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Nelson Airport – Options Analysis

Archaeological assessment for two runway extension options

Report prepared for Nelson Airport Limited
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Submitted: August 2022

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Report Submitted To	Nelson Airport Limited, Planz Consultants Ltd

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Executive Summary

Underground Overground Archaeology Ltd (UOA) was commissioned by Nelson Airport Limited (NAL) in September 2021 to provide a preliminary archaeological assessment of effects of a runway extension for a Nelson Airport Notice of Requirement (NoR) proposal. UOA has since been commissioned by NAL to prepare an archaeological assessment of two proposed options for the runway extension to accompany the NoR. NAL is seeking to amend its runway configuration and will be seeking to implement this through amendments to the Nelson Resource Management Plan, including an extension to the spatial area of the operative designation (DAA1).

Whilst not relevant to this assessment, which is focused on the spatial extent of any land-based designation that may impact on historic heritage or archeological values, it is understood that there may also be consequences for the Airport Height Restrictions (OLS) designation (currently DAA3) and associated forecast aircraft noise contours (currently DAA2)

This desktop assessment has been prepared in order to identify the potential for both recorded and unrecorded archaeological sites within any subsequent Notice of Requirement by Nelson Airport Ltd (NAL) for alternative runway extension areas, in order to inform the future use of the site. The report provides an assessment of archaeological values of the two proposed extension options (the 'northern option (Option A)' and the 'southern option (Option B)'), and provides a comparative analysis of the two options in regards to the potential effects to archaeological values.

At the completion of a consideration of the alternative sites, routes and methods by Nelson Airport Limited and its advisers on matters (including such matters as archaeology, ecology, landscape, acoustics and aviation logistics), Underground Overground Archaeology will be tasked with providing options for minimising and mitigating impacts to archaeological values for the preferred option, and the residual magnitude of effects with mitigation measures implemented. Those matters will be contained in a separate report.

UOA have undertaken research into the historic background and previously recorded or identified heritage and archaeological sites within both the alternative runway extension areas, as well as the wider Nelson area and reviewed previous archaeological reports for these areas, in order to determine the nature and values of any potential archaeological resources.

This assessment has identified that, on the basis of previous archaeological work in the area, there is the potential for unrecorded archaeological sites and features associated with the pre-European Māori use of the area to remain within both of the two extension options - Option A, extending to the north, and Option B extending and reclaiming the estuary to the south.

The land to the north of the current airport was used extensively during World War II as a Royal New Zealand Air Force (RNZAF) station and camp, and due to the temporary nature of the camp and extensive land development since the base closed, there is limited potential for archaeology to remain within the northern extension area.

Therefore, research has shown that Option A is less likely to encounter intact archaeological sites and would have less impact on archaeological values should a site be encountered with adequate mitigation in place. The effects would be permanent and significant, but can be partially mitigated but there are likely to be residual adverse effects.

Research has also shown that there are, at the time of writing at least one building within the Nelson Airport complex is associated with the RNZAF station, known as Hangar 2¹, that is scheduled as Group B heritage item

¹ A second scheduled heritage building, known as Hangar 3, was demolished in 2021. NAL hold a resource consent decision confirming their ability to deconstruct the building under its designation and a resource consent is not required to undertake this activity.

on the Nelson Resource Management Plan. It is not believed that the Hanger 2 building will be affected with either runway extension option. However, should this change, these historic heritage values will need to be considered and it is recommended that a detailed heritage impact assessment be completed to inform planning and design.

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1 Introduction

Underground Overground Archaeology Ltd (UOA) was commissioned by Nelson Airport Limited (NAL) in September 2021 to provide a preliminary archaeological assessment of effects of a runway extension for a Nelson Airport Notice of Requirement (NoR) proposal. After the initial analysis, Underground Overground Archeology communicated its high level Options findings to Nelson Airport Limited in November 2021, and subsequently prepared this report to accompany the Notice of Requirement documentation to be submitted to Nelson City Council.

Nelson Airport Limited is seeking to give notice to Nelson City Council (**NCC**) of its requirement for a designation to extend its main runway and therefore the spatial area of the current designation (DAA1; Figure 1-1). The runway extension is to remove operational constraints experienced by existing aircraft and to support the potential operational needs of future aircraft types. NAL has identified two options for the runway extension; Option A – which extends the runway and designation to the north of the current runway, and Option B – which extends the runway and designation to the south of the current runway.

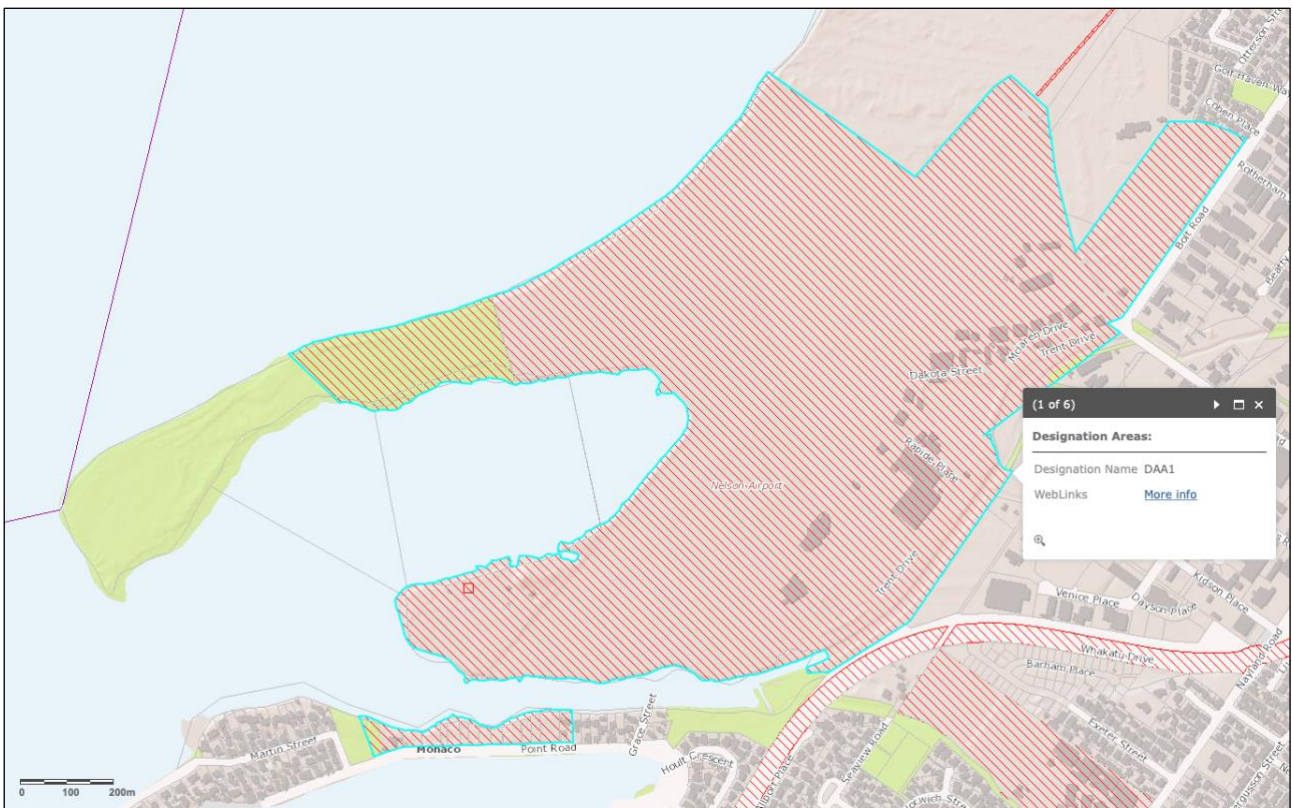


Figure 1-1. Nelson Airport showing the current Designation Area DAA1 outlined in cyan. Image: Top of the South Maps.

This report has been prepared in order to identify the potential for both recorded and unrecorded archaeological sites within the area of inquiry, in order to inform decision making around these options. Archaeological sites are areas that witnessed human occupation prior to the year 1900 and are protected under the *Heritage New Zealand Pouhere Taonga Act 2014*. Notice is also given to sites or features that have previously been identified as having historic heritage value under the RMA 1991 (scheduled and listed sites). This assessment is not, however, a detailed evaluation of historic heritage values and instead focuses on the identification and values relating to potential archaeological sites within the project area.

This report provides a comparative assessment of the two proposed extension options, focusing on the potential for significant adverse effects on known or potential values, the comparative advantages, in terms of the effects on archaeological values, between the two options for the purpose of informing the Options Assessment of the NoR by identifying the preferred expansion option from an archaeological perspective.

It is understood that this report will be part of a suite of reports prepared on behalf of NAL in terms of a consideration of, and support for a formal Notice of Requirement (NoR) to the Nelson Council for consideration under s171 of the Resource Management Act 1991.

This assessment of potential effects on archaeological sites will be based on what is anticipated in terms of required earthworks for each extension option. It should be noted that, in its current form, this level of detail will not be sufficient to inform an assessment of effects on archaeological values required to accompany an application for an authority under the *Heritage New Zealand Pouhere Taonga Act 2014*, but is appropriate for the NoR purpose and may therefore be adapted for an application for an archaeological authority in future, when the project reaches the developed design phase. The assessment of values has been prepared in accordance with Heritage New Zealand Pouhere Taonga's (2019) guidelines on preparing an archaeological assessment.

Following this report, and at the conclusion of the multi-disciplinary consideration of alternative sites, routes and methods, Underground Overground Archaeology will provide in a separate report based on the option that will form the NOR. This subsequent report will provide recommendations:

- based on the effects management hierarchy to avoid, minimise, remedy or mitigate potential adverse effects of the preferred option.
- of any additional assessments or specialist surveys required to complete detailed ECIAs that may be required with any subsequent Outline Plan prepared under s176A of the Resource Management Act to facilitate works otherwise authorised by the subsequent designation.
- of additional assessments or specialist surveys that would be required to complete detailed ECIAs to support future resource consent applications that are not anticipated to be provided for by the designation and subsequent Outline Plan process.

The scope of this report is limited to archaeological values and does not represent the views or cultural values of tāngata whenua.

2 Outline of extension options²

Two options for the runway extension are being considered: the Northern Runway (Option A) extension option; and the Southern Runway (Option B) extension option. A comparative spatial understanding of the two options is provided by Figure 2-1 and the requirements of each are detailed below.

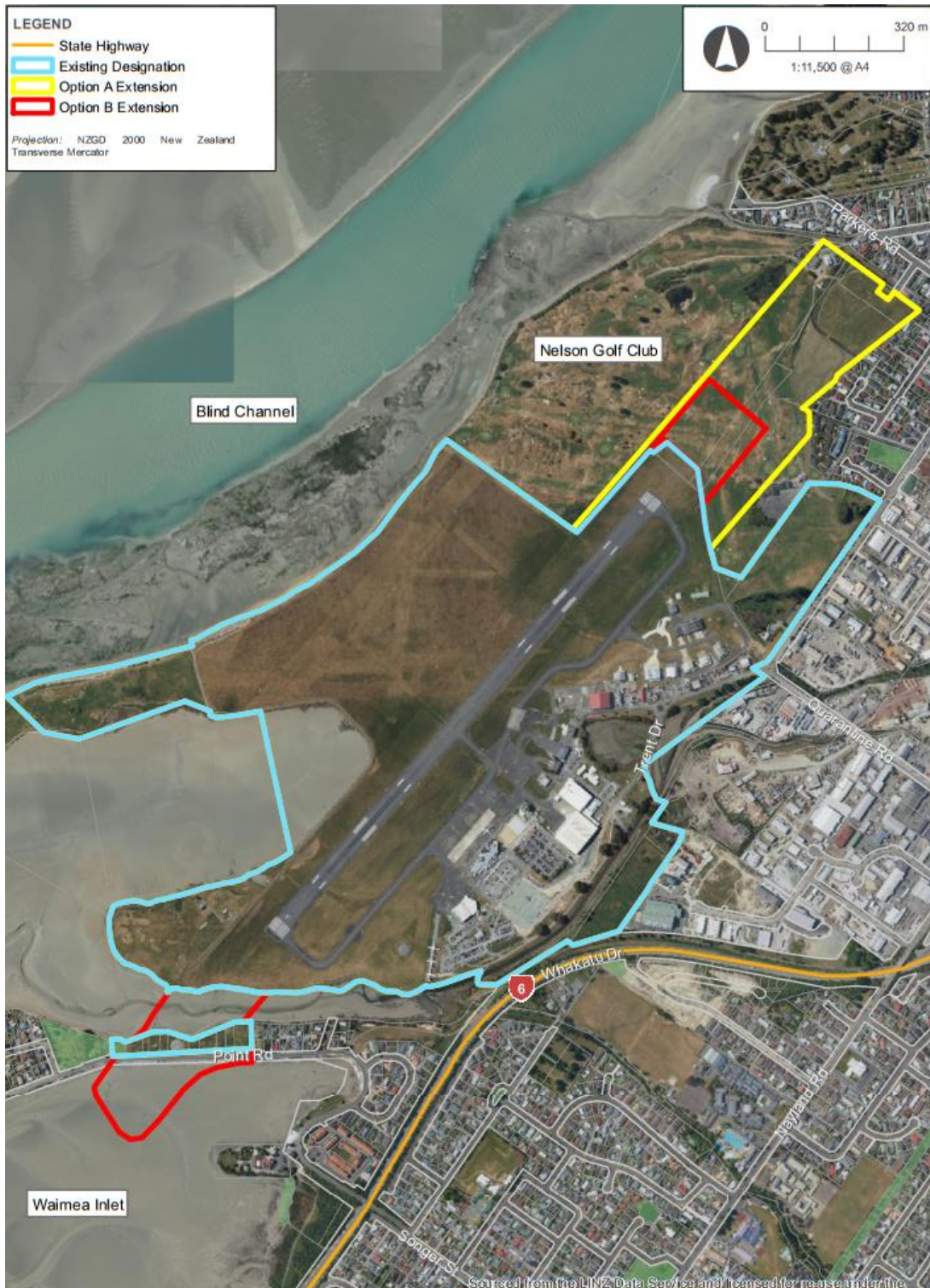


Figure 2-1. Aerial image indicating the spatial extent of current designation and the two alternative runway extension options.

² As provided by NAL and Planz Consultants Ltd.

2.1 Option A - The Northern Option

1. Extending the main runway length extent by 370 m; from 1347 m to 1510 m;
2. The proposed extension would extend the main sealed runway and provide a 240 m runway end safety areas (RESA) into the adjacent golf course land (as shown in Figure 2-2, below);
3. A 240 m runway end safety areas (RESA) would also be provided at the southern end of the runway end as required by Civil Aviation regulations pertaining to the extension of existing runways;
4. Re-alignment of the southern runway threshold to accommodate the mandated RESA length;
5. Main taxiway realignment with backtracking at the northern end to support the extended runway and mitigate the noise effects for a number of affected dwellings adjacent to the extended runway;



Figure 2-2. Concept design for the northern runway extension (Option A).

2.2 Option B – Southern Runway Extension

1. A runway extension of 163 m achieved by bridging across the Jenkins Creek on to NAL owned land on Monaco Peninsula (Figure 2-3, below) to achieve a 1,510 m runway length;
2. Reclamation of an additional (approximately) 3.6 ha in the Waimea Inlet to enable construction of the runway, southern end RESA and the need to provide for an alternative alignment of Point Road in a tunnel structure;
3. Creation of 240 m RESA's at each runway end;
4. The northern RESA would extend over golf course land;
5. The crossing of Jenkins Creek would likely involve a bridge structure of at least 220 m in width;
6. A clearway at the northern main runway end of approximately 60 m
7. A parallel taxiway extension to the south of 500 m;



Figure 2-3. Concept design for the southern runway extension (Option B).

3 Statutory Requirements

A notice of requirement (NoR) is a proposal for a designation or an amendment to an existing designation which authorises the requiring authority's work and activity on the site or area without the need for land use consent from the relevant territory authority. The notice of requirement has an interim effect, in that it protects the land for the designated purpose until the designation is confirmed and included in an operative district plan (s178 under the *Resource Management Act 1991* (RMA)).

The matters to be considered by NAL (as a requiring authority for the designation) are set out in s171 of the RMA. In relation to archaeology, a brief synopsis is:

a relatively broad level analysis of:

- the effects on the environment of allowing the runway extension (and associated designation spatial area). Section 171(1), including having particular regard to:
 - the respective statutory instruments (s171(1)(a));
 - a comparison (in terms of environmental effects) against alternative sites (s171(1)(b)); and
 - whether the work and designation are reasonably necessary (s171(1)(c)) [As will be considered in a subsequent report once NAL and their advisors have determined the preferred option].

Where there are positive effects (s171(1B)) that could be considered, or alternative conditions necessary to mitigate significant effects (s171(2)), these should also be identified.

The legislative requirements relating to archaeological sites and artefacts are detailed in the following sections. There are two main pieces of legislation that provide protection for archaeological sites: the *Heritage New Zealand Pouhere Taonga Act 2014* and the *Resource Management Act 1991*. Artefacts are further protected by the *Protected Objects Act 1975*.

3.1 *Heritage New Zealand Pouhere Taonga Act 2014*

The *Heritage New Zealand Pouhere Taonga Act 2014* came into effect in May 2014, repealing the *Historic Places Act 1993*. The purpose of this act is to promote identification, protection, preservation, and conservation of New Zealand's historical and cultural heritage. Heritage New Zealand Pouhere Taonga administers the act and was formerly known as the New Zealand Historic Places Trust (Pouhere Taonga).

Archaeological sites are defined by this act as

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

Additionally, Heritage New Zealand has the authority (under section 43(1)) to declare any place to be an archaeological site if the place

- (a) was associated with human activity in or after 1900 or is the site of the wreck of any vessel where that wreck occurred in or after 1900; and
- (b) provides, or may be able to provide, through investigation by archaeological methods, significant evidence relating to the historical and cultural heritage of New Zealand.

Archaeological sites are protected under Section 42 of the act, and it is an offense to carry out work that may "modify or destroy, or cause to be modified or destroyed, the whole or any part of that site if that person knows, or ought reasonably to have suspected, that the site is an archaeological site", whether or not the site

has been previously recorded. Each individual who knowingly damages or destroys an archaeological site without having the appropriate authority is liable, on conviction, to substantial fines (Section 87).

Any person wishing to carry out work on an archaeological site that may modify or destroy any part of the site, including scientific investigations, must first obtain an authority from Heritage New Zealand (Sections 44(a,c)). The act stipulates that an application must be sought even if the effects on the archaeological site will be no more than minor as per Section 44(b). A significant change from the Historic Places Act (1993) is that “an authority is not required to permit work on a building that is an archaeological site unless the work will result in the demolition of the whole of the building” (Section 42(3)).

Heritage New Zealand will process the authority application within five working days of its receipt to assess if the application is adequate or if further information is required (Section 47(1)(b)). If the application meets the requirements under Section 47(1)(b), it will be accepted and notice of the determination will be provided within 20 to 40 working days. Most applications will be determined within 20 working days, but additional time may be required in certain circumstances. If Heritage New Zealand requires its own assessment of the Māori values for the site, the determination will be made within 30 working days. If the application relates to a particularly complex site, the act permits up to 40 days for the determination to be made. Heritage New Zealand will notify the applicant and other affected parties (*e.g.*, the land owner, local authorities, iwi, museums, *etc.*) of the outcome of the application.

Once an authority has been granted, modification of an archaeological site is only allowed following the expiration of the appeals period or after the Environment Court determines any appeals. Any directly affected party has the right to appeal the decision within 15 working days of receiving notice of the determination. Heritage New Zealand may impose conditions on the authority that must be adhered to by the authority holder (Section 52). Provision exists for a review of the conditions (see Section 53). The authority remains current for a period of up to 35 years, as specified in the authority. If no period is specified in the authority, it remains current for a period of five years from the commencement date.

The authority is tied to the land for which it applies, regardless of changes in the ownership of the land. Prior to any changes of ownership, the land owner must give notice to Heritage New Zealand and advise the succeeding land owner of the authority, its conditions, and terms of consent.

An additional role of Heritage New Zealand is maintaining the New Zealand Heritage list, which is a continuation of the Register of Historic Places, Historic Areas, Wāhi Tapu, and Wāhi Tapu Areas. The list can include archaeological sites. The purpose of the list is to inform members of the public about such places and to assist with their protection under the *Resource Management Act 1991*.

3.2 Resource Management Act 1991

The *Resource Management Act 1991* (RMA) defines historic heritage as those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, and it may include historic sites, structures, places, and areas; archaeological sites; and sites of significance to Māori. It should be noted that this definition does not include the 1900 cut-off date for protected archaeological sites as defined by the *Heritage New Zealand Pouhere Taonga Act 2014*. Any historic feature that can be shown to have significant values must be considered in any resource consent application.

The heritage provisions of the RMA were strengthened with the Resource Management Amendment Act 2003. The Resource Management Amendment Act 2003 contains a more detailed definition of heritage sites and now considers historic heritage to be a matter of national importance under Section 6. The act 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 well-being of today’s communities while safeguarding the options of future generations.

Under the RMA, local authorities are required to develop and operate under a district plan, ensuring that historic heritage is protected. This includes the identification of heritage places on a heritage schedule (or list), designation of heritage areas or precincts and documentation of the appropriate regulatory controls. All heritage schedules include, but are not limited to, all items on the New Zealand Heritage List/Rārangī Kōrero. Additional sites of significance to the local authority may also appear on the schedule.

The regulatory controls for historic heritage are specific to each local authority. However, most local authorities will require RMA resource consent for any alterations, additions, demolition, or new construction (near a listed place) with Heritage New Zealand being recognised as an affected party. Repair and maintenance are generally considered permitted activities.

3.3 *Protected Objects Act 1975*

The *Protected Objects Act 1975* was established to provide protection of certain objects, including protected New Zealand objects that form part of the movable cultural heritage of New Zealand. Protected New Zealand objects are defined by Schedule 4 of the act and include archaeological objects and taonga tūturu. Under Section 11 of the *Protected Objects Act 1975*, any newly found Māori cultural objects (taonga tūturu) are automatically the property of the Crown if they are older than fifty years and can only be transferred from the Crown to an individual or group of individuals through the Māori Land Court. Anyone who finds a complete or partial taonga tūturu, accidentally or intentionally is required to notify the Ministry of Culture and Heritage within:

- (a) 28 days of finding the taonga tūturu; or
- (b) 28 days of completing field work undertaken in connection with an archaeological investigation authorised by the Heritage New Zealand.

4 Methodology

In order to assess the archaeological resources of the area of inquiry, UOA conducted detailed documentary research, and examined records of previously archaeological work undertaken within the vicinity of the area of inquiry. No site visit was undertaken as part of this preliminary options assessment.

UOA consulted numerous sources of documentary evidence in order to determine the historical context of the area of inquiry. The results of the documentary research are provided in Section 5. The sources utilised in this research include:

- sources regarding the Māori occupation and developments
- local histories
- 19th century newspapers available through the Papers Past website
- survey plans and land titles via LandOnline
- historic aerial photographs
- Heritage New Zealand Pouhere Taonga Digital Library
- Heritage sites scheduled on the Nelson Resource Management Plan

Previously recorded archaeological sites and reports on prior archaeological work carried out and near the area of inquiry can provide information that is valuable for assessing archaeological potential. UOA carried out a search of ArchSite (the New Zealand Archaeological Site Recording Scheme) to identify if there are any previously recorded sites on or near the project area. A search of the Heritage New Zealand Pouhere Taonga Digital Library was carried out to understand the archaeological work carried out in the area previously. The results of the ArchSite and Digital Library search are documented in Section 6.

The assessment of archaeological and other values is based on criteria established by Heritage New Zealand (2019):

- The **condition** of the site(s).
- Is the site(s) unusual, **rare or unique**, or notable in any other way in comparison to other sites of its kind?
- Does the site(s) possess **contextual value**? Context or group value arises when the site is part of a group of sites which, taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; the relationship between features within a site, and the wider context of the surroundings.
- **Information potential**. What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.
- **Amenity value** (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?
- Does the site(s) have any special **cultural associations** for any particular communities or groups (e.g., Māori, European, Chinese.)

The overall level of significance was determined based on the evaluation of the criteria listed above; however, it is not possible to fully understand the archaeological significance of subsurface sites, features, and materials uncovered during the site works. It is important to recognise that the significance of a site may change on the basis of what is found during the work programme.

After determining the history of the site(s) and evaluating its archaeological value, UOA assessed the effects of the proposed runway extension options on the archaeological resources of the area of inquiry. Specifically, UOA considered the following matters as outlined by Heritage New Zealand (2019):

- How much of the site(s) will be affected, and to what degree, and what effects this will have on the values of the site(s).

- Whether the proposed activity may increase the risk of damage to the site(s) in future. For example, change from farming to residential use may make sites vulnerable to increased pedestrian and vehicular activity.
- Whether a re-design may avoid adverse effects on the site(s). It is recognised that detailed evaluation of alternatives other than Options A and B is beyond the scope of the archaeological assessment, however, some consideration of alternatives may be considered where possible.
- Possible methods to protect sites, and avoid, minimise or mitigate adverse effects is discussed. These will form the basis of any recommendations in the final section.
- Measures of reducing the potential adverse effects on the site(s), management of the archaeological resources, and mitigation of information loss were considered.

5 Historical Background

The northernmost area of Te Wai Pounamu (the South Island) is known as Te Tau Ihu (the prow) of the waka of the demigod Māui. Traditional accounts relate that the first human settlers in Te Wai Pounamu were Waitaha, descendants of the explorer Rākaihautū who arrived in the waka *Uruao* in the 12th century. They were soon joined by other tribes such as Rapuwai, Ngāti Wairangi, Hāwea and Ngāti Māmoe. The relationship between tribes in Te Tau Ihu was complicated, with periods of peace and intermarriage as well as conflict. From about 1550, Ngāi Tara were in occupation of the Waimea area and began to spread out and establish mana whenua across the Nelson region. In the early 1600s they were displaced by Ngāti Tūmatakōkiri who dominated the area for two centuries. During the late 1790s, surrounding tribes such as Ngāi Tahu from the West Coast, Ngāti Kuia and Rangitāne from eastern Nelson–Marlborough, and Ngāti Apa, who were assisted by people from the Rangitīkei and Kāpiti areas (Kurahaupō tribes), displaced Ngāti Tūmatakōkiri. The Kurahaupō tribes were in turn overwhelmed in 1828 by Te Rauparaha’s confederation – Ngāti Tama and Te Āti Awa from Taranaki, and Tainui tribes Ngāti Toa, Ngāti Koata and Ngāti Rārua. Today there are eight mutually recognised tribes in the Nelson–Marlborough region: Ngāti Kuia, Ngāti Apa and Rangitāne (Kurahaupō tribes), Ngāti Toarangatira, Ngāti Koata and Ngāti Rārua (Tainui tribes), and Ngāti Tama and Te Āti Awa (Taranaki tribes; Walrond, 2015).

Within Whakatū (Nelson) numerous kāinga nohoanga (permanent settlements) and fortified pā were established, as well as kāinga taupua (temporary settlements) along the kā ara tawhito (traditional travel routes) which connected the various kāinga and seasonal mahinga kai. The Waimea Plains, located to the immediate south of the project area, were known for extensive kūmara (sweet potato) plantations. The land here was cultivated and improved with gravel, sand and wood ash (Walrond, 2015).

The coastal area of the Waimea Inlet was of great importance to local Māori as means of both transport and mahinga kai. The area is believed to have been settled over 600 years ago with successive tribes making their camps and settlements on the coast and islands (Millar, 1967). To the north of the project area, in Tāhunanui, one of the oldest camps was located near the junction of what is today Bisley Avenue and Rocks Road. This advantageous position provided ready access to kaimoana in the Waimea Inlet and the open waters of Te Tai-o-Aorere (Tāsmān Bay). The site also provided ready access to quantities of flax to the south in what is now Stoke, and its proximity to the important trading site of Matangi Āwhio to the north made it an important site for local iwi (Bell, 2021).

The swampy lands to the east of the project area, in what is today Stoke, were also important to local iwi. Covered in flax and raupo this land was an important mahinga kai. The small stream which came to be known as Poorman’s Stream not only provided a fresh water source but was also rich in whitebait, eels, and koura, and would later provide food for the earliest Pākehā settlers (Daniell-Smith, 2021). The distribution of Māori communities throughout Te Tau Ihu immediately prior to and at the time of Pākehā settlement is difficult to determine, however, it is variously estimated that between 1,200 and 2,650 Māori were occupying and cultivating the land at this time (Mitchell and Mitchell, 2007: 20).

Mohua (Golden Bay) is the site of the first recorded contact between Māori and Pākehā in 1642, when Dutch explorer Abel Tasman visited the area (Strade, 2020). The next visit by Pākehā would not be until Captain Cook’s visit nearly 130 years later. By the 1820s there was an influx of Pākehā sealers and whalers along the shores of Cook Strait, which saw an increasing trade of kūmara, potatoes, and corn between the local Māori and the Pākehā (Walrond, 2015). There are, however, very few instances of Pākehā occupation in the Nelson districts prior to 1841 (Mitchell and Mitchell, 2004: 288). The New Zealand Company began making plans to establish a European settlement in Nelson in 1839. Between 1839 and 1842 the Company negotiated with tangata whenua to establish settlements in Whakatū (Tasman Bay) and Taitapu (Golden Bay) and they would later claim to have purchased millions of acres in the Nelson and Marlborough regions as part of these negotiations (MacDonald, 1933: 91-93).

The signing of the Treaty of Waitangi in February 1840 gave the British Crown the exclusive right to purchase land from Māori and, in effect, negated any past or future land purchases made directly between European

settlers and local Māori. Any land purchases claimed to have been made prior to the signing of the treaty had to be investigated by the Commissioners of Land Purchases in order to be validated, and this included the purchases made by the New Zealand Company in Nelson (Mitchell and Mitchell, 2004: 311; Ngāti Tama Ki Te Taihu, 2018). As part of their prospectus for the settlement scheme in Nelson, the Company had promised the provision of one-tenth of the total area of land sold to be set aside as native reserves (Mitchell and Mitchell, 2004: 291-292). The provision was made to ensure the prosperity of the Māori people in the region, and the land set aside as native reserves was to include all the land Māori used for habitation, cultivation, urupā (burials) and mahinga kai. The high ideals of the provision were not fulfilled (Mitchell and Mitchell, 2020). Not only were rural tenths not allocated to Māori residents, but tracks of land comprising Māori habitations, cultivations and wāhi tapu were surveyed as part of the land intended for European settlement (Ngāti Tama Ki Te Taihu, 2018).

The land in the Stoke area south of the Nelson township settlement was subdivided into small farm blocks in the 1840s, and the area became known as the Suburban South. The land which today comprises the Nelson Airport property was surveyed at this time as part of Sections IV, 85, 86 and the Quarantine reserve which would later be known as Section 34 (Figure 5-1). The Nelson Airport property, and that which overlaps the two runway extension options, was surveyed as part of Sections IV and 86, and the history of these two land parcels is outlined below.

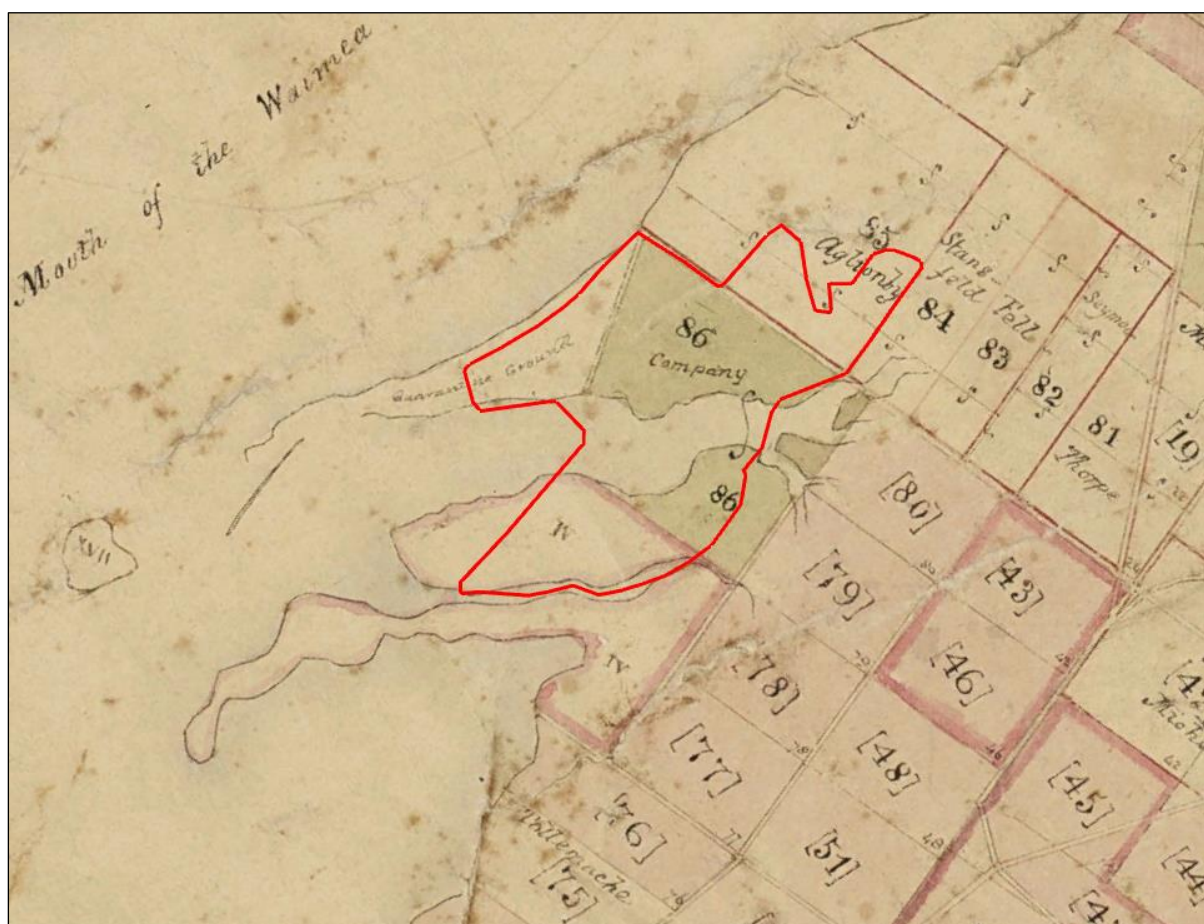


Figure 5-1. Detail from an 1847 map of the Nelson Suburban Sections, showing the approximate boundaries of the current Nelson Airport designation (outlined in red). Image: Archives New Zealand, 1847.

5.1 Sections IV & 86

Hugh Martin was granted Sections IV and 86 along with the adjoining Oyster Island from the Crown in 1851 (LINZ, 1860: 603). A map of the Nelson Suburban Sections drawn in 1847 indicates that the original boundaries of Section IV and Section 86 were slightly different to how they look today (Figure 5-2). This is largely due to alterations having occurred in the shoreline of the Waimea Inlet, particularly where it joins with Jenkins Creek.

A portion of the land that today forms the Nelson Airport terminal and runway was a part of the tidal estuary of the Waimea Inlet during the 1840s.



Figure 5-2. Detail from an 1847 map of the Nelson Suburban Sections overlaid in Google Earth, showing the boundaries of Section IV, Section 86, and Oyster Island (outlined in red) which were granted to Hugh Martin in 1851. Image: Archives New Zealand, 1847; Google Earth, 2021.

Martin had arrived in Nelson with his wife and six children in 1844. He purchased a large holding of land in the Stoke area and established himself as a successful livestock breeder (Daniell-Smith, 2021). Martin's homestead, known as The Hayes, appears to have been located to the east on Suburban Section 46 or 48 and not within the current project area (New Zealand Electoral Roll [Nelson] 1870-1871: 5, 1880-1881: 5). While it is likely that Martin utilised Sections 86 and IV for agricultural pursuits, no information could be found to indicate that Martin developed the land beyond agricultural purposes during his ownership.

Martin placed Section IV, Oyster Island, and the portion of Section 86 which today comprises the southern portion of the Nelson Airport property (totalling 186 acres) in a Trust under the management of Bart Lloyd in 1882 (LINZ, 1870: 819). When Martin died in 1892 the ownership of the property remained in the Trust, which came under the management of the Public Trust in 1914 (*Colonist*, 14/3/1892: 3; LINZ, 1870: 819). Although owned by the Trust the occupation of the premises appears to have passed to Martin's son, Charles Martin, who is noted to be the occupier of the land as a life tenant in the Land Transfer Notice in 1916 (*Colonist*, 2/3/1916: 6). The local electoral rolls identify Charles' property as being in Stoke during the 19th century, but do not provide further information to specify the location of his dwelling (New Zealand Electoral Roll [Nelson] 1890: 16, 1896: 44, 1900: 49). When Charles Martin advertised the 186 acres of land for sale in February 1917, he noted that the property contained a homestead and associated farm buildings (*Nelson Evening Mail*, 12/2/1917: 1). This suggests that Charles' 19th century residence and farm buildings were likely located on Section IV or Section 86, though the exact location of these buildings is not certain.

The 33 acres of land comprising the Monaco Peninsula was purchased from the Public Trustee by Alfred Gordon Field in 1923 (LINZ, 1923a). Field subdivided the peninsula into 46 residential sections in 1923 which were to be known as the Monaco Township (Figure 5-3). The peninsula slowly began to be developed for residential use, with aerial imagery from 1948 showing portions of the land occupied by this time (Figure 5-4).



Figure 5-3. Detail from Deposited Plan 1288, showing the subdivision of Monaco Peninsula into 46 residential sections in 1923. Image: LINZ, 1923b.



Figure 5-4. Aerial imagery from 1948 showing the development of Monaco Peninsula at this time. Image: LINZ, 1948.

Alfred Gordon Field purchased another 141 acres of Section IV and Section 86 from the Public Trustee in 1934 (LINZ, 1924). In 1937 Proclamation 1037 set aside 38 acres of Field's land as part of the Nelson Aerodrome site (LINZ, 1924). In total the Aerodrome site comprised 112 acres of land extending south from Quarantine Road, including parts of Section 86, and the tidal flats which extended between parts of Section 86, and part of Section 34 which had formally been utilised as a quarantine reserve and rifle range (Figure 5-5). The ceremony to mark the commencement of the construction work on the Nelson Aerodrome was held in February 1937 and this can be seen as the beginnings of what is today's Nelson airport site (*Evening Post*, 8/2/1937: 7). As part of the works the area of the Waimea Inlet's tidal flats were reclaimed to provide the solid ground required for the airport's runway and to ensure that the sea did not undermine the sides of the runway (*Nelson Evening Mail*, 4/11/1937: 6). The Nelson Aerodrome was officially opened by Public Works Minister R. Semple in October 1938 (Figure 5-6; *Nelson Evening Mail*, 10/10/1938: 8).

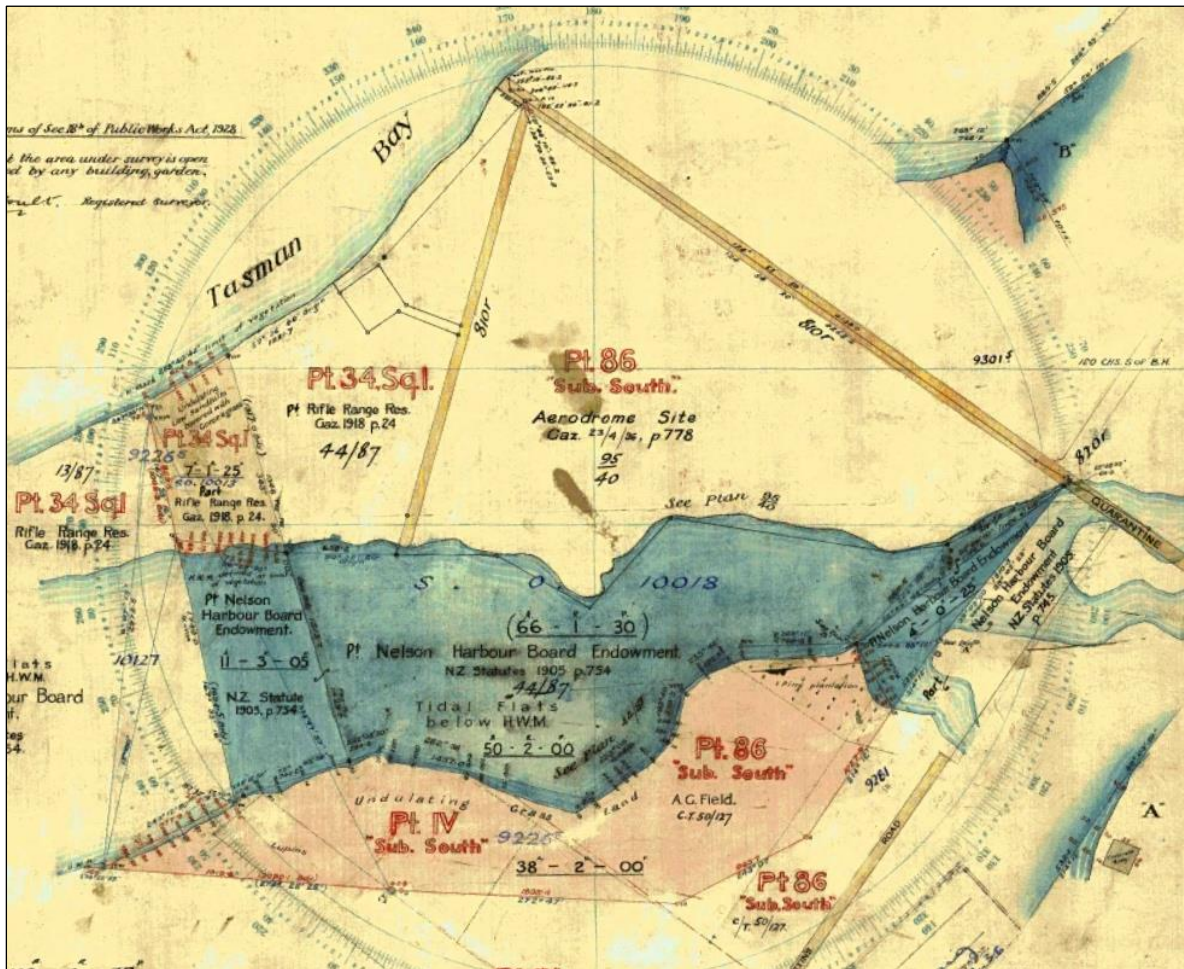


Figure 5-5. Detail from SO Plan 8917, showing the land set aside for the Nelson Aerodrome site in 1936. LINZ, 1936b.

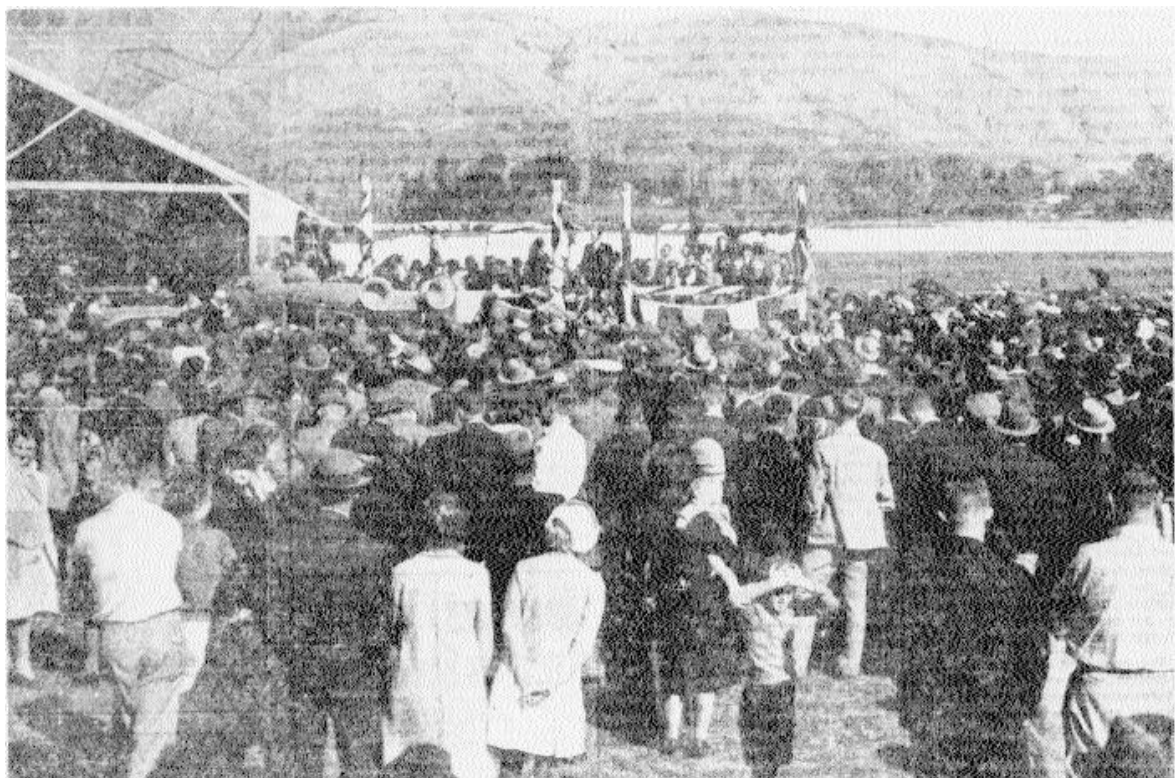


Figure 5-6. Photograph taken at the Nelson Airport opening ceremony in 1938. Image: *Nelson Evening Mail*, 12/10/1938: 3.

During World War II the RNZAF established a station at the Nelson airport site which included an operational squadron to defend the city and region (Nelson Historical Society, 2014). A number of developments occurred at the airport site at this time, including the construction of a radio bunker and rifle range which are recorded archaeological sites (ArchSite, 2016a, 2016b). Aerial imagery from 1948 shows the fenced off Nelson Airport site at this time, which has been extensively levelled and includes the reclaimed Waimea Inlet tidal flats, and shows the original terminal buildings (Figure 5-7). The Nelson airport facilities continued to be developed and enlarged throughout the 20th and early 21st centuries.



Figure 5-7. Aerial imagery from 1948 showing the development of the Nelson Airport site at this time. Image: LINZ, 1948.

5.2 Section 85

Henry Aglionby and Richard Baynes Armstrong are recorded being granted Section 85 from the Crown in 1854 (Figure 5-8; LINZ, 1850: 503). Aglionby was a director of the New Zealand Company and in partnership with Armstrong he purchased a number of properties in the New Zealand Company's settlements, but no information could be found to indicate that Section 85 was developed during their ownership (*Nelson Examiner and New Zealand Chronicle*, 26/3/1842: 9; *Wellington Independent*, 15/12/1870: 3). When Aglionby died in 1854 the management of his properties passed to John Henry Lance (*New Zealand Times*, 12/7/1878: 2; *Wellington Independent*, 15/12/1870: 3). Together Lance and Armstrong sold off Section 85 in 1862 (LINZ, 1850: 503).



Figure 5-8. Detail from an 1847 map of the Nelson Suburban Sections overlaid in Google Earth, showing the boundaries of Section 85 (outlined in red) which was granted to Henry Aglionby and Richard Armstrong in 1854. Image: Archives New Zealand, 1847; Google Earth, 2021.

Edward Green purchased Section 85 from Lance and Armstrong in 1862 (LINZ, 1850: 503). Green had arrived in New Zealand on board the *Lord-Auckland* in 1842 and initially established himself as a tailor. Green came to own a significant holding on land in the Nelson and Marlborough regions, including the well-known Upcot estate in Marlborough (Cyclopedia Company Limited, 1906: 113). Green appears to have purchased Section 85 as part of his estate known as The Sands. Green constructed his residence, also known as The Sands, on Section 1 outside of the current project area. Green is recorded in residence at The Sands homestead during the latter 19th century and died at the residence in 1896 (*Nelson Evening Mail*, 30/9/1896: 2; New Zealand Electoral Roll [Nelson] 1870-1871: 4, 1875-1876: 3, 1880-1881: 3, 1890: 10). Although damaged during the Murchison earthquake in 1929, part of the original The Sands homestead still stands at the modern address of 53 Roto Street and is recorded as a heritage item on the Nelson City Council’s District Plan (Nelson City Council, 2021; Noeleen, 2008). While it is likely that Green utilised Section 85 for agricultural pursuits as part of The Sands estate, no information could be found to indicate that Green developed the land beyond agricultural purposes during his ownership. Following Green’s death in 1896, Section 85 remained in the Green family’s ownership for the remainder of the 19th century.

Parts of The Sands estate were offered for sale in April 1900 (*Nelson Evening Mail*, 12/4/1900: 3). Section 85 was offered for sale at this time in two lots, each comprising approximately 100 acres, which are described as being “first class agricultural land, now in stubble” (*Nelson Evening Mail*, 12/4/1900: 3). The sale notice does not indicate any buildings being on the land in 1900, and the suggestion that the land was ‘first class agricultural land’ suggests that the land was undeveloped except for agricultural purposes at this time.

The Nelson Golf Ground Company purchased the western 102 acres of Section 85 (located between the Waimea Inlet, Parkers Road, and Quarantine Road) from the Green Estate in 1906 (LINZ, 1850: 567). Although portions of this land on the southern boundary fronting on Quarantine Road were taken during the mid-20th century as an extension of the Nelson Airport property and portions along its northern boundary fronting on

Parkers Road were taken for residential development during the mid-20th century, the majority of the land has remained part of the golf course since 1906 (Figure 5-9).



Figure 5-9. Aerial imagery from 1948 showing the approximate boundaries of the original 102 acres of Section 85 purchased by the Golf Nelson Golf Ground Company in 1906. Image: LINZ, 1948.

Frederick William Fairey, a Nelson butcher, purchased the eastern 92 acres of Section 85 (located between the Parkers Road, Bolt Road, and Quarantine Road) from the Green Estate in 1918 (LINZ, 1850: 503). Following Fairey's death in 1932 the section was purchased by Alven John Flowers, who was also a butcher, in 1933 (LINZ, 1928). A survey plan of the 92 acre section shows a house present on the northern half of the section in 1936 (Figure 5-10). This house was likely constructed on the property during the ownership of Fairey or Flowers and is unlikely to represent pre-1900 occupation of the property. This house is not located within the current project area. The 1936 plan also indicates a swampy portion of land within the centre of the 92 acre section, and indicates a wetland area which was subject to tidal influence adjoining Parkers Road.

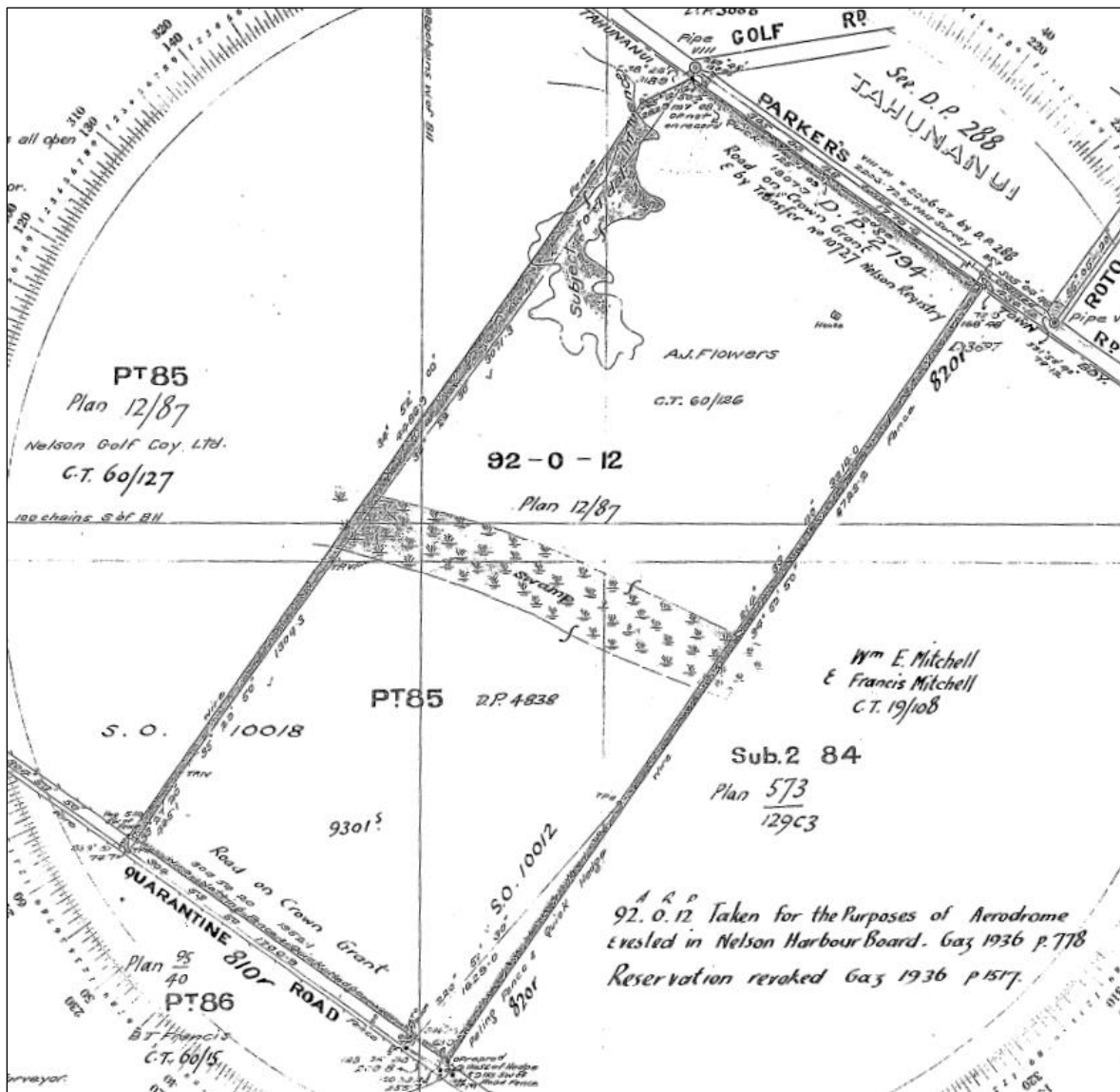


Figure 5-10. Detail from Survey Plan 8868 from 1936, showing the boundaries of the 92 acres of Section 85 purchased by Frederick Fairey in 1918. LINZ, 1936a.

Fairey subdivided the northern portion of the land fronting Parkers Road into residential sections in 1937 and sold off a few of the residential lots in 1939 (LINZ, 1928). None of these residential sections are located within the current project area. Windsor Sedgemere Howson, also a butcher, purchased the remainder of the land (including the portion which comprises part of the current project area) from Fairey in 1941 (LINZ, 1941).

In 1942 the Government formally took over the southernmost 32 acres 1 rood and 7 perches of land fronting on the corner of Quarantine Road and Bolt Road for defence purposes (Figure 5-11). Five years later the Government extended this land by taking over the adjoining 19 acres 1 rood and 29 perches of land fronting on Bolt Road for defence purposes (Figure 5-12).

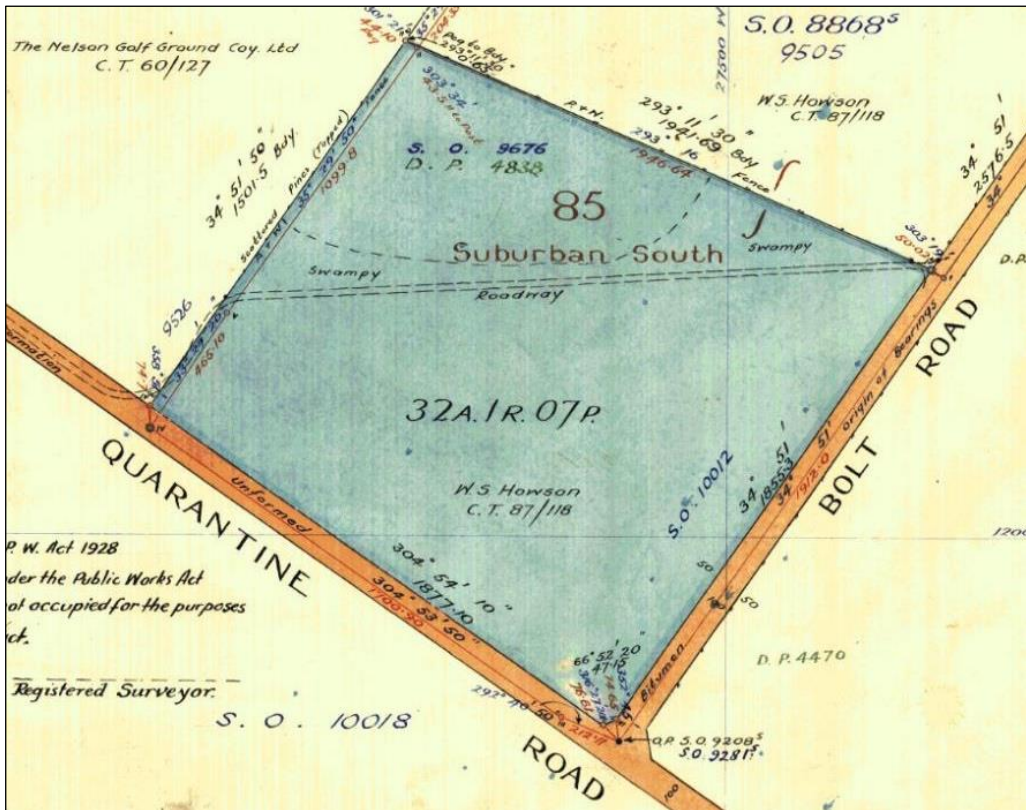


Figure 5-11. Detail from SO 9301, showing the portion of Section 85 taken for Defence Purposes in 1942. LINZ, 1942.

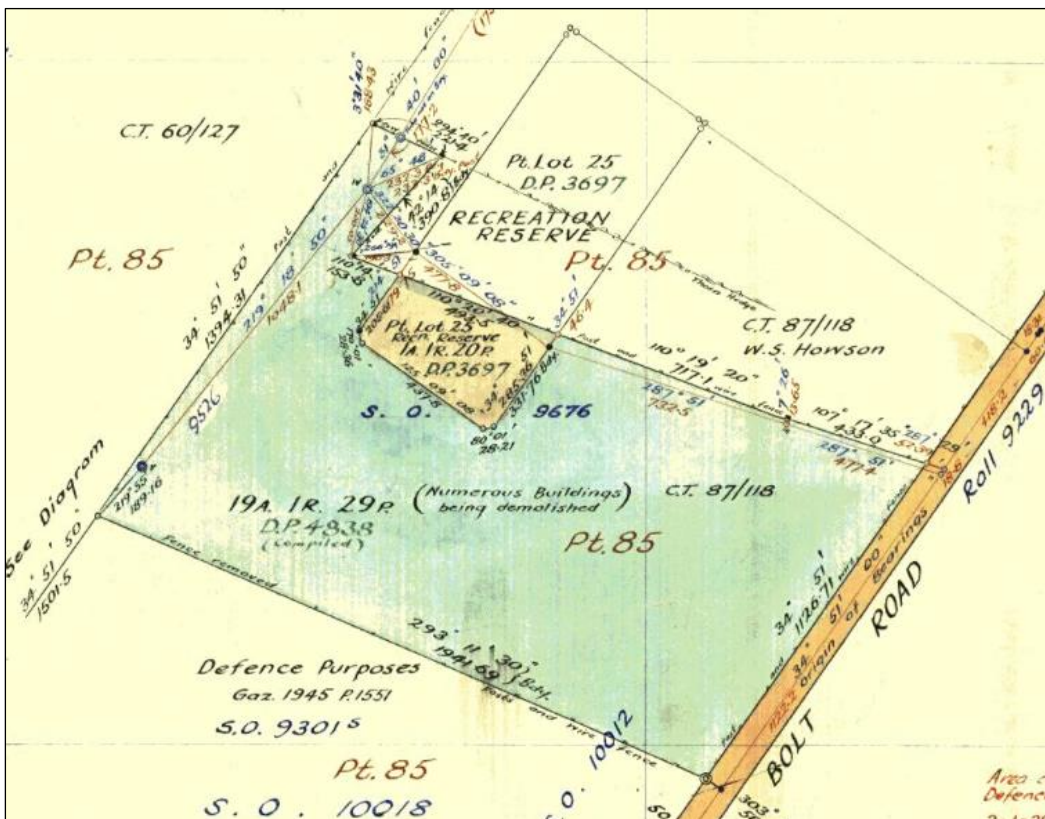


Figure 5-12. Detail from SO 9505, showing the portion of Section 85 taken for Defence Purposes in 1947. LINZ, 1947.

Although not formally taken until 1942 and 1947 respectively, the Government had taken possession of this land in the latter half of 1940 as part of the Royal New Zealand Airforce (RNZAF) plans to develop a reconnaissance station at the Nelson Aerodrome for the No. 2 General Reconnaissance Squadron (renamed the No. 2 Bomber Reconnaissance Squadron) which was established in 1940 in response to developments of

World War II in the Pacific. It was upon this land that the Public Works Department constructed a base and camp to accommodate 230 men. By November 1940, the work of shifting approximately 9000 cubic yards of sand and reurfing the land had been completed and the work of constructing the roadway extending from Bolt Road was nearly completed. The base included hangars, wireless stations, gun emplacements, training rooms, offices, engine testing facilities, fuel pumps, medical facilities, a dentist, a rifle range and various other sheds and buildings (Figure 5-13). There were further outlying faculties including dispersal pits where planes could be hidden at Annesbrook and around the perimeter of the airport; gun emplacements at Bolt Road and The Cliffs (for coastal defence); and various bunkers (Kerr, 1998). Dispersal pits, gun emplacements and various other earthworks structures are clearly visible in aerial imagery from the 1940s (Figure 5-14 and Figure 5-15). The camp was adjacent to Bolt Road on what is now the Nelson Golf Course. The camp itself comprised one mess block, a recreation institute, a post office, three ablution and lavatory blocks, wet and dry canteens, sick quarters, and standard mobilisation huts to accommodate the men (*Nelson Evening Mail*, 30/11/1940: 6).

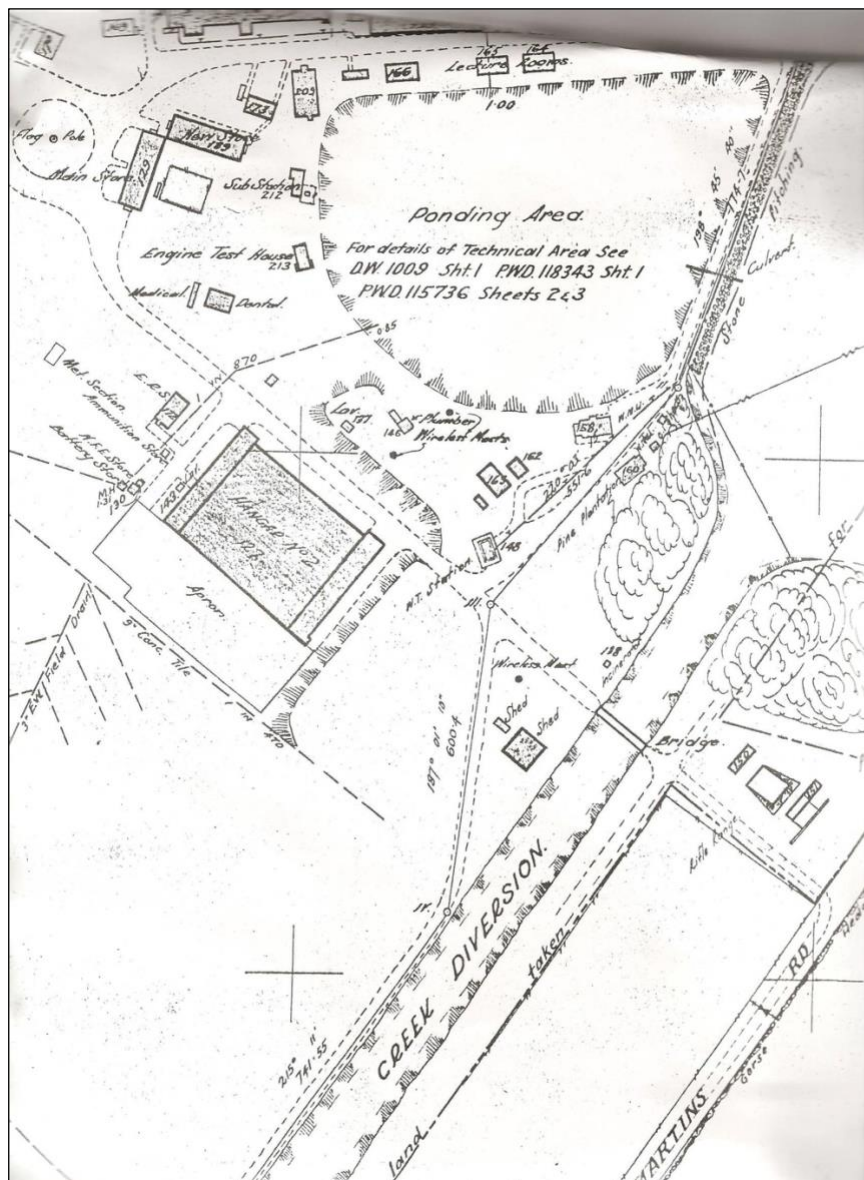


Figure 5-13. Detail of a plan of the RNZAF flying field plan 5/47, showing buildings that made up part of the base near the current Nelson Airport. Image: Department of Works 1009 PWD 118343.

The camp buildings continued to stand on the land until c.1947 when they began to be removed. Survey Plan 9505 from 1947 indicates that the “numerous buildings” were “being demolished” at the time of the survey (Figure 5-12). Although no images of the full camp at the time it was in use could be sourced, a photograph taken in 1947 shows the camp after some of the buildings had begun to be demolished (Figure 5-14). Aerial

imagery from 1948 shows the land utilised for the camp and indicates that further buildings had been demolished by this time (Figure 5-15).



Figure 5-14. Detail from a photograph looking south along Bolt Road, showing the Nelson Military Camp after some of the buildings had been demolished in 1947. Image: Whites Aviation Ltd, 1947.



Figure 5-15. Aerial imagery from 1948 showing the approximate boundaries of the land taken for defence purposes in the 1940s (outlined in red), including some of the military camp buildings still present on the property. Dispersal pits are visible at the top left and bottom right of the image. Image: LINZ, 1948.

All of the military camp buildings were removed from the property by 1953 at which time the former camp land was subdivided in two (Figure 5-16). The Nelson Golf Company purchased Lot 1 DP 4833 in 1953 and included the land as part of their existing golf course (LINZ, 1953a). This land has remained part of the golf course since this time.

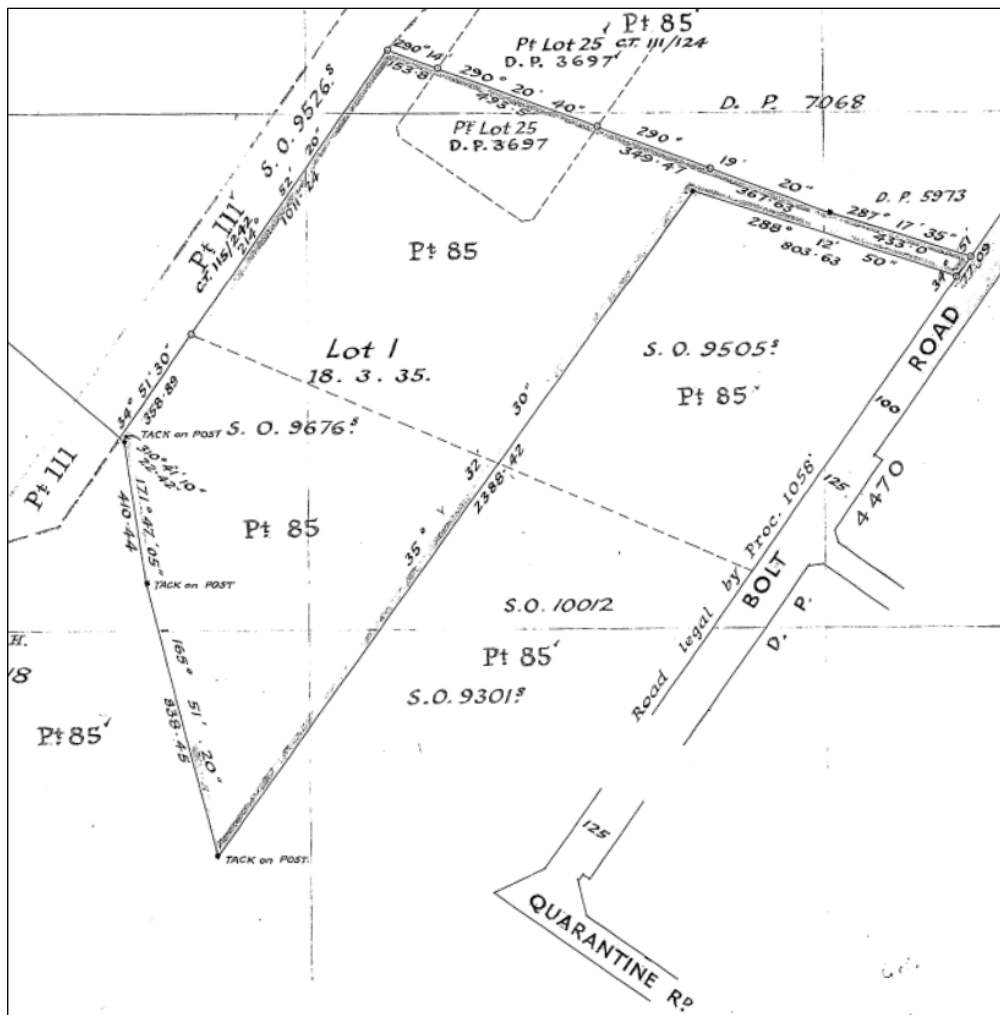


Figure 5-16. Detail from DP 4833 showing the subdivision of the former military camp land in 1953. Image: LINZ, 1953b.

Despite the Government taking the southern portion of the 92-acre section for the military camp, Windsor Sedgemere Howson continued to own the land to the north of the camp north which fronted on Bolt Road (LINZ, 1951). Following Howson's bankruptcy in 1957 the property passed to the Borough Subdivision Limited in 1965 who continued to subdivide portions of the land into residential sections in the 1960s and early 1970s (Figure 5-17; LINZ, 1968, LINZ, 1972). The remainder of the land was purchased by the Nelson Golf Ground Company Limited in 1970 and included as part of the golf course (LINZ, 1967). Aerial imagery subsequent to this shows the extensive earthworks carried out to form Nelson Airport runway, which extended into this area, and to form the golf course. A residential subdivision was formed over part of the area formerly occupied by the RNZAF camp (Figure 5-18).

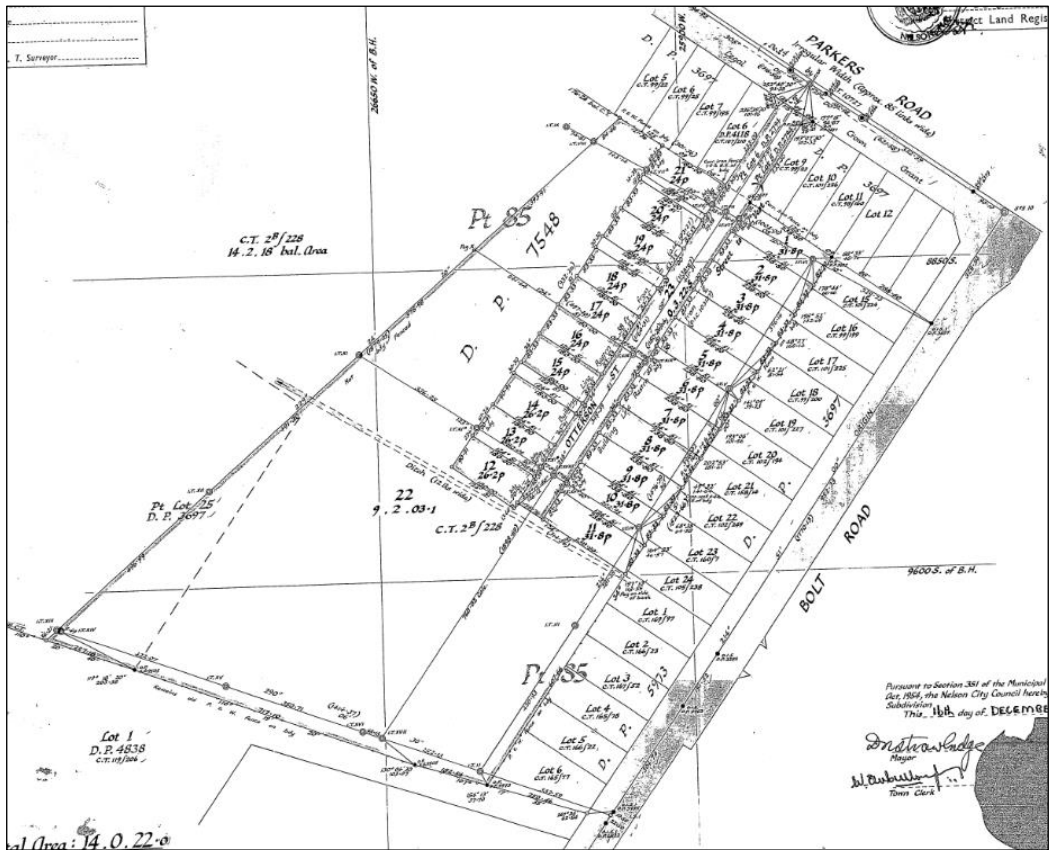


Figure 5-17. Detail from Deposited Plan 7068, showing the subdivision of a portion of Section 85 on the corner of Parkers Road and Bolt Road in 1966. LINZ, 1966.



Figure 5-18. Aerial imagery from 1985 showing the approximate boundaries of the former NRZAF camp and some earthworks structures associated with the base. Image: LINZ, 1985.

6 Previous Archaeological Investigations

The coastal area of the Waimea Inlet was of great importance to local Māori as means of both transport and mahinga kai. The area is believed to have been settled over 600 years ago with successive tribes making their camps and settlements on the coast and islands (Millar, 1967). To the north of the area of inquiry, in Tāhunanui, one of the oldest camps was located near the junction of what is today Bisley Avenue and Rocks Road. This advantageous position provided ready access to kaimoana in the Waimea Inlet and the open waters of Te Tai-o-Aorere (Tasman Bay). The site also provided ready access to quantities of flax to the south in what is now Stoke, and its proximity to the important trading site of Matangi Āwhio to the north made it an important site for local iwi (Bell, 2021). Archaeological evidence of this occupation includes fishhooks, stone drill points, midden material, and large quantities of argillite flakes left behind by adze makers (Anderson, 1966; ArchSite, 2015; Bathgate, 2021; Millar, 1967). The coast and islands to the south of the Nelson Airport, such as Monaco Peninsula, Oyster Island and Saxton Island, are also reported to have been sites of Māori settlement (Foster, 2012: 12). Although no archaeological evidence of the settlements themselves has yet been recorded, isolated archaeological findspots have been identified among the beach gravels on the shorelines of these areas which have been suggested to relate to Māori activity in the area (Foster, 2012: 13).

ArchSite is an online database that contains information about recorded archaeological sites in New Zealand. ArchSite uses GIS (Geographic Information System) technology to manage and display archaeological site location data. It is the national database of archaeological sites in New Zealand. The recorded archaeological sites in the vicinity of the Nelson Airport demonstrates a rich archaeological landscape of Māori and European occupation. Figure 6-1 illustrates a number of recorded archaeological sites in the area surrounding Nelson Airport and Table 6-1 summarises some of these sites for context. The recorded sites in the area and associated archaeological investigations are described in further detail below.



Figure 6-1. Current aerial imagery showing current and proposed designation areas and recorded archaeological sites in the vicinity of the Nelson Airport. Image: ArchSite, LINZ.

Table 6-1. Summary of recorded archaeological sites in the vicinity of the area of inquiry. Source: ArchSite, 2021.

ArchSite number	Location	Site description
N27/120	Oyster Island	Midden and debitage from stone tool manufacture visible on the ground surface distributed around the margins of the whole island.
N27/136	Eastern end of Saxton Island	Shell midden and darkened soil layers, and ovenstones exposed on the beach section.
N27/181	90 Point Road, Monaco Peninsula	Stone tools collected over a number of years while gardening on the property
N27/206	North shore of Saxton Island	Possible cultural soil horizon and stone tools
N27/207	Intertidal zone at the end of Monaco Point	Stone tools on the ground surface within the intertidal zone
N27/218	Next to Jenkins Creek in the NAL property	Underground concrete bunker building during WWII as part of the Nelson RNZAF station.
N27/219	Eastern side of Jenkins Creek, across the pedestrian bridge from the airport	Concrete remains of a rifle range built during WWII as part of the Nelson RNZAF station.
O27/21	Approximately 11 Tahunanui Road	Early Māori occupation area containing midden, evidence of stone tool manufacture and a cooking area
O27/112	Approximately 623 Rocks Road	Midden covering an area of approximately 5 m by 1.5 m.

6.1 N27/120

Site N27/120 covers the entire land area of Oyster Island, Waimea Inlet. It was identified as an archaeological site in 1962 and recorded within the New Zealand Archaeological Site Recording Scheme (as ArchSite was known then) in 1966, but it seems likely that the site was known about long before it was recorded. The site complex comprises several features, including cultural layers extending over a wide area, layers of midden containing moa and seal bone, and marine shell. Extensive areas of debitage from stone tool manufacture have been observed around the perimeter of the shoreline and this site has been interpreted as a place in which stone tools were manufactured in large quantities. It appears that many of the complete stone tool artefacts that would have been found on the ground surface have since been removed by fossickers and collectors over the years and transferred into either private or museum collections, leaving only stone flakes and debitage from stone tool manufacturing scattered around the foreshore.

Part of the site was investigated by Eyles, prior to 1966, who identified two occupation layers likely to be of a similar date, the lower of which contained dense midden material including moa bone (Anderson, 1966).

Steve Bagley prepared a condition assessment of the site in 1984 and noted that mature pine trees, which had been planted across the island, and coastal erosion were causing considerable damage to the archaeology and recommended that the trees be poisoned and left in situ and the area grassed over (ArchSite, 2016c).

In about 2007 it was decided that the pine trees would be felled and removed by helicopter and the island would be replanted in natives. Site surveys were carried out by Amanda Young both prior to and following the removal of the trees and the areas where archaeological contexts were observed were recorded on a map of the island. The tree removal caused further damage to an area of midden on the north eastern point of the island and, as was predicted by Bagley, the area is suffering from increased erosion as a result of the removal of the trees (Young, 2008). The site record has not been updated since 2016 when the site extent was updated on the database, but it is suspected that the site is suffering from ongoing damage from erosion and fossicking.

6.2 N27/136 and N27/206

Site N27/136 is located at the eastern end of Saxtons Island in Waimea Inlet. The site, which was first recorded by amateur archaeologist F. V. Knapp, likely in the 1920s and entered into ArchSite in the 1980s, consists of a layer of darkened soil containing oven stones and shell midden exposed above the beach and extending for about 15 m. Oven stones and stone tools were observed to be eroding out onto the intertidal flats below. Similar archaeological evidence was also observed during site inspections in 2011 by Deb Foster. Foster noted a “cultural horizon” comprising a 100-150 mm thick layer of charcoal blackened soil about 300 mm below the ground surface expending for about 100 m along the beach, though this layer did not appear to contain midden or oven stones, so the origin of the layer is uncertain (Foster 2012). Charcoal blackened soil and oven stones higher up near the bach that is on this part of the island. Foster surmised that isolated archaeological deposits are likely to remain unaffected by erosion beneath the ground surface in this area.

In 2011 the eastern end of the island had recently been subject to fossicking and 19th century artefacts were found among the debris of the illicit excavation. How these artefacts came to be deposited originally is uncertain (Foster 2012).

6.3 N27/181 and N27/207

Site N27/181 is recorded within ArchSite as the location where stone tools – “a box of adzes” – were recovered from the garden by the property owner over a long period of time at 90 Point Road, Monaco. The site was recorded in 2008 but it is not known when the adzes were found and it could not be confirmed exactly where they came from (ArchSite, 2008).

Two more stone tool findspots were recorded on the mudflats within the intertidal zone off the southern point of Monaco Peninsula in 2011 (recorded as N27/207). These included a chert core and an argillite core found amongst intertidal gravels. Foster (2012) notes that Knapp had recorded the presence of pre-European camps in this area in the 1920s, though the exact locations of the sites has been lost to time, Foster suggests that the camps may have been located within and to the east of the reserve land, which used to be sand dunes prior to residential development (Foster, 2012: 13). The stone tools from both sites probably relate to those camps.

6.4 N27/218 and N27/219

Sites N27/218 and N27/219 are associated with the wartime use of the RNZAF station built on and around the Nelson Airport in 1940. N27/218 is a concrete bunker and N27/219 is the remains of a rifle range near the bunker. The underground bunker is near Jenkins Creek on NAL land. It was mapped and described in 1997 by former ministry of works employee Bruce Bertram and recorded as an archaeological site in 2009. The structure is made from 150 mm thick concrete and was originally partitioned with a now removed timber wall. Access was via a steel rung ladder built into one wall and there was an escape hatch at the opposite end. There are four ceiling vents and a gap in the wall for electrical cabling, indicating its probable use as a radio bunker (ArchSite 2016a).

N27/219 is located adjacent to the underground bunker, on the eastern side of Jenkins Creek. The site was recorded in 2009 by Amanda Young, but the property on which it is located was not able to be accessed for closer inspection (ArchSite 2016b). The structure consists of a shuttered concrete retaining wall with stepped partitions joined perpendicularly to the main wall.

6.5 O27/21 and O27/112

Although recorded as separate sites within ArchSite, neither site has a defined boundary based on the extent of the archaeological evidence. Site boundaries within ArchSite appear to be largely based on current legal property boundaries or areas which have been previously excavated and it is likely that these two sites are parts of one larger site known as the Tāhunanui site, named after the suburb on Nelson in which it occurs. The site, which was extensively excavated in the 1960s by D. G. L Millar and Athol Anderson, was described as a “single layer moahunter site” (Anderson, 1966: 42; Millar 1964, 1971). The site has been interpreted by Millar as a “transient settlement”, likely occupied sporadically or seasonally rather than a site that was occupied on a more permanent basis (Millar 1964, 1971). Millar (1971) further notes that the relative absence of midden heaps, substantial structures and ornaments or personal adornments indicates that the settlement was probably never particularly significant or extensive, but was likely favoured for its proximity to a number of valuable food sources, including fish, rocky shore shellfish, birds and occasionally seals, all of which are represented within the faunal assemblage. Anderson further notes the likely attractiveness of the site due to the landscape topography forming “a natural moa trap”, leading to a high moa population in this part of Te Tai-o-Aorere (Anderson, 1966: 43). It should be noted that Anderson’s later excavation did find substantial midden evidence, though he does not refute the nature of the occupation at this site on that basis. Further midden material associated with the Tāhunanui site was found in 2005 during building construction to the north of the areas excavated by Millar and Anderson, at what is now 623 Rocks Road, Nelson This site was recorded separately as O27/112.

Although the accuracy of radiocarbon dating from the 1960s cannot be relied on (Millar and Anderson obtained dates that were 200 years apart, albeit from different contexts), temporal change in the occupation layer is demonstrated by a difference in the types of argillite represented between the lower (earlier) levels of the occupation layer and the upper (later) levels, a pattern that was observed on other sites in the region, as well as a decrease in the density of artefacts related to fishing in later levels (Millar, 1971).

Anderson (1966: 44) correlates the Tāhunanui site with that of Oyster Island (N27/120), discussed above, suggesting that these may be camps utilised at similar times by groups of the same people for particular purposes, with Oyster Island occupied for the purpose of gathering fish and shellfish, and possibly as a comparatively more permanent settlement, due to the presence of an extensive working floor for argillite tools.

7 Results of the research

The results of the historical research and previous archaeological work in and around the area of inquiry predominantly represent two main themes associated to the history of Nelson; the early use of the area by Māori prior to Pākehā arrival, and the establishment of the aerodrome and Nelson RNZAF station in the early 1940s.

There are no recorded archaeological sites located within the area of inquiry.

However, the archaeological sites that have been previously recorded and investigated signify a clear pattern of Māori use and occupation along the coast and the Waimea Inlet adjacent to the Nelson Airport. The coastal area of the Waimea Inlet was of great importance to local Māori as means of both transport and mahinga kai, and this is reflected in the archaeological evidence that has been observed in this area. The various site types represent a range of activities, including stone tool manufacture, marine resource gathering and consumption, food preparation and cooking, and possibly longer-term habitation.

The recorded archaeological sites associated with Māori occupation are concentrated to the north and south of the area of inquiry, though it should be noted that for the most part these sites have been recorded as a result of development activities in these areas and does not necessarily represent the actual distribution of archaeological sites in the area.

It is highly likely that unrecorded archaeological sites associated with Māori occupation exist both within and in close proximity to the two proposed options for runway extension. In particular, those areas that have remained relatively undeveloped, such as the inlet foreshore and intertidal zone to the south of the airport, which has implications in terms of Option B.

The extensive ground levelling that took place in the 1930s and 1940s when the aerodrome was developed is likely to have damaged or possibly destroyed archaeological evidence in these areas, as is the earthworks carried out by the RNZAF in the 1940s and subsequently by the golf club to the north of the current airport. Though it should be noted that these later works appear to have been somewhat more localised, comparatively speaking, so it is possible that pockets of undisturbed ground may still exist in this area. The types of Māori archaeological sites that could be expected within the two proposed extension areas are likely to be similar to those observed elsewhere in the area, namely shell middens, ovens, cultural layers or modified soil horizons, stone tool working areas and/or isolated stone tool artefacts.

In addition to the previous archaeological work that was researched as part of this assessment, newspaper articles referencing the 2014 discovery of kōiwi (human remains) along the Waimea Inlet foreshore “behind Nelson Airport” were considered during the course of the research. While the exact location of the discovery is unknown, and the date they were deposited is not able to be substantiated without further investigation, biological evidence indicates the remains are from a woman of Polynesian descent, believed to be under 30 years of age (*Nelson Weekly News* 25/6/2014). This report suggests that there is potential that kōiwi could also be encountered in either of the proposed extension locations.

As noted above, the historical background research has established the land that Nelson Airport currently occupies, and a large area of land to the north of the airport was developed for an aerodrome in the 1930s and in the 1940s was occupied by the RNZAF as a reconnaissance station. The research has identified that several structures associated with the aerodrome and RNZAF station remain today; two structures, the rifle range and a nearby concrete bunker are located across the stream from the airport workshops and are recorded as archaeological sites N27/218 and N27/219, and one of the remaining buildings, Hangar 2 (Air Nelson Hangar) dating to 1943, is scheduled as Group B heritage items on the Nelson Resource Management

Plan schedule of heritage items (Figure 7-1)³. Ancillary buildings, dispersal pits, gun emplacements and various other earthworks structures are clearly visible in aerial imagery from the 1940s and some remain today within the golf course and NAL land, though these have not been recorded within ArchSite nor are they scheduled on the district plan.

The most recent aerial imagery of the Nelson Airport seems to indicate that the scheduled Nelson Aero Club Hangars have been demolished, leaving the apron and concrete slab floor in situ. It has not been possible to elicit any information relating to event this during the preparation of this report. The scheduled Hangar 3 building was also demolished in 2021. There is, however, one item remaining that has been previously identified as having historic heritage values; the Air Nelson Hangar, known as Hangar 2. It is understood that Hangar 2 is to be deconstructed in the short term and that NAL holds a resource consent decision confirming their ability to deconstruct the building under its designation and a resource consent is not required to undertake this activity. Hangar 2 will not be affected by either of the proposed runway extension options.



Figure 7-1. Current aerial imagery showing the remaining buildings and structures associated with the Nelson Aero Club and RNZAF station in and around the Nelson Airport. The location of the former camp is also indicated.

³ A third scheduled building, the Nelson Aero Club Hangars dating to 1935, was demolished c. 2017. See Nelson Resource Management Plan Change 27.

8 Constraints and Limitations

This report is a desktop assessment of the impacts of the proposed designation and runway extension on the archaeological values. This report does not include a statement of the cultural significance of the area of inquiry, nor are the views of tāngata whenua represented in this report.

It is not the intention of this report to provide a full evaluation of all historic heritage values, which is outside of the scope. This assessment relies on the assumption the Group B scheduled heritage items within the NAL property are of some heritage significance, simply due to the fact that they are considered significant enough to be scheduled. At the time of writing, no information on these buildings was able to be provided by Nelson City Council.

Statements are made as to the location and nature of recorded archaeological sites and their values. The archaeological information is derived from both published materials including the HNZPT Digital Archaeological Report Library and New Zealand Archaeological Association (NZAA) ArchSite database.

Archaeological site location data should be regarded as a guide only as the locational accuracy of archaeological sites recorded in ArchSite is variable. Accuracy for some recorded sites is only to 100 m grid squares and many of these have been recalculated from earlier 100 yard coordinates which can increase the location error. Archaeological sites that have been visited since the advent of GPS may have more accurate recorded locations. The full extent of recorded sites is often not known, and the single point coordinate provided by ArchSite is often based on only the visible surface archaeological remains. This does not necessarily represent the true subsurface extent of archaeological sites as defined in the *Heritage New Zealand Pouhere Taonga Act 2014* (HNZPTA), as most archaeological remains lie below the ground surface.

9 Archaeological Values

While there are no recorded archaeological sites directly within the area of either proposed runway extension options, there is a handful of sites recorded in the vicinity, indicating that the wider area was used and/or occupied by Māori.

The proposed southern runway extension area (Option B) is in close proximity to previously recorded archaeological sites, and there is a **high probability** that unrecorded archaeological sites exist in this area, in particular within or close to the Waimea Inlet foreshore and intertidal zone. As such there is potential for archaeological values related to Māori occupation to be affected by this alternative extension option.

Current information would indicate that the golf course land within the proposed northern extension area (Option A – Preferred NOR option) has **low potential** for archaeological sites, due to the ground disturbance from development that has occurred in this locality during the 20th century, though the possibility that undisturbed archaeological features may remain cannot be ruled out.

The significance of an archaeological site is determined by, but not limited to, its condition, rarity or uniqueness, contextual value, information potential, amenity value, and cultural association. This section will consider the archaeological values of the potential site types that are suspected to be present within each option, including midden, ovens, cultural layers, stone and bone tool manufacturing floors and isolated artefacts. A brief evaluation of the sites is provided in Table 9-1 based on the criteria defined by HNZPT (2019).

Research has identified that there are two scheduled heritage buildings associated with the WWII RNZAF station, remaining within the NAL airport complex. It is assumed that these buildings are of moderate heritage significance, in accordance with their Group B rating and their heritage values are not re-evaluated here. Any current or future proposal that could affect these structures, will, however, need to consider these historic heritage values.

Table 9-1. Summary of archaeological values for potential archaeological sites associated with Māori activity along the Waimea Inlet foreshore and intertidal zone, including midden, ovens, cultural layers, stone and bone tool manufacturing floors and isolated artefacts.

Value	Criteria	Assessment
Condition		<p>The condition of archaeological sites related to Māori activity within the area of inquiry is unknown as they are below the ground surface. As noted above, the airport land has been extensively developed during the 20th century and any archaeological sites that have survived this are likely to be in a disturbed state.</p> <p>The Waimea Inlet foreshore and Monaco Peninsula have also been developed, through the construction of houses, roads and coastal retaining structures, for example, although the effect that this is likely to have had on archaeological sites in this area is likely to be of minimal or localised impact, therefore there is a high probability that archaeological sites that remain in this area are likely to be in relatively good condition.</p>
Rarity or Uniqueness	Is the site(s) unusual, rare or unique, or notable in any other way in comparison to other sites of its kind?	<p>Middens, ovens, cultural layers and isolated stone tool findspots (particularly pre-contact) are some of the most common archaeological sites resulting from Māori occupation across New Zealand. Several sites of this nature have been recorded in the vicinity of Nelson Airport in the last 10 years. And, in a broad sense, sites of this nature are relatively common within this part of Te Tau Ihu. Kōiwi tangata sites are less common but are also not particularly rare sites across the country.</p>

Value	Criteria	Assessment
Contextual Value	Does the site(s) possess contextual value? Context or group value arises when the site is part of a group of sites which taken together as a whole, contribute to the wider values of the group or archaeological, historic or cultural landscape. There are potentially two aspects to the assessment of contextual values; firstly, the relationship between features within a site, and secondly, the wider context of the surroundings or setting of the site. For example, a cluster of Māori occupation sites around a river mouth, or a gold mining complex.	The contextual value of the types of sites anticipated is likely to be medium to high. While there has been significant redevelopment of Nelson into a modern city, changing the landscape significantly. As stated above, sites of this nature are relatively common and the wider landscape has significant cultural landmarks and/or archaeological sites which provide context for interpreting the other sites in this area.
Information Potential	What current research questions or areas of interest could be addressed with information from the site(s)? Archaeological evaluations should take into account current national and international research interests, not just those of the author.	The information potential will depend on what remains of the sites, but is likely to be reasonably high. Any middens, ovens or cultural layers encountered and investigated as part of the works would be part of the wider Māori occupation landscape of Te Tau Ihu. Further investigation of these features and/or associated features will expand on information on aspects such as the extent of the archaeological landscape, activities/occupation and changes in occupation over time.
Amenity Value	Amenity value (e.g. educational, visual, landscape). Does the site(s) have potential for public interpretation and education?	Any amenity value associated with the remains of middens, ovens and cultural layers would depend on the extent of the finds, but would likely be limited to highlighting the use of the landscape during pre-European period. There may be some amenity value for kōiwi tangata but any public interpretation would be inappropriate.
Cultural Associations	Does the site(s) have any special cultural associations for any particular communities or groups, e.g. Māori, European, Chinese.	Local iwi and any representatives are best placed to comment on cultural associations.
Other Values		These sites are unlikely to have any other values.
Overall Value		The overall value of these sites is moderate to high .

10 Assessment of Effects

A comprehensive assessment of the effects of proposed works on potential archaeological sites within the area of both options is only possible once an indication of planned works (particularly the location) is available and can be appropriately undertaken in terms of an Outline Plan subject to section 176A of the Act. However, this section will provide a comparative assessment of effects in general terms for each of the proposed extension area options for the purposes of s171 of the Act, as based on a broad scope involving demolition of buildings or structures, levelling and excavation for field works, concrete and pavement, and/or land reclamation and revetment construction. In considering each option and the potential effects of the proposed works on the archaeological and sites, the following questions were taken into account:

- How much of the site will be affected and to what degree? What are the effects on the values of the archaeological sites?
- Will the proposal increase the risk of future damage to the site?
- Would a redesign of the proposal avoid the effects?
- What are the possible methods to avoid, minimize and/or mitigate the adverse effects of the proposal?

The criteria used to assess the magnitude of potential effects is as follows:

- Nil Effects
 - No effects at all.
- Less than Minor Adverse Effects
 - Adverse effects that are discernible day-to-day effects, but too small to adversely affect the overall archaeological values.
- More than Minor Adverse Effects
 - Adverse effects that are noticeable that may cause an adverse impact to archaeological values but could be potentially mitigated or remedied.
- Significant Adverse Effects that could be remedied or mitigated
 - An effect that is noticeable and will have a serious adverse impact on archaeological values but could potentially be mitigated or remedied.
- Unacceptable Adverse Effects
 - Extensive adverse effects that cannot be avoided, remedied or mitigated.

10.1 Extent of effects

10.1.1 Option A – northern extension

This assessment has established that there is a **low potential** for pre-1900 archaeological sites to be present in this area, and it is likely that any sites that do remain are likely to be in a disturbed state. Such sites could include shell middens, ovens, cultural layers or modified soil horizons, stone tool artefacts and/or kōiwi/human remains. That being said, in the unlikely event that in situ archaeological sites do remain, these are likely to be of moderate to high archaeological value. Any sites within the footprint of the area required to be levelled for the runway extension will be destroyed and all associated archaeological values removed, resulting in a permanent serious or **significant adverse effect** on the archaeological values. However, as stated, the likelihood of this occurring is low and their destruction could be partially mitigated, but the adverse effect would still be permanent.

It has also been established that the land within the northern extension area was utilised for a number of years during WWII as a RNZAF base and that structures, buildings and earthworks features associated with this are located within the extension area. The site of the base overlaps with the runway extension and taxiway extension. These sites and features will have historic heritage values, but those values have not been evaluated as part of this assessment. Proposed earthworks are likely to obliterate anything that remains within the footprint of the runway and taxiway extension, resulting in a **permanent adverse effect on the historic heritage** values, although the magnitude of the effect will need to be assessed as part of a Heritage Impact Assessment when the proposal is developed, it is likely to be at least more than minor, if not significant.

10.1.2 Option B – southern extension

This assessment has identified that there is a **high likelihood** that one or more archaeological sites associated with pre-European Māori occupation will occur within the area of the southern runway extension and that such remains are likely to be of moderate to high archaeological value, depending on the type of site encountered, which could include kōiwi/human remains. The extensive nature of the earthworks required for the southern runway extension will mean that all archaeological sites in this area will be obliterated, resulting in a **significant adverse effect** on the archaeological values of any such site. Such an effect will also have a negative effect on the contextual values of the surrounding archaeological sites and the archaeological landscape of the Waimea Inlet as a whole.

10.2 Risk of future effects

10.2.1 Option A – northern extension

Any archaeological features encountered during earthworks for the runway extension will likely need to be removed during the course of works, or secured below the ground surface through backfilling and sealing. There is, however, a chance that earthworks will expose archaeological features, but not completely remove them. This could lead to exposed features becoming subject to future damage through erosion, which would have a gradual adverse effect on the archaeological values.

10.2.2 Option B – southern extension

There is a possibility that the extensive land reclamation and channelisation of existing waterways could cause a shift in water currents within the Waimea Inlet which may lead to increased accretion or erosion, or both, of sediments within the intertidal zone. In turn, this could negatively affect recorded archaeological sites outside of the designation area by either burying known archaeological features or further exposing already eroding archaeological deposits. There is a case to be made that burying already exposed deposits may be a positive effect, as it would essentially protect them from further loss and damage from erosion, but the actual effects are difficult to predict without hydrological modelling.

10.3 Redesign

This project is only associated with the Notice of Requirement.

However, there is potential to consider some elements of the design of the project with any subsequent Outline Plan of works (s176A of the RMA) and/or necessary regional consents (e.g. earthworks consents) to avoid effects on archaeological values (regardless of which option is preferred by NAL and its advisors through a multi-disciplinary consideration of the options).

A redesign of runway orientation would not be possible, but it may be possible to redesign the location of underground services. This is however, complicated by the unknown location of archaeological sites within the project area. Nevertheless, the goal of this report has been to identify the potential effects of two runway extension options, therefore, choosing the option that has least effect on archaeology would be designing for least impact and avoiding or minimising effects to archaeological and heritage values.

Options that reduce the extent of areas of ground disturbance would lower the probability of encountering an archaeological site; therefore, removing the starter extensions for either option would reduce the probability that an archaeological site would be encountered, but this sub-option would not reduce the magnitude of the negative effects if a site were discovered under either option.

10.4 Avoid, minimise and/or mitigate

10.4.1 Option A – northern extension

As indicated above it is not possible to definitively state where, or even if, archaeological sites are located within the area of inquiry, as all potential sites are buried below the ground surface and are not visible or

otherwise detectible without invasive investigation techniques, although the likelihood of undisturbed archaeological features occurring in this area is **low**.

As such, it is not possible to avoid disturbing unknown archaeological sites. The effects of damaging or destroying such sites is considered to be a **significant adverse effect**, however it may be possible to mitigate the effects through archaeological recording of any features encountered during the course of the project and undertaken through an Outline Plan process pursuant to s176A of the Act.

With regard to the possible methods to mitigate the adverse effects of the proposal it should be noted that “the recovery of information is a method of *mitigating the loss of archaeological information, not for the loss of the site itself*” (Heritage New Zealand Pouhere Taonga 2019: 10, authors emphasis added). The project should take this into account and be prepared for archaeological investigation as part of the course of works. Standard archaeological techniques should be used for the recovery of archaeological information. These include, but are not limited to, the following:

- stand-over archaeological monitoring
- surveying and mapping of archaeological sites;
- stratigraphic profile drawing;
- photography of archaeological features;
- measurements and drawing of archaeological features;
- recovery of archaeological samples;
- analysis and interpretation of any archaeological samples recovered, in line with standard archaeological practice.
- Preparation of a written report on recorded archaeological sites

The above would be considered minimum requirements for the mitigation for the loss of archaeological information arising from the project. Further mitigation measures could include funding of the publication of archaeological reports, articles, or conference papers, and/or public displays or interpretation about the archaeological, cultural narrative and historical information about the place. The new airport terminal building would be an ideal location for such an interpretive display, but the appropriateness of such a display would depend on the nature of the archaeology encountered. Installation of interpretation panels along the Airport Perimeter Walking Track would be a good option also.

10.4.2 Option B – southern extension

This assessment has identified that there is a **high** likelihood of archaeological sites being **significantly** adversely affected by the southern runway extension, and because the location of these sites is not known, it is not possible to avoid them. As with Option A, it is possible to mitigate for the loss of archaeological information with the same abovementioned mitigation measures, including archaeological monitoring, recording and investigation, written reports and publications and public interpretation. Despite these mitigation measures, the residual effect of the proposal would remain **more than minor**.

10.5 Summary Evaluation of Options

A summary evaluation of the options is provided in Table 2 and a Multi-Criteria Analysis MCA is provided as . This report has demonstrated that both runway extension options have the potential to adversely affect archaeological values. **Option A** - The Northern option has a **low probability** of affecting archaeological sites, although the effect would be **less than minor with mitigation** measures in place if archaeological sites were impacted, the effect would still be permanent. **Option B** similarly has the potential to adversely impact archaeological sites, and the potential for this is considered to be **greater than the Option A**. It is possible to mitigate for the loss of archaeological information, but the adverse effect would still be **permanent and more than minor**. Therefore, **Option A – The Northern option, is least likely to impact upon archaeological values**.

The report has established that there are previously identified historic heritage values in two scheduled buildings within the NAL complex. It is understood that these buildings will not be affected within either extension option, however, any current or future proposal that could affect these structures, will need to

consider these historic heritage values. The potential to affect historic heritage items associated with the use of the land during WWII as a RNZAF base has been identified during the course of this assessment. The likelihood of affecting such sites is greater under Option A.

Table 2. Summary of potential effects to archaeological and historic heritage values for each option.

Effects		Option A (Northern)	Option B (Southern)
Likelihood to affect	Archaeology	Low	High
	Historic heritage	High	Low
Magnitude of effect (without mitigation)	Archaeology	Significant, permanent	Significant, permanent
	Historic heritage	Significant, permanent	Less than minor-Nil
Residual effect (with mitigation)	Archaeology	Less than minor, Permanent	More than minor, permanent
	Historic heritage	More than minor, permanent	Nil

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Addendum to Nelson Airport Options Assessment

Nelson Airport – Multi-Criteria Analysis

Addendum to Nelson Airport Options Assessment

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Options Assessment Scoring

For the purposes of inputting into the overall Multi-Criteria Analysis (MCA), a rating has been applied to each criterion using a scoring system of +3 (significant positive effect) to 0 (neutral/no change) to -3 (significant adverse effect) (refer to Table 1 below). The analysis reflects the effects of each option without the implementation of mitigation measures.

Table 1. Magnitude of effect scoring.

Effects/Outcome criteria	Scoring
Significant adverse effect/substantial negative effect on the project outcome	-3
Moderate/Major adverse effect	-2
Minor adverse effect	-1
Neutral/no change	0
Minor positive effect	1
Moderate/Major positive effect	2
Significant positive effect/achievement of project outcome.	3

Archaeological Criteria	Option A - Northern Extension Option	Option B – Southern Extension Option
Archaeology	-3 Aerial imagery from 1948 shows the fenced off Nelson Airport site at this time, which has been extensively levelled and includes the reclaimed Waimea Inlet tidal flats. There is a low potential for pre-1900 archaeological sites to be present in this area, and it is likely that any sites that do remain are likely to be in a disturbed state. There is a low probability of affecting archaeological sites, however, if a site was encountered there would be a permanent and major to significant adverse effect , depending on the values of the site type that is found.	-3 There is a high potential that unrecorded archaeological sites associated with Māori occupation exist both within and in close proximity to the southern option for runway extension. In particular, those areas that have remained relatively undeveloped, such as the inlet foreshore and intertidal zone to the south of the airport. The southern option would result in a permanent, significant adverse effect .
Historic Heritage	-2 The two scheduled buildings within the broader NAL site, will not be affected by the northern option, however, there are historic heritage values associated with the use of this area as a WWII RNZAF base. Structures associated with these activities are likely to be affected by the northern runway extension, resulting in a permanent moderate-major adverse effect .	0 Sites of historic heritage value will be unaffected by Option B

Archaeology

In summary, the MCA identifies that, without mitigation, both runway extension options have the potential to significantly adversely affect archaeological values (if an archaeological site is present within the development area). However, from an archaeological perspective, Option A is preferred over Option B because there is a low probability of affecting archaeological sites and the potential to adversely impact archaeological sites is significantly greater for Option B.

Historic Heritage

In summary, the MCA identifies that, without mitigation, Option A has the potential to affect historic heritage items (buildings within the NAL complex and structures within the adjacent golf course) associated with the use of the current NAL land and proposed extension area during WWII as a RNZAF base. Option B will not affect historic heritage items. Therefore, for the purposes of the MCA scoring, the potential to affect these items is greater under Option A.