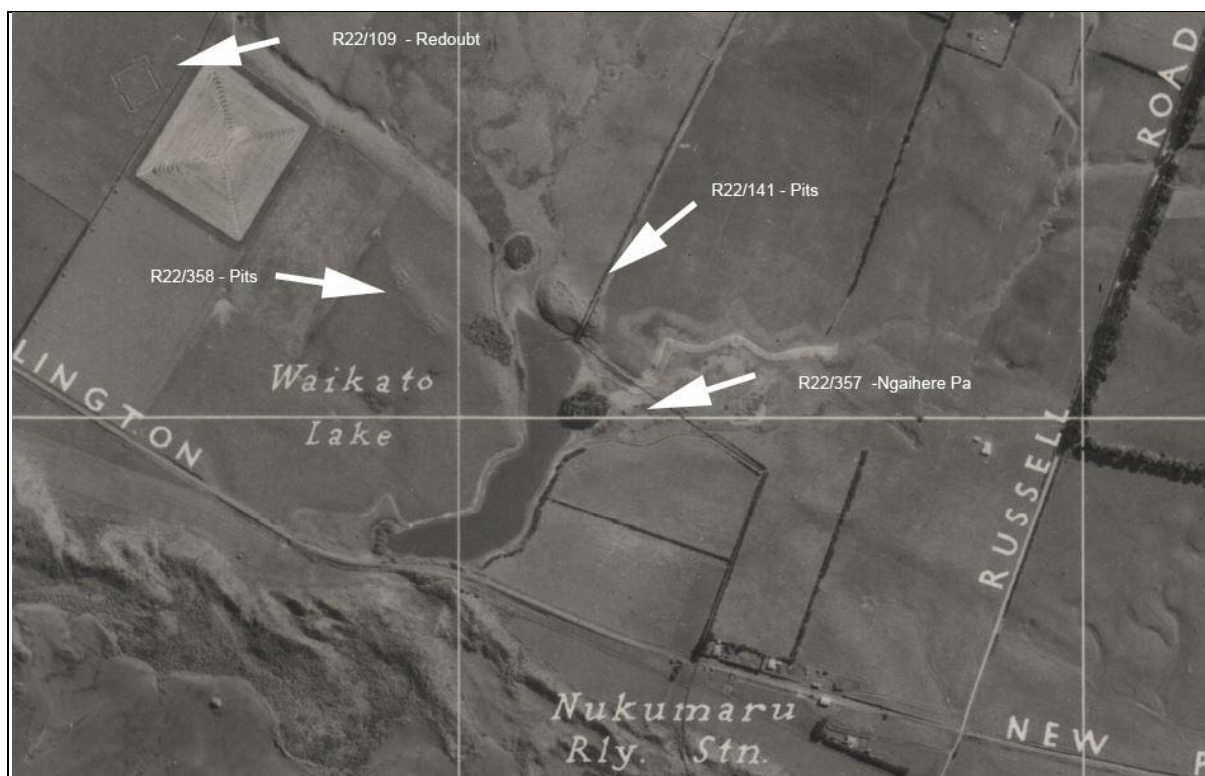


Figure 18. Archaeological sites surrounding lake Waikato identified in the 1956 aerial image. Nukumar station and outbuilding are also identified.

11.3 Furthermore a closer inspection of the 1942 aerials in particular show unrecorded clusters of pit features were formerly visible below the dogleg on the western side of Nukumar Station Road (Figure 17). It seems likely that the Smart (1962) survey, during which these Maori pit features were originally recorded, focussed primarily on the more obvious complexes and in particular those that still retained a surface trace in 1962. Lesser or peripheral features were not recorded on the NZAA site recording scheme.

12. Summary of Archaeological Evidence

12.1 Three recorded archaeological sites (R22/393, R22/494 and R22/560) may be affected by earth works involved with the project, and it is reasonable to expect that unrecorded archaeological evidence relating to the prehistoric Maori occupation, as well as mid 19th Century European military, industrial (Nukumar Railway Station) and pastoral land use may also be encountered during the development of this project.

12.2 All recorded archaeological sites affected by the project route are located north (inland) of the sand dunes. These sites are for the most part prehistoric Maori sites, predominantly pit and borrow sites, underlining the importance of this area for kumara cultivation and Maori horticultural practices. In particular, the proposed new section of road

750m south of SH 3 cuts through a dense collection of pit and borrow features that appears to have once been the focus of intensive prehistoric Maori horticultural operations. Other large clusters of storage pits are recorded on the inland side of lake Waikato in close proximity to Ngaihere Pa.

12.3 The project area is in close proximity to a number of nationally significant NZ Wars sites, most of which are located on the level plains north of the railway line. These include the British Military redoubts and camps from the 1865 West Coast Campaign and the site of Handley's Woolshed. Perhaps the most significant of these land wars sites are the remaining burials of the Maori dead, located in the dunes to the west of the project route.

12.4 While no archaeological sites are recorded in the sand dunes in the southern half of the project area between Waikato Lake and Waiinu Beach Road, this area cannot be treated as having a nil archaeological value. Early land plans and historic accounts of this area show the area was utilised by Maori during the early historic era and prehistoric era and it can be expected that to the shifting nature of the dunes will have covered archaeological evidence. Due to the longevity of the prehistoric occupation in the Nukumarū District the potential for unknown or unrecorded burials to have occurred in the sand dune area during is an ever present risk. Consultation with local Iwi is critical in identifying known or suspected Urupa within the dunes.

13. Field Survey Results

13.1 A field survey of the project area was completed in December 2016. The route of the project was covered by vehicle and/or walked and inspected for surface archaeological evidence. The project area where situated on grazed farmlands presenting reasonable conditions for the identification of surface archaeological evidence. The sand dunes in the southern half of the project route however present poor conditions for archaeological survey. No in-situ archaeological evidence was noted during the pedestrian survey.

13.2 It is apparent from background research that the area has been significantly modified since 1942. A comparison between aerial images from 1942 and modern aerial images indicates that the areas north of the sand dunes have been ploughed flat. Formerly distinct surface evidence of the pit and borrow site R22/323 is now completely lost or reduced to vague surface depressions. No evidence of the ditch and bank fence recorded as R22/494 could be found and this appears to have been recently backfilled and levelled. As can be expected, the wetland area of R22/560 is visible but no archaeological evidence was noted from surface survey.

14. Constraints and Limitations

14.1 The key limitation for the identification and assessment of archaeological sites in this case is that potentially affected archaeological sites show limited or nil surface visibility and comprehensive subsurface testing of the project area has not been undertaken. Therefore it cannot be precisely known what the condition, and consequently the archaeological value, of those subsurface archaeological features considered likely to survive in-situ beneath the pasture or dunes. Due to the large area the project covers subsurface testing across the entire route is not considered feasible and archaeological material will only become apparent following the monitored removal of topsoil from the ash soils and in cuttings exposed by earthworks through the dunes.

14.2 It can be expected that the area has been repeatedly ploughed to establish and maintain pasture, a practice traditionally undertaken as part of normal farming practice throughout the Taranaki region in the 19th and early 20th Century. As a result there is also the possibility that further unrecorded archaeological features, may exist subsurface within the project area despite not being visible in the early aerial images or encountered during this field survey.

14.3 At present there are no identified borrow or dumping areas identified in the project brief as the project design is at an early stage. There are also no proposed alternatives to this design. Should borrow or dumping areas become necessary, or alternative routes developed, these will need to be subject to further archaeological assessment.

14.4 This assessment was undertaken for the purposes of recording and documenting archaeological evidence. Representatives from the Nga Rauru Iwi are being contacted independently for their opinion of the cultural significance of the area and were present during a recent field visit undertaken in February.

15. Archaeological Values

15.1 The archaeology value of those recorded archaeological sites within the project area is assessed on the following criteria. Condition, rarity, contextual value, information potential and cultural association.

Site	Value	Assessment
R22/323 Pit and borrow complex	Surface Condition	Poor - largely levelled by ploughing
	Rarity/ Uniqueness	Common - Archaeological evidence of pit and borrow complexes are recorded throughout South Taranaki. A number of examples are indicated in the immediate vicinity (Table 1). The greater part of this site will remain unaffected by the road construction
	Contextual Value	Low. The pit and borrow features are examples of widespread Maori horticultural practise in the Nukumaru area.
	Information Potential	Moderate. It can be expected that earthworks will encounter a number of sub surface food storage pits and associated evidence of Maori occupation, including bases of dateable cooking fires and hearths where these features were originally cut deeper than the plough zone. More finely grained data relating to intra site settlement pattern, such as patterns of post holes from house and palisade structures, or substantially intact garden soils are likely to have been destroyed by ploughing.
	Amenity Value	Low. The site is entirely subsurface. Amenity value in this case is negligible without interpretive materials.
	Cultural Associations	High. Representatives of Nga Rauru have expressed concern at the historically high level of archaeological site damage resulting in alienation from places considered waahi tapu

		within their rohe, and consider sites such as this significant as they provide potential to inform and educate present and future generations of Nga Rauru about their past.
--	--	--

Table 2: R22/323. Archaeological values as assessed

Site	Value	Assessment
R22/494 Ditch and bank fence.	Surface Condition	Nil - recently back filled and levelled.
	Rarity/ Uniqueness	Common - Ditch and banks were commonly used throughout the Taranaki Region by colonial farmers to fence stock. While very few of these remain in original or even recognisable condition, the Nukumarū District will contain numerous subsurface examples, such as this one
	Contextual Value	Low. The ditch and bank is an examples of widespread colonial farm practise.
	Information Potential	Low. The archaeological evidence is likely to consist of two parallel shovel dug trenches. There is potential for the trench fills to contain mid to late 19th C artefacts such as bottle glass, iron and ceramic.
	Amenity Value	Low. No surface evidence
	Cultural Associations	Low. The plan of the events at Handley's woolshed (Figure 10) make it clear that this fence is not associated nor necessarily extant to those actions, as suggested by the site record. As such this site represents a relatively common place colonial farm feature and the cultural associations relating to this are limited.

Table 3: R22/494. Archaeological values as assessed.

Site	Value	Assessment
R22/560 Find spot	Surface Condition	Nil - Wetland
	Rarity/ Uniqueness	Rare - Due to the drainage of most of the former wetlands throughout Taranaki and NZ caches of wooden artefacts are rare and/or under reported.
	Contextual Value	High. The recovery of a collection of horticultural implements from the area further supports the premise that the area was formerly used for prehistoric Maori horticulture.
	Information Potential	Unclear. It cannot be ascertained at this point if further artefacts will still exist in the remaining wetland.
	Amenity Value	Low. No surface evidence
	Cultural Associations	High. The recovery of carved objects and/or tools are considered taonga by the Nga Rauru Iwi.

Table 4: R22/560. Archaeological values as assessed.

16. Assessment of Affects

16.1 The project will require earthworks along the entirety of the proposed roading alignment, with a 50m (maximum) wide construction corridor along the entire length. Archaeological sites that are recorded within the construction corridor will be affected by this work. Any archaeological material impacted by these works will be limited to that within the project area as defined in Figure 2.

16.2 In the case of site R22/323 the road alignment is likely to encounter at least two groups of pits identified in the 1942 aerial photograph. While these pits are currently completely ploughed out and in-filled it can be expected that these features will be of sufficient depth that the greater part the pit features will remain in-situ. There is potential for archaeological excavation of these features and the recovery of artefactual, paleofaunal,

microfossil and stratigraphic evidence from within the pit fills. The road alignment will affect only a relatively small part of a much more extensive site, covering a 50 hectare area.

16.3 The road alignment is planned to be widened on the eastern side Nukumar Station Road reserve, and will therefore remove any subsurface trace of the ditch and bank fence is recorded as R22/494.

16.4 As the road will need to be widened in the area of the existing culvert in the wetland site R22/560, the existing culvert will require extension of alternative a new culvert put in place. Consequently there is potential that earthworks involved with installing the culvert may affect unrecorded artefacts from this wetland.

16.5 The project cuts through the area of the former Nukumar Railway Station and earthworks here are highly likely to expose subsurface remains of railway infrastructure. As the area of the former station is now ploughed and under grass, archaeological evidence of the station will be limited to outlines of concrete structures; and/or gravelled areas; post hole alignments relating to the station structures; wells and rubbish holes. Without plans or photography of the 19th Century station, clearly differentiating between 19th and 20th Century structures on the basis of posthole alignments will be difficult or impossible; discretely dateable archaeological material that predates 1900 may be limited to the contents of rubbish holes.

16.6 To the best of my knowledge the proposed road alignment will not affect known or suspected archaeological sites within the sand dune areas. However due to the prior use of the area by Maori and the shifting nature of the unstable dunes the discovery of archaeological evidence during the earthworks associated with this project cannot be discounted. Robust site discovery and management protocol will need to be established as the project crosses this area.

17. Recommendations and Conclusions

17.1 It is recommended that all earthworks undertaken as part of this project are undertaken under a general authority from Heritage New Zealand Pouhere Taonga. This authority is intended as a precautionary measure in the event that unrecorded archaeological evidence is encountered during this earthwork. It can be expected that this authority will contain conditions including the onsite monitoring of earthworks by a qualified archaeologist

and representatives from the Nga Rauru Iwi. Archaeological investigation and reporting of finds to an accepted archaeological standard will also be required.

17.2 I recommend that the preparatory earthworks are initially undertaken in an exploratory manner, in which top soil is initially removed from areas where archaeological sites are currently recorded, under supervision from a qualified archaeologist. Should archaeological evidence be encountered, archaeological excavations will be undertaken to record the find in accordance with the project "archaeological management plan" to be established.

17.3 Pre application discussions should be undertaken with the regional archaeologist from Heritage New Zealand Pouhere Taonga prior to submitting this application to ensure that the correct process is undertaken and the application contains all required information to process the authority.

17.4 Representatives of the Nga Rauru Iwi may have unpublished oral traditions relating to the pre European Maori settlement of the area under assessment. A consultation process will provide opportunity for representatives of this Iwi to offer further details pertaining to these histories as part of a cultural impact assessment. This process is under way and consultation between representative of the STDC and Nga Rauru are ongoing.

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18.5 Land plans cited

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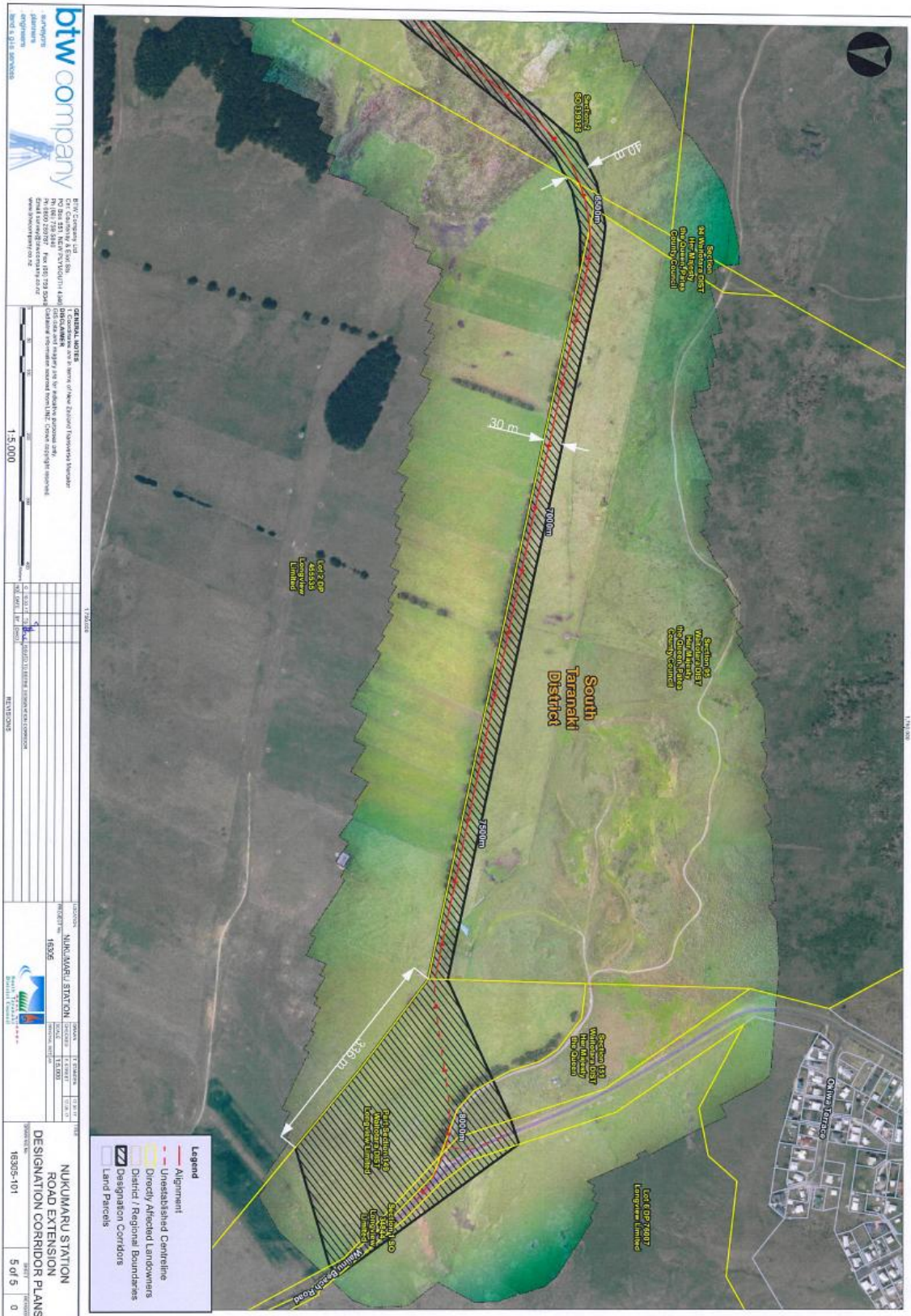
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19. Appendix



19.1 Detailed plans 2- 5 showing the proposed Nukumaru Station Road alignment as assessed.





19.2 NZAA Site Record Forms - Affected Site R22/323, R22/494, R22/560

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: R22/323</p> <p>SITE TYPE: Pit/Terrace</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1753960 Northing: 5590889 Source: CINZAS</p>	
<p>IMPERIAL SITE NUMBER: N137/170 METRIC SITE NUMBER: R22/323</p>	
 <p>Scale 1:2,500</p> <p>Land Information New Zealand, Eagle Technology</p>	
<p>Finding aids to the location of the site The current grid reference puts the site in the paddocks c.300m east of Russell Road, Nukumarū, c.400m south of SH3.</p>	
<p>Brief description Originally recorded as scattered surface pits in pairs, lines and groups, as well as singles.</p>	
<p>Recorded features Pit</p>	
<p>Other sites associated with this site</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R22/323
<p>Site description</p> <p>Condition of the site The pits were not found. They were in poor condition in 1962 and the paddocks in this area had been well worked up since then. There may have been subsurface evidence.</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Threats:</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: R22/323
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Supporting documentation held in ArchSite

AM RL -- 38 AA --

SITE REFERENCE FORM		SITE NUMBER
Map number N.137	Map name Waverley	137/170
Grid reference		SITE TYPE PITS
1. Aids to relocation of site 640 520 R22/323		
2. State of site; possibility of damage or destruction Poor condition, under grass.		
3. Owner Address Altitude	Tenant Address Altitude	
4. Name of site Source of name		
5. Date recorded 15. 2. 62.	Details of investigation; methods and equipment used Aerial photo survey	
6. Aerial photograph numbers D.93109 376/24		Site shows: clearly/badly/pot. of all
7. Reported by C.D. Smart	Filekeeper I	
Date 15/ 2. 62.	Date 15/2/62	



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

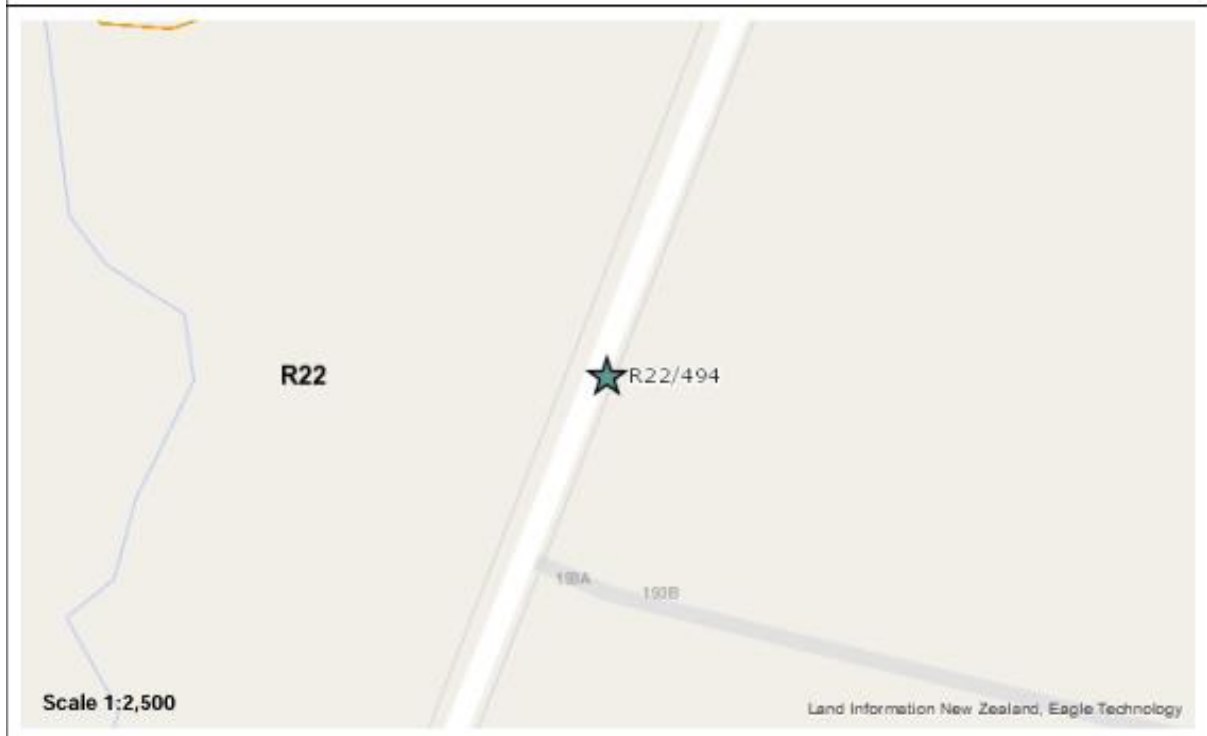
<u>SITE DESCRIPTION:</u> Map number H.137 Map name Waverley Grid reference	SITE NUMBER 137/170
	SITE TYPE PITS
<p>Scattered surface pits in pairs, lines and groups, as well as single, over an area of 700 by 1,000 yards.</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: R22/494</p> <p>SITE TYPE: Agricultural/ pastoral</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
--	--

SITE COORDINATES (NZTM) Easting: 1753855 **Northing:** 5590151 **Source:** Handheld GPS

IMPERIAL SITE NUMBER: **METRIC SITE NUMBER:** R22/494



Finding aids to the location of the site
 Eastern side of Nukumaru Station Road.

Brief description
 Ditch and bank fence.

Recorded features

Other sites associated with this site

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R22/494
<p>Site description</p> <p>Condition of the site</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Threats:</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: R22/494
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Supporting documentation held in ArchSite

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS260) NZMS 260 map number R22 NZMS 260 map name Wanganui NZMS 260 map edition MS 260		NZAA METRIC SITE NUMBER R22-494 DATE VISITED 2-7-2007 SITE TYPE Ditch and Bank Fence SITE NAME: MAORI OTHER	
Grid Reference Easting .2.6 6 3 8 9.5.		Northing .6.1 5 1 8 6.3.	
1. Aids to relocation of site (attach a sketch map) The remnants of this ditch and bank fence run parallel with, and, on the eastern side of Nukumaruru Station Rd circa. 1.2 km south of the junction with SH3.			
2. State of site and possible future damage There are only remnants of the fence left, however, despite being in long grass at the time of visit two sections of the fence were still clearly recognizable. Road widening is a major threat.			
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) The remnants of this ditch and bank fence were pointed out to me by the adjacent landowners who graze the roadside edges. Given its fairly close proximity to the site where Handley's woolshed once stood it is possible that this is a remnant of the original farmstead fence. This would make it historically quite significant as a fence is described in the infamous Handley's woolshed incident, when one of Captain Bryce's troopers lost his mount when trying to jump a fence on the way to Handley's woolshed. The remnants of the ditch and bank fence are fairly shallow but two ditches about .3m deep and 1.2m apart run parallel for around 200m broken only by a driveway entrance.			
4. Owner Address Wanganui District Council		Tenant/Manager Address	
5. Nature of information (hearsay, brief or extended visit, etc.) Photographs (reference numbers and where they are held) NZAA database Aerial photographs (reference numbers and clarity of site)			
6. Reported by Address Phil Latham		Filekeeper Date <i>Mitchell Howwood</i> 10-9-08	
7. Key words Ditch and bank fence			
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code Latitude S Longitude E [] Type of site [] Present condition & future danger of destruction			

R22/494



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>Site Record Form</p>	<p>NZAA SITE NUMBER: R22/560</p>
	<p>SITE TYPE: Artefact find</p> <p>SITE NAME(s): N/A</p> <p>DATE RECORDED:</p>

SITE COORDINATES (NZTM) Easting: 1753910 **Northing:** 5590509 **Source:** On Screen

IMPERIAL SITE NUMBER: **METRIC SITE NUMBER:** R22/560



Finding aids to the location of the site
 The wetland containing the artifacts is situated on the western side of Nukumaru Station Road, below and south of the dogleg bend in the road.

Brief description

Recorded features
 Artefact - wooden

Other sites associated with this site

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: R22/560
<p>Site description</p> <p>Updated 01/03/2017 (Field visit), submitted by ivanbruce , visited 28/02/2017 by Bruce, Ivan Grid reference (E1753910 / N5590509)</p> <p>A number of wooden artifacts were recovered from the small wetland area during the 1950s and donated to the Whanganui Museum by the then land owner Mr Stuart Forsyth. The location of the findspot was pointed out by the current landowner, Mrs Di Handley and confirmed by Mrs Roslyn Blair (formerly Forsyth) of Maxwell, a former landowner. The artefacts recovered from here were reportedly timo and digging sticks. The Whanganui Museum has a collection of material on catalogue which are derived from the Forsyth property, including eleven objects, timo (cultivator), ketu (weeding implement), ko (digging stick) paoka (sharpened stake), and a hoe (canoe paddle), of which the provenance details match this location.</p> <p>Condition of the site</p> <p>Updated 01/03/2017 (Field visit), submitted by ivanbruce , visited 28/02/2017 by Bruce, Ivan</p> <p>The wetland is culverted under the Nukumaru Station Road, and appears to have a reduced water level today when compared to 1956 aerial images, however the wetland still retains water and surviving artifacts cannot be discounted.</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Threats:</p>	

Site R22/560 - Additional Information

Ivan Bruce - February 2017







Wetland area photographed north of the dogleg bend in Nukumarū Station Road, photo taken looking south. Area pointed out as find spot by Di Handley 2017.



Wetland area to the left of shot and water tank of hill to the right marks location of a number of rua pits visible in aerial images 1956.

Stuart Forsyth Donation to Whanganui Regional Museum 1955 01 Mar 2017

1		
Accession No	1802.6534	
Name/Title	TIMA OR TIMO: CULTIVATOR	
Brief Description	Tima, grubber; wood; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface. Part of a group of 3 Tima donated in 1955.	
Measurement Reading	80.2cm 5.8cm 1.8cm (11/16")	
Measurement		
1: Type	Length	
Reading	80.2cm	
2: Type	Width	
Reading	5.8cm	
3: Type	Depth	
Reading	1.8cm (11/16")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.1	
Name/Title	TIMA: CULTIVATOR	
Brief Description	Tima, grubber; wood; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface.	
Measurement Reading	91cm 30cm	
Measurement		
1: Type	Length	
Reading	91cm	
2: Type	Width	
Reading	30cm	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.2	
Name/Title	KETU or PINAKI: WEEDER	
Brief Description	Ketu, grubber wood; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface.	
Measurement Reading	73.2cm 6.5cm 1.2cm (1/2")	
Measurement		
1: Type	Length	
Reading	73.2cm	
2: Type	Width	
Reading	6.5cm	
3: Type	Depth	
Reading	1.2cm (1/2")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.3	
Name/Title	TIMA OR TIMO: CULTIVATOR	
Brief Description	Tima, grubber; wood; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface.	
Measurement Reading	80.2cm 5.8cm 1.8cm (11/16")	
Measurement		
1: Type	Length	
Reading	80.2cm	
2: Type	Width	
Reading	5.8cm	
3: Type	Depth	
Reading	1.8cm (11/16")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	

Stuart Forsyth Donation to Whanganui Regional Museum 1955 01 Mar 2017

2		
Accession No	1955.16.4	
Name/Title	KETU or PINAKI: WEEDER	
Brief Description	Ketu, weeder; kanuka wood; for grubbing weeds from garden plots; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface.	
Media/Materials		
Part	0 - Whole	
Media/Materials	Kanuka/Wood	
Measurement Reading	65cm 14.4cm 4.8cm (1 7/8")	
Measurement		
1: Type	Length	
Reading	65cm	
2: Type	Width	
Reading	14.4cm	
3: Type	Depth	
Reading	4.8cm (1 7/8")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.5	
Name/Title	KETU or PINAKI: WEEDER	
Brief Description	Ketu or pinaki, weeder; kanuka wood; found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface. Not currently identified in the collection 1.3.2017	
Media/Materials		
Part	0 - Whole	
Media/Materials	Kanuka/Wood	
Measurement Reading	80.4cm	
Measurement		
Type	Length	
Reading	80.4cm	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.6	
Name/Title	HOE: PADDLE	
Brief Description	Hoe, paddle with handle broken off. Previously described as a ko or digging stick. Found with other artefacts in a small swamp on the donor's property at Nukumarū about 2 1/2 feet deep. refer 1995.16.1-7.	
Measurement Reading	81.7cm 7.3cm 3.5cm (1 3/8")	
Measurement		
1: Type	Length	
Reading	81.7cm	
2: Type	Width	
Reading	7.3cm	
3: Type	Depth	
Reading	3.5cm (1 3/8")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	
<hr/>		
Accession No	1955.16.7	
Name/Title	PAOKA; SHARPENED STICK	
Brief Description	A pointed stick (broken) found in a small swamp on the property of Mr Forsyth about 2 ft 6" below the surface.	
Measurement Reading	73.7cm 2.1cm 1.9cm (3/4")	
Measurement		
1: Type	Length	
Reading	73.7cm	
2: Type	Width	
Reading	2.1cm	
3: Type	Depth	
Reading	1.9cm (3/4")	
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand	

Stuart Forsyth Donation to Whanganui Regional Museum 1955 01 Mar 2017

3	
Accession No	1955.38.1
Name/Title	KO; DIGGING STICK
Brief Description	Ko, or digging stick; manuka wood. Not currently identified in the collection 1.3.2017
Media/Materials	
Part	0 - Whole
Media/Materials	Manuka/Wood
Measurement Reading	178cm
Measurement	
1: Part	0 - Whole
Type	Length
Reading	178cm
2: Part	41mm
Type	Width
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand
<hr/>	
Accession No	1955.38.2
Name/Title	KO; DIGGING STICK
Brief Description	Ko, or digging stick; manuka wood. Not currently identified in the collection 1.3.2017
Media/Materials	
Part	0 - Whole
Media/Materials	Manuka/Wood
Measurement Reading	213cm
Measurement	
1: Part	0 - Whole
Type	Length
Reading	213cm
2: Part	60mm
Type	Width
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand
<hr/>	
Accession No	1955.38.5
Name/Title	KO; DIGGING STICK
Brief Description	Ko, or digging stick; kanuka wood. Not currently identified in the collection 1.3.2017
Media/Materials	
Part	0 - Whole
Media/Materials	Kanuka/Wood
Measurement Reading	80.3cm 6.9cm
Measurement	
1: Type	Length
Reading	80.3cm
2: Type	Width
Reading	6.9cm
Production Place	Nukumarū/South Taranaki/Aotearoa/New Zealand