

# Memorandum

Attention:	Matt Bonis, Planz; Simon Barr, Nelson Airport Limited
Date:	22 February 2023
From:	Kirsa Webb, Underground Overground Archaeology
Subject:	Stage 3: recommendations for managing archaeological effects
Project:	J010780 – Nelson Airport NoR

## Introduction

Nelson Airport Limited (NAL) is seeking to give notice to Nelson City Council (NCC) of its requirement to alter its existing designations to enable an extension to its main runway. The proposed runway extension is required to ensure it can provide for the expected needs of future aircraft types, remove operating constraints experienced by existing aircraft, and improve safety through the provision of Runway End Safety Areas (RESA).

This memorandum is the third and final stage of archaeological assessments for NAL to inform its Notice of Requirement (NoR) application to NCC. This memorandum should be read in conjunction with the Stage 1 Options Assessment (Archaeological Assessment for Nelson Airport, provided to NAL on 30 August 2022) (Options Assessment) and the Stage 2 Multi-criteria Analysis (MCA) addendum to the archaeological assessment (provided to NAL on 18 January 2023) (Archaeology MCA).

The conclusions in the Stage 1 and Stage 2 assessments confirmed that Option A, the northern extension, was the preferred option from an archaeological perspective, while Option B, the southern option, was preferred from an historic heritage perspective. This determination was based on:

1. The likelihood of adversely impacting an archaeological site being greater for Option B, than for Option A.
2. The ability for any adverse effects on archaeological values to be more effectively mitigated or minimised for Option A compared with Option B.
3. The likelihood of sites of historic heritage value being adversely impacted by Option A, compared to none being identified as affected by Option B.

The Options Assessment and Archaeology MCA identified that while both Option A and Option B have the potential for significant adverse effects on archaeological and heritage values without mitigation, overall Option A is the preferred option, as far as the effects on these values are concerned, on the basis of the likelihood of an archaeological site being present and opportunities to manage the effects from discovery.

## Purpose of this memorandum

The MCA and alternatives assessment undertaken for the project has also determined that Option A is the preferred option considering all disciplines and potential effects on the environment.

This memorandum looks at the effects of Option A and recommends mitigation measures to manage the potential adverse effects associated with the preferred option (northern runway extension) and the proposed change to NAL's existing designations and extension of the existing runway. The scope of this memorandum is limited to archaeological and historic heritage values and does not represent the views or cultural values of tangata whenua.

## The proposal and environmental effects

### ***Effects on archaeological sites and values***

The Options Assessment 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 northern designation area to remain in situ.

The land to the north of the current airport and existing runway 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. However, the Options Assessment identified that there is likely to be evidence associated with the WWII use of the area that will be of historical heritage value.

Option A is less likely to encounter intact archaeological sites and would have less impact on archaeological values should a site be encountered, provided adequate mitigation is in place. If intact archaeological sites were modified or destroyed, the adverse effects would be permanent and significant, but can be partially mitigated through the recommended measures set out below that are recommended to be included as conditions on the designation. There are, however, likely to be minor residual adverse effects even with the recommended mitigation in place.

**Effects on historic heritage values**

Option A may result in adverse effects on historic heritage values, however, these effects are able to be mitigated through the measures recommended below, though there may be some minor residual effects even with the mitigation in place.

**Summary of potential effects**

The below table sets out a summary of the potential effects of the preferred option on archaeological and historic heritage values.

Table 1. Summary of potential effects to archaeological and historic heritage values for the northern designation extension.

Effects		Option A (Northern)
Likelihood to affect	Archaeology	Low
	Historic heritage	High
Magnitude of effect (without mitigation)	Archaeology	Significant, permanent (-3)
	Historic heritage	Major, permanent (-2)
Residual effect (with mitigation)	Archaeology	Minor, Permanent (-1)
	Historic heritage	Minor, permanent (-1)

Any loss of heritage fabric or archaeological features arising from the project would result in the permanent loss or reduction of heritage values, and once lost, it is not possible to restore those values. As such, there will always be a residual adverse effect that is not able to be entirely mitigated.

**Principles for sustainable historic heritage management**

The protection of historic heritage from inappropriate subdivision, use and, development is a matter of national importance under Section 6 of the *Resource Management Act 1991*. Inappropriate subdivision, use, and development will undermine the identification, appreciation, protection, preservation and conservation of the historical and cultural heritage of New Zealand (New Zealand Historic Places Trust Pouhere Taonga, 2007a).

The ICOMOS (1990) *Laussane Charter for the Protection and Management of the Archaeological Heritage* states that archaeological heritage is a fragile and non-renewable cultural resource. Land use must, therefore, be controlled and developed in order to minimise the destruction of archaeological heritage. As such, recognition of the fragile and finite nature of archaeological and historic heritage is a key principle to sustainable development. A precautionary approach in development planning is required in order to safeguard against the gradual and cumulative loss of archaeological and historic heritage values and ensure its protection, condition, integrity and public appreciation for the benefit of present and future generations.

Where land must be designated over or near areas with historic heritage or archaeological values, New Zealand Historic Places Trust Pouhere Taonga (2007b) advocates that particular attention be paid to the extent of the area involved, the specific location, and the nature of the activity involved so that adverse impacts on historic heritage are minimised to the greatest practical extent.

In terms of adverse effects on archaeology and historic heritage, these effects can be avoided, remedied or mitigated either through conditions applied to the designation or through standard Outline Plan requirements, under the Heritage New Zealand Pouhere Taonga Act 2014 or works processes or subsequent consenting pathways. The mitigation recommended below will assist with achieving a sustainable approach to the development of airport infrastructure, facilities and services as associated with archaeology and historic heritage.

## Recommended mitigation measures to manage adverse effects of the preferred option

1. As a first principle, every practical effort should be made to avoid damage to any archaeological or heritage site, whether known, or discovered during any redevelopment activities.
2. If it becomes clear during the development of the Outline Plan or design process, adverse effects to items of historic heritage value (e.g. remnants or intact WWII RNZAF dispersal pits within the golf course) cannot be avoided, then it is recommended that a heritage impact assessment (HIA) be carried out by a suitably qualified heritage practitioner to inform the development of the Outline Plan and design process. The HIA will describe and evaluate the heritage and other values of any historic heritage places, settings or structures within the development area and assesses the extent and magnitude of effects on those values. The HIA will identify any potential future indirect effects that may arise as a result of the development and provide recommendations, including measures to avoid, minimise, remedy and mitigate adverse effects.
3. In conjunction with the development of the Outline Plan and design process for the northern runway extension, it is recommended that a site-specific archaeological assessment of effects (AAE) and investigation be undertaken to locate any intact archaeological features or deposits and determine the nature and extent of such features that may be potentially affected in order to take into account avoidance of archaeological remains during the development. This may require permission from adjacent landowners and an exploratory authority from Heritage New Zealand Pouhere Taonga (Heritage NZ) for in-ground exploratory work. This is obtained separately from the RMA process.

An application for a general authority under section 44 of the Heritage New Zealand Pouhere Taonga Act 2014 must be applied for and granted by Heritage NZ prior to the start of any works that may affect any known or potential sites within the project area that are unable to be avoided during construction works for the runway extension.

4. If at any stage during the redevelopment, Māori cultural material is discovered, mana whenua should be consulted in the first instance. If Māori material does exist in the area to be developed, damage to this should be avoided or minimised in the first instance. Any Māori artefacts will be, prima facie, property of the Crown and will be submitted to the appropriate institutions in accordance with the *Protected Objects Act 1975*.

Mitigation measures for the adverse effects on archaeological and/or historic heritage values shall be implemented based on the effects management hierarchy to avoid, minimise, remedy or mitigate effects. The exact mitigation protocols to be adopted will depend on the design and construction methodology, but it is recommended the following mitigation strategies aimed at preventing or minimising the impact of Option A be implemented:

1. The preferred mitigation for adverse effects to archaeological and historic heritage sites is avoidance and preservation in situ. The best opportunities for avoiding damage to archaeology and historic heritage arise when the options for detailed design are being considered.
  - a. The minimisation of the extent and depth of excavation during earthworks should be an objective insofar as that is practicable in the mitigation strategy.
  - b. Consideration should be given to the need for ground intrusion or disturbance for temporary services, fencing, access roads, site offices, amenities etc.
  - c. The design and management of the location of access roads, laydown and storage areas, site offices, etc., should have regard to the known archaeological sites and historic heritage places in the vicinity of the project area and should be planned to avoid these places where practicable.

- d. Archaeological and historic heritage sites outside of the project area, but in the immediate vicinity may be subjected to adverse impacts from the development from vibration, dust, or vehicle movements. Such sites can be managed in accordance with a Temporary Protection Plan prepared by a suitably qualified heritage practitioner, if required.
2. Because of the sub-surface and unknown nature of the potential archaeological sites within the project area, a total avoidance strategy will not be sufficient to remove the impacts of the project. As such, mitigation measures that minimise ground disturbance and potential damage to sites should be employed during construction as far as is practicable, for example:
  - a. Earthmoving methods and protocols that minimise ground disturbance and enable archaeological investigation should be implemented. These include the avoidance of the use of ground scrapers and graders, which produce wheel ruts and obliterate sub-surface archaeological features before they can be identified, adaptation of plant to reduce ground compaction and rutting, and guidelines for the timing of operations in relation to weather to avoid unnecessary construction impacts during wet conditions.
  - b. Wherever possible vehicle and plant movements should be limited to constructed haul roads or access tracks to avoid unnecessary ground disturbance by tracking across unprotected parts of the site.
  - c. To mitigate against accidental damage to in situ archaeological remains or historic heritage places all personnel undertaking earthmoving activities should be fully aware of the archaeological or historic nature of the area they are working in, and mitigation measures or protocols associated with the work they are undertaking. This should take the form of a pre-start induction by a suitably qualified archaeologist or heritage practitioner.
3. A formal programme of archaeological investigation and heritage recording should be implemented prior to construction commencing in areas where there is potential to affect known and unrecorded archaeological or historic heritage sites. This will be informed by an archaeological research strategy and an archaeological and heritage management plan. The investigation will usually involve some form of monitoring by a suitably qualified archaeologist or heritage practitioner to provide for the detection and identification of archaeological and heritage fabric while earthworks and ground disturbance activities are in progress.
4. Subsurface archaeological and heritage sites identified during earthworks could be avoided by adjusting the depth and/or path of the excavation and preserving the site or feature, as far as is practicable, through isolation, containment, and reburial protocols. The use of barrier layers and controlled backfill material, such as geotextile and sand, may be beneficial in forming a buffer between the archaeology and backfill.
5. If damage, modification or destruction of archaeological and heritage sites by the development is not able to be avoided in the first instance, then the loss of archaeological and heritage information can be mitigated by investigation, recording, analysis and interpretation using best practice archaeological and heritage methods. 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, Guidelines Series No. 2: writing archaeological assessments). Although preceded by recording, the archaeological investigation will still result in the permanent removal of any contextual, educational, or landscape values the site/sites may have possessed.
6. A full record of any archaeological or heritage investigations that are undertaken should be prepared and submitted to Nelson City Council, Heritage New Zealand Pouhere Taonga, local public museums, mana whenua, and other stakeholders. This will ensure that the information collected during the investigation is not lost and becomes part of the formal archaeological and heritage record, and that it is available in the public domain.
7. Further measures that that achieve positive heritage outcomes and mitigate for the adverse effects on archaeological values, specifically amenity values and information potential, could include funding of the publication of archaeological research, articles, or conference papers; public outreach projects such as presentations to community groups or open days; and/or public displays or interpretation about the archaeological site(s), cultural narrative and historical information about the place. The 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 in a public area would be a good option also. The adaptive reuse in public displays of heritage fabric encountered during the development that is unable to be left in situ should be considered.

### Recommendations for additional assessments

This section provides recommendations for additional archaeological and heritage assessments that would be required to complete detailed AAE and HIA in support of subsequent development of the Outline Plan process and any other consents or authorities.

1. Detailed survey and mapping of the adjacent coastline and golf course by a suitably qualified and experienced archaeologist and heritage practitioner will be required to identify and describe the nature of any archaeological features or historic heritage structures present within or adjacent to the designation area to inform recommendations using the management hierarchy including measures to avoid, remedy and mitigate adverse effects. Plans and photographic documentation of any historic heritage places, structures or settings will be produced.
2. An archaeological and heritage management plan (**AHMP**) will be prepared. The AHMP will describe the measures that will be taken to avoid, minimise or mitigate effects on archaeological sites within the designation in conjunction with any conditions required in any authority granted by Heritage New Zealand Pouhere Taonga. In particular, the AHMP will include:
  - a) Measures that will be taken to protect or avoid archaeological sites (or in situ archaeological remains) from damage during construction;
  - b) Mitigation measures in the form of archaeological investigation and recording;
  - c) Areas where monitoring of construction works by an archaeologist will be required;
  - d) Protocols to be followed if cultural sites, kōiwi (human remains) or taonga are encountered during construction works;
  - e) The roles and responsibilities associated with managing the archaeological aspects of the project;
  - f) Provisions for training contractors in the operational guidelines and procedures pertaining to the archaeological aspects of the project;
  - g) Provision for any revisions required to the AHMP during the course of the project; and
  - h) Reporting requirements, including updates to the NZAA archaeological site recording scheme (ArchSite) as new archaeological information becomes known.

### Requirements for the Notice of Requirement (NoR)

Of the recommendations above, it is recommended that the following are required for the Notice of Requirement:

1. The outline plan shall include, in addition to the matters required under section 176A of the RMA, an assessment of the following matters as relevant to the scale and location of the works proposed:
  - (a) whether any earthworks will alter the existing topography of the northern runway extension area and whether any impacts to archaeological and historic heritage values are appropriately identified, considered and managed.
2. The Airport Operator shall obtain all necessary archaeological authorities under Section 44(a) of the Heritage New Zealand Pouhere Taonga Act 2014 prior to the start of any earthworks on the Northern runway extension with the potential to affect archaeological remains.
3. The Airport Operator shall commission an archaeological and heritage management plan to provide operational guidelines and procedures for day-to-day activities that may affect archaeological and heritage sites during construction of the Northern runway extension.
4. The Airport Operator shall undertake a full archaeological investigation to identify, investigate and record subsurface archaeological remains, across the full extent of the Northern runway extension project area. Standard archaeological techniques should be used for the recovery of archaeological information, including but not limited to stand-over archaeological monitoring, surveying and mapping of archaeological sites, and recovery, analysis and reporting of archaeological samples recovered.