

30 April 2024

Jessica Crawford
Project Manager
Bega Valley Shire Council
Zingel Place
Bega, NSW, 2550



jcrawford@begavalley.nsw.gov.au

Dear Jessica

Re: 22-069 – Merimbula Boardwalk Letter of Heritage Advice

I am writing to provide updated advice regarding potential impacts on Aboriginal heritage values from the proposed maintenance and upgrade works for the Merimbula Boardwalk and Foreshore Path.

In December 2023, NGH finalised an Aboriginal heritage due diligence assessment for Ancillary Areas associated with the proposed Merimbula Boardwalk and Foreshore Path project (NGH 2023). The findings of this assessment report were that an Aboriginal Cultural Heritage Assessment, including a program of Aboriginal Community Consultation, was required of the Aboriginal heritage values of the Project Area and to assess the impacts of the proposed activities on values identified. The report also made recommendations regarding the proposed works and how the current AHIP (AHIP C0003582) should be considered. AHIP C0003582 commenced on 1 June 2018 and has a 20-year duration covering maintenance and upgrade activity for the associated AHIP Area and was informed by the Bega Valley Shire Council Various Works ACHA report (Dibden 2017).

Subsequent to the finalisation of the due diligence assessment (NGH 2023), BVSC advised that the Project Area for the proposed works had been reduced to exclude the ancillary areas and the works would broadly be confined to the area of the current boardwalk and foreshore path footprint. The revised Project Area was also broadly understood to comprise the subject area for AHIP C0003582, however detailed mapping of the AHIP Area has not been located and is not held by Heritage NSW.

NGH have reviewed the previous Aboriginal heritage assessments undertaken for the Merimbula Boardwalk and foreshore path area and conducted a comparative assessment and consistency review of the proposed works against the current AHIP and the ACHA report that supported the original AHIP application and subsequent assessments.

This assessment has found that the proposed works can proceed within the **Cleared heritage area extent** as shown in the Figure 1 to Figure 4 below. This is based on a reasonable understanding of the AHIP C0003582 subject area and the findings of all Aboriginal heritage assessments reviewed for this assessment, including the most recent due diligence assessment (NGH 2019, 2023).

Recommendations

This recommendations below outline the requirements for the proposed works to proceed, based on the conditions outlined in both the ACHA and the AHIP (the latter taking precedence if there are any conflicts).

1. If any proposed works for the asset renewal, upgrade and/or maintenance at the existing boardwalk and pathway are to be commenced under existing valid AHIP C0003582, these works must be compliant with all the conditions of AHIP C000358. The works should be confined to the land to which AHIP C0003582 is understood to apply and be as described in the documents outlined in

Bega

Suite 11, 89-91 Auckland Street (PO Box 470) Bega NSW 2550

T. (02) 6492 8333 E. ngh@nghconsulting.com.au W. nghconsulting.com.au ABN 31 124 444 622 ACN 124 444 622

AHIP C0003582 (specially the Bega Valley Shire Council Various Works ACHA by Dibden dated 23 October 2017).

2. **The Cleared heritage area extent** comprises the land to which AHIP C0003582 is understood to apply and some adjacent areas that have been inspected and assessed during the 2023 due diligence assessment. All works should be confined to the **Cleared heritage area extent** (see Figure 1 to Figure 4 below).
3. The implementation of works to upgrade the **boardwalk** facility should generally avoid impacts to areas of shoreline adjacent to the boardwalk. However, **specifically**, impacts to the adjacent shoreline and landform further inland must be avoided in the area mapped in the red polygon as **Shoreline avoidance area** to ensure there are no unauthorised impacts to **AHIMS sites # 62-6-0097 and # 62-6-0098** which **were not included** in *Schedule C Aboriginal Objects that may be harmed through the proposed works* in AHIP C0003582 (see Figure 4 below).
4. If suspected human remains are discovered during the works, all work must cease in the immediate vicinity. Heritage NSW and the local police should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal. Should the remains be identified as Aboriginal in origin Heritage NSW will identify the appropriate course of action.

Previous heritage assessments assessed during this process.

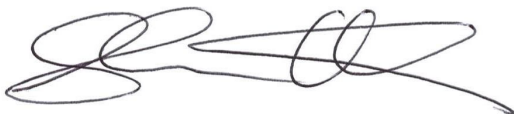
- NGH 2023. Aboriginal Heritage Due Diligence Assessment - Merimbula Boardwalk - Ancillary Areas
- Dibden, J. 2017 Bega Valley Shire Council Various Works: Aboriginal Cultural Heritage Assessment
- NGH 2019. Bega Valley Recreation Sites- Aboriginal Heritage Due Diligence Assessment

In addition to this letter, we are providing GIS .shp file data that comprise the following:

- 1) The **Cleared heritage area extent** (Polygon);
- 2) The **Shoreline avoidance area** (Polygon);
- 3) The coordinates for the registered location for AHIMS # 62-6-0098 that we will submit to the AHIMS registry (Point).

If you have any questions, please contact me or Matthew Barber on (02) 6153 6320. We would be pleased to discuss any aspect of this project with you further.

Yours sincerely,



Glenn Willcox
Senior Heritage Consultant
0427 305 462



Figure 1 Overview of mapped area

Bega

Suite 11, 89-91 Auckland Street (PO Box 470) Bega NSW 2550

T. (02) 6492 8333 E. nggh@nghconsulting.com.au W. nghconsulting.com.au ABN 31 124 444 622 ACN 124 444 622



Figure 2 Detailed map of Project Area (1 of 3)



Figure 3 Detailed map of Project Area (2 of 3)



Figure 4 Detailed map of Project Area (3 of 3)

Prepared for Bega Valley Shire Council

Aboriginal Heritage Due Diligence Assessment

Merimbula Boardwalk - Ancillary Areas

December 2023

Project Number: 22-669

Document verification

Project Title:	Merimbula Boardwalk - Ancillary Areas
Project Number:	22-669
Project File Name:	22-669 Merimbula Boardwalk DD_Final V 1.1

Revision	Date	Prepared by	Reviewed by	Approved by
Draft	12/09/2023	Glenn Willcox	Dr Tessa Bryant	Matthew Barber
Final	6/12/2023	Glenn Willcox	Cass Venn	Glenn Willcox

NGH Pty Ltd is committed to environmentally sustainable practices, including fostering a digital culture and minimising printing. Where printing is unavoidable, NGH prints on 100% recycled paper.

Table of contents

Acronyms and abbreviations	iii
Executive summary	iv
1. Introduction.....	1
1.1 Subject Land and Project Area	1
1.2 Project personnel.....	2
1.3 Aboriginal consultation	2
1.4 Approach and format of this report	2
2. Legislation	5
2.1 National Parks and Wildlife Act 1974	5
2.2 Environmental Planning and Assessment Act 1979.....	5
2.3 Bega Valley Heritage and Planning/ Local Environmental Plan 2010.....	6
3. Ground disturbance	7
4. Register search and landscape assessment	8
4.1 Archaeological context.....	14
4.1.1 Regional context.....	14
4.1.2 Local context	17
4.1.3 Summary of Archaeological Context.....	22
4.2 Landscape assessment.....	22
4.2.1 Geology & soils.....	22
4.2.2 Hydrology	22
4.2.3 Flora and fauna resources	23
4.2.4 Historic land use.....	23
4.3 Aboriginal site prediction	26
5. Impact avoidance.....	28
6. Desktop assessment and visual inspection.....	29
6.1 Summary	A-I
7. Further assessment.....	A-II
8. Recommendations	A-III
9. References	A-IV

Figures

Figure 1-1 General project location	4
Figure 4-1 AHIMS search results surrounding the Project Area	11

Figure 4-2 AHIMS sites within 1 km of the Project Area – Western Sector	12
Figure 4-3 AHIMS sites within 1 km of the Project Area – Eastern Sector	13
Figure 4-4 AHIMS sites subject to AHIP C0003582	19
Figure 4-5 Estimated area subject to AHIP C0003582	20
Figure 4-6 Pambula parish map showing variable width roadway on northern Merimbula Lake shore (3rd Edition c. 1898).....	24
Figure 4-7 Pambula parish map showing variable width roadway on northern Merimbula Lake shore (10th Edition c. 1970).....	24
Figure 4-8 Project Area and 1948 aerial image	25
Figure 6-1 Field Results	32

Tables

Table 1-1 Identifiers of Lots subject to the Project Area	1
Table 1-2 Due Diligence steps	2
Table 4-1 Breakdown of previously recorded Aboriginal sites in the region.....	8
Table 4-2 Previously recorded site types within 1 km of Project Area	9
Table 4-3 Previously recorded site types understood to be within the Project Area	9
Table 4-4 Sites within the Merimbula Boardwalk Project Area:.....	10
Table 4-5 Sites authorised for impacts by AHIP C0003582 (extract of table C1 on pages 10 & 11).....	21
Table 4-6 Parish Maps.....	24
Table 4-7 Aboriginal site prediction statements	26
Table 9-1 Shell features recorded	A-I
Table 9-2 Artefacts recorded.....	A-I

Appendices

Appendix A Site data	A-I
-----------------------------------	-----

Acronyms and abbreviations

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
Ancillary Areas	Portions of the current Project Area not covered by AHIP number C0003582
BVSC	Bega Valley Shire Council
DECCW	(Former) Department of Environment, Climate Change and Water (formerly responsible for heritage, now superseded by Heritage NSW)
DPIE	Department of Planning, Industry and Environment (NSW)
EES	Environment, Energy and Science (NSW), Division of DPIE (formerly OEH, and, prior, DECCW)
ha	hectares
Heritage Act	<i>Heritage Act 1977</i> (NSW)
Heritage NSW	Heritage NSW, within the Department of Premier and Cabinet (formerly part of OEH)
LALC	Local Aboriginal Land Council
LGA	Local Government Area
NPW Act	<i>National Parks and Wildlife Act 1974</i> (NSW)
NPW Regulation	National Parks and Wildlife Regulation 2019 (NSW)
NSW	New South Wales
OEH	(Former) Office of Environment and Heritage (NSW) (now EES)
PAD	Potential Archaeological Deposit

Executive summary

NGH Pty Ltd (NGH) was commissioned by Bega Valley Shire Council (BVSC) to undertake an Aboriginal Heritage Due Diligence assessment in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW, 2010) for the ancillary areas associated with the proposed maintenance and upgrade works for the Merimbula Boardwalk and Foreshore Path. The subject land is comprised of several lots on the northern shoreline of Merimbula Lake, in the Bega Valley Shire on the NSW south coast.

BVSC are proposing to upgrade the existing boardwalk and foreshore path located on the shore of Merimbula Lake. The main works would generally follow the alignment of the existing infrastructure with some alterations, including the construction type, support post location, and wider boardwalk and water access/seating areas at either end (improved ramps, seating and lighting). The project aims to provide for greater accessibility and improve opportunities generally for community use. In 2018 BVSC attained an Aboriginal Heritage Impact Permit (AHIP) valid for 20 years for the existing alignment of the Merimbula Boardwalk and Foreshore Path which authorises impacts on nine known heritage sites by maintenance and upgrade works within the area assessed for the AHIP (AHIP number C0003582). However, the current proposed project aims to upgrade informal ancillary access tracks and the installation of ancillary infrastructure that is outside the area assessed for the AHIP.

The project activity in these ancillary areas would involve some ground disturbance and the use of introduced materials for trail formalisation. The Due Diligence assessment is undertaken to evaluate whether Aboriginal objects are present, or likely to be present, within the proposed impact area of the development activity, and if those objects would be harmed by the activity.

Background and desktop assessment

The Project Area is located in an area of very high potential for containing Aboriginal cultural material and several large complex sites have been identified and recorded in close proximity.

The association between the Aboriginal cultural material identified during this assessment and the previously recorded sites has not been fully established and there remains potential for areas within the Project Area to contain subsurface cultural material.

The AHIP boundary is not clearly identified within the AHIP documentation. The ancillary area portions of the Project Area are outside of the understood AHIP area, and the proposed track and trail establishment works were not considered to be part of the maintenance and upgrade activities considered when the AHIP was sought.

Field results

Aboriginal cultural material was identified during the field inspection, the majority of which are likely associated with the previously recorded sites, including some sites which were approved for impact within the area of proposed development and the area of AHIP number C0003582.

Impact assessment conclusion

It has been established that if the proposed works are to proceed in the current form they will impact on Aboriginal cultural material and values.

The Ancillary Area portions of the Project Area are outside of the understood AHIP C0003582 area and the proposed track and trail establishment works are not considered part of the maintenance and upgrade activities covered by the AHIP.

The Due Diligence Code states that if, after the desktop research and visual inspection is completed, it is evident that harm will occur to Aboriginal objects or heritage places then further and more detailed assessment is required. However, if the research and inspection conclude that the proposed activity is unlikely to harm Aboriginal objects then the activity can proceed with caution.

The Due Diligence assessment concludes that the Project Area requires further investigation and assessment.

Recommendations

The following recommendations are based on a number of considerations including:

- Background Aboriginal heritage research into the area;
- Assessment of Landscape;
- Land use and disturbance assessment;
- Visual inspection
- Consideration of the impact of the proposed works; and
- Legislative context for the development proposal.

Based on an assessment of the project, the location and previous level of disturbance we make the following recommendations:

1. An Aboriginal Cultural Heritage Assessment, including a program of Aboriginal Community Consultation, is required of the Aboriginal heritage values of the Project Area and to assess the impacts of the proposed activities on values identified.
2. The proponent should seek advice from Heritage NSW regarding the potential for the ACHA to support an application to vary the current AHIP C0003582, to incorporate the proposed activities into the maintenance and upgrade activities authorised by the AHIP.
3. If any proposed works for the asset renewal, upgrade and/or maintenance at the existing boardwalk and pathway are to be commenced under existing valid AHIP C0003582, these works **must** be compliant with all the conditions of AHIP C000358, be confined to the land to which AHIP C0003582 applies and be as described in the documents outlined in AHIP C0003582 (specially the Bega Valley Shire Council Various Works ACHA by Dibden dated 23 October 2017).

Bega Valley Shire Council is reminded that it is an offence under the *National Parks and Wildlife Act 1974* to disturb, damage or destroy an Aboriginal object without a valid AHIP.

1. Introduction

NGH was commissioned by Bega Valley Shire Council (the Proponent) to undertake an Aboriginal Heritage Due Diligence assessment in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW, 2010) (Due Diligence Code) for the ancillary areas associated with the proposed maintenance and upgrade works for the Merimbula Boardwalk and Foreshore Path.

Bega Valley Shire Council (BVSC) are proposing to upgrade the existing boardwalk and foreshore path located on the shore of Merimbula Lake. The main works would generally follow the alignment of the existing infrastructure with some alterations, including the construction type, support post location, and wider boardwalk and water access/seating areas at either end (improved ramps, seating and lighting). The project aims to provide for greater accessibility and improve opportunities generally for community use.

In 2018 BVSC attained an Aboriginal Heritage Impact Permit (AHIP C0003582) valid for 20 years for the existing alignment of the Merimbula Boardwalk and Foreshore Path which authorises impacts on nine known heritage sites by maintenance and upgrade works within the area assessed for the AHIP. However, the current proposed project aims to upgrade informal ancillary access tracks and the installation of ancillary infrastructure that is outside the area assessed for that AHIP.

The development activity in these ancillary areas would involve some ground disturbance and the use of introduced materials for trail formalisation. The Due Diligence assessment is undertaken to evaluate whether Aboriginal objects are present, or likely to be present, within the proposed impact area of the development activity, and if those objects would be harmed by the activity.

1.1 Subject Land and Project Area

The Subject Land

The subject land comprises several lots that are Crown Reserve, Road Reserve, Crown land under management of Bega Valley Shire Council (BVSC) or Private land holdings as shown in Table 1-1 below.

Table 1-1 Identifiers of Lots subject to the Project Area

Lot: 98 DP: 747323	Lot: 97 DP: 747323
Lot: 202 DP: 793447	Lot: 75 DP: 703428
Lot: 7032 DP: 1047318 Crown Reserve R1003688	Lot: 76 DP: 703428
Lot: 50 DP: 827195	Lot: 37 DP: 208862
PLT: 200 DP: 1235728	Lot: 1 DP: 109636
Crown Road Reserve	Lot: E DP: 355155
Lot: 51 DP: 883129	

The Project Area

The Project Area includes the current Merimbula Boardwalk and Foreshore Path and the creation of ancillary tracks and trails to manage pedestrian access to the Merimbula Boardwalk and Foreshore Path - see Figure 1-1 below. In addition to the areas of the ancillary tracks and trails the Project Area incorporates a wider area around the Merimbula Boardwalk and Foreshore Path than the area of AHIP C0003582 for the Merimbula Boardwalk and Foreshore Path.

1.2 Project personnel

The Due Diligence assessment was carried out by qualified archaeologist Glenn Willcox of NGH. This included background research, field inspection and the completion of this report. Qualified archaeologists Dr Tessa Bryant and Matthew Barber reviewed the draft report and Cass Venn reviewed the final version of the report.

1.3 Aboriginal consultation

The Due Diligence process does not formally require consultation with Aboriginal community groups. The project area is within the boundaries of the Bega Local Aboriginal Land Council (Bega LALC). In accordance with BVSC protocols and an NGH recommendation, consultation with the Djirringanj Elders Federation and the Bega LALC was undertaken to ensure continuity of engagement with the local Aboriginal community in relation to works managed by BVSC. Representatives of both organisations were present during the site inspection and both organisations will be provided with a copy of the final report.

1.4 Approach and format of this report

This report has been drafted in keeping with the sequence of steps identified in the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (Due Diligence Code) (DECCW, 2010). The Due Diligence Code outlines a five-step approach to determine if an activity is likely to cause harm to an Aboriginal object, as defined by the NSW *National Parks and Wildlife Act 1974* (NPW Act). The steps follow a logical sequence of questions, and the answer to each question determines the need for the next step in the process in order to:

- Identify whether Aboriginal objects are, or are likely to be, present in the study area/proposal site etc;
- Determine whether or not the proposed activities are likely to harm Aboriginal objects (if present) in the study area; and
- Determine whether an Aboriginal Heritage Impact Permit (AHIP) application is required.

Table 1-2 Due Diligence steps

	Due Diligence steps
Step 1.	Will the activity disturb the ground surface?
Step 2a.	Search the AHIMS database and use any other sources of information of which you are already aware.
Step 2b.	Are activities proposed in areas where landscape features indicate the presence of Aboriginal objects?

Step 3.	Can you avoid harm to the object or disturbance of the landscape feature?
Step 4.	Undertake a desktop assessment and visual inspection. Is it likely that Aboriginal objects will be impacted by the proposed works?
Step 5.	Further investigations and impact assessment.

If the proposed activities are not 'low impact activities' (a defence for which is provided under the NPW Regulation), the considerations result in a determination of whether or not:

- Further approval under the NPW Act is required, in the form of an AHIP; or
- Due Diligence obligations for the protection of Aboriginal objects are discharged by the process under the Code.

For the purposes of the Due Diligence assessment, disturbed land is defined in the Due Diligence Code. Land is disturbed if it has been the subject of a human activity that has changed the land's surface, with the changes remaining clear and observable.

The defence against prosecution offered by following the Due Diligence Code process does not apply to situations where it is known there is an Aboriginal object present. The defence does not authorise harm to Aboriginal objects.

Each section within this report follows the relevant step outlined in the Due Diligence Code (DECCW, 2010). Reference is also made, where relevant, to the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010).



Figure 1-1 General project location

2. Legislation

In NSW, Aboriginal heritage is principally protected by two legislative acts:

- *National Parks and Wildlife Act 1974* (NSW) (NPW Act) and its subordinate legislation, the National Parks and Wildlife Regulation 2019; and
- *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act).

2.1 National Parks and Wildlife Act 1974

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements to harm an Aboriginal object or place. All Aboriginal material receives blanket protection under the NPW Act. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- A person must not harm an Aboriginal object.
- For the purposes of this section, "circumstances of aggravation" are:
 - that the offence was committed in the course of carrying out a commercial activity; or
 - that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

An Aboriginal object is defined as:

- Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

Section 87 sets out defences that are available to a person who is prosecuted for a particular harm offence under section 86. For example, it will be a defence in certain circumstances if the person who is being prosecuted can show that:

- the harm or desecration was authorised through an Aboriginal Heritage Impact Permit (AHIP) and conditions of the AHIP were not contravened;
- the person exercised due diligence to determine whether the act/omission constituted the offence would harm an Aboriginal object and reasonably determined no harm would occur;
- the person complied with requirements or a code of practice, as prescribed in the National Parks and Wildlife Regulation (2019); or
- was a low impact act or omission.

Section 89A of the NPW Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect, this section requires the completion of AHIMS site cards for all sites located during heritage surveys.

2.2 Environmental Planning and Assessment Act 1979

The EP&A Act regulates development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider impact of the project on the environment and to promote the sustainable manage of built and cultural heritage (which includes Aboriginal cultural heritage). The EP&A Act requires that Aboriginal cultural heritage, and the possible impacts that development may have to Aboriginal heritage be considered, as part of the environmental impact assessment process under the EP&A Act. For

most projects requiring assessment under Part 4 and 5 of the EP&A Act, the NPW Act will apply and an AHIP may be required. However, where the project is a "State Significant" project approved under Part 3A of the EP&A Act, the operation of the NPW Act is excluded the Part 3A assessment will involve consideration of impact to Aboriginal cultural heritage.

It also provides for the identification, protection, and management of heritage items through inclusion of these items into schedules off planning instruments, such as Local Environmental Plans (LEPs).

2.3 Bega Valley Heritage and Planning/ Local Environmental Plan 2010

The Project Area is located within the Bega Valley LGA. Clause 5.10 of the Bega Valley LEP requires that development consent be obtained for any proposed activity which will result in impacts to an Aboriginal object or Aboriginal Place. This includes any identified within the LEP itself, or on any other register.

Schedule 5 of the LEP 2010 details the included environmental heritage items covered by the plan. No Aboriginal sites or places listed on Schedule 5 are located within the Project Area.

3. Ground disturbance

Step 1. Will the activity disturb the ground surface or any culturally modified trees?

The majority of the proposed work for the Merimbula Boardwalk and Foreshore Track upgrade will be undertaken within the area for AHIP number C0003582 and impacts to Aboriginal objects within the AHIP area are authorised by that AHIP. The Project Area for this assessment comprises ancillary areas that include informal trails. As noted in the original *Merimbula Boardwalk Concept Design*, (BVSC 2022) the activity that is to be considered for this assessment is as follows:

- “Existing ‘Bush Tracks’ that veer off the main boardwalk are proposed to be formalised using improved drainage, gravel, stone and bridging over gullies and marsh areas”.

The development design principles outlined in the Merimbula Boardwalk and Foreshore Path Development Application (dated 16/05/2023) includes the following information in regard to the ancillary trails.

The existing side trails will be upgraded from a ‘goat trail’ to a Class 2 walking track to meet the Australian Standards for Walking Tracks AS 2156.2-2001: Classification and Signage. The trails will be made sustainable with improved drainage and track over wet areas to reduce erosion and protect the environment.

The definition of a Class 2 walking track is:

- 1. Generally a modified or hardened surface. Width: 900 mm or more. Well maintained with minimal intrusions.*
- 2. Generally no steeper than 1:10. Minimal use of steps.*
- 3. Signs for management and interpretation purposes may be used frequently. Arrow type track markers shall be used at intersections.*
- 4. Facilities along the track may include lookout platforms, seats and barrier rails.*
- 5. Users need no previous experience and are expected to exercise normal care regarding their personal safety.*

These activities require moderate ground disturbance, the use of heavy machinery and laydown areas. Any Aboriginal sites within the disturbance footprint could therefore be subject to harm. As the project will include ground disturbance, the next step in the due diligence process will be completed.

4. Register search and landscape assessment

Step 2a. Search the AHIMS Database and other information sources

A search of relevant heritage registers for Aboriginal sites and places provides an indication of the presence of previously recorded sites. A register search is not conclusive, however, as it requires that an area has been subject to archaeological survey, and information about any sites identified has been submitted for registration. However, as a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area and provide oversight regarding the site types most commonly recorded within the local area. The Aboriginal Heritage Information Management System (AHIMS) provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. The results of the search are valid for 12 months for the purposes of a due diligence level assessment.

On 10 May 2023 a search of the AHIMS database was undertaken over a 12 km (E/W) x 8 km (N/S) search area centred on the study area, as follows:

- Client Service ID: 780652
- Lat/Long: 36.9287, 149.8217
- Lat/Long: 36.8601, 149.9454
- Aboriginal objects:
 - 117
- Aboriginal Places:
 - 0

There were 117 Aboriginal sites recorded within this search area and no declared Aboriginal Places. Table 4-1 below shows the breakdown of site types and Figure 4-1, Figure 4-2 and Figure 4-3 below show the location of the AHIMS sites in relation to the project area.

Table 4-1 Breakdown of previously recorded Aboriginal sites in the region

Site type	Number
Artefact (1 or more)	48
Midden with Artefact	33
Midden	12
Artefact with Potential Archaeological Deposit (PAD)	5
Modified Tree	4
Potential Archaeological Deposit (PAD)	3
Midden with Artefact and Potential Archaeological Deposit (PAD)	3
Midden with Burial	2
Burial	2
Restricted	2

Midden with Burial and Artefact	1
Midden with Potential Archaeological Deposit (PAD)	1
Midden with Art	1
Total	117

On the 24th of May 2023, David Gordon - Senior Systems Information Officer (Aboriginal) Information Systems, Heritage NSW - confirmed that the two restricted sites included in the search result are not in close proximity to the Project Area.

The AHIMS database results for Merimbula Boardwalk proposed works area highlights that this is within a sensitive landscape for Aboriginal heritage. There are a total of 55 Aboriginal heritage sites registered in the AHIMS database within a 1 km buffer of the Project Area. Of the sites surrounding the Project Area, there are 11 differing site types recorded, with a breakdown shown in Table 4-2 below, with midden deposits containing artefacts the most numerous. There are seven site types that include midden deposit.

Table 4-2 Previously recorded site types within 1 km of Project Area

Site Type	Number
Midden with Artefact	24
Artefact (1 or more)	12
Midden	7
Midden with Artefact and PAD	3
Artefact with PAD	2
Midden with Burial	2
Midden with Burial and Artefact	1
Midden with Art	1
Burial	1
Midden with PAD	1
Modified Tree (Carved or Scarred)	1
TOTAL	55

There are a total of six sites recorded understood to be partially within the Project Area and a breakdown of previously recorded site types is provided in Table 4-3 below and basic site details are provided in Table 4-4 below.

Table 4-3 Previously recorded site types understood to be within the Project Area

Site Type	Number
Midden with artefacts	3
Midden	3
TOTAL	6

Table 4-4 Sites within the Merimbula Boardwalk Project Area:

Site Number	Site Name	Site Type	Registered location distance to Project Area (m)
62-6-0097	Merimbula Lake 1	Midden with Artefacts	Four metres but site likely extends into Project Area and AHIP area
62-6-0099	Merimbula Lake 4	Midden with Artefacts	Five metres but site likely extends into Project Area and AHIP area
62-6-0100	Merimbula Lake 3	Midden with Artefacts	Within Project Area and AHIP area
62-6-0783	Merimbula Boardwalk 1	Midden	Two metres but site likely extends into Project Area and AHIP area
62-6-0784	Merimbula Boardwalk 2	Midden	Within Project Area and AHIP area
62-6-0785	Merimbula Boardwalk 3	Midden	Within Project Area and AHIP area

This evidence reinforces the trend along this section of the NSW South Coast, where the most common site types identified are midden deposits and/or artefact scatters. As the majority of the Project Area has already been covered by targeted archaeological investigations, there is a low potential for any previously unrecorded sites to be located in those portions. The Ancillary Area portion of the Project Area however needs to be assessed to investigate the status of these areas in relation to known and unknown heritage sites and values. See Figure 4-5 on page 20 for map details of the Project Area, the AHIP C0003582 Area and the resulting Ancillary Area.

The Project Area is noted as being located in an identified area of High Cultural Value by the Bega Valley Shire Council Aboriginal Cultural Mapping data set.

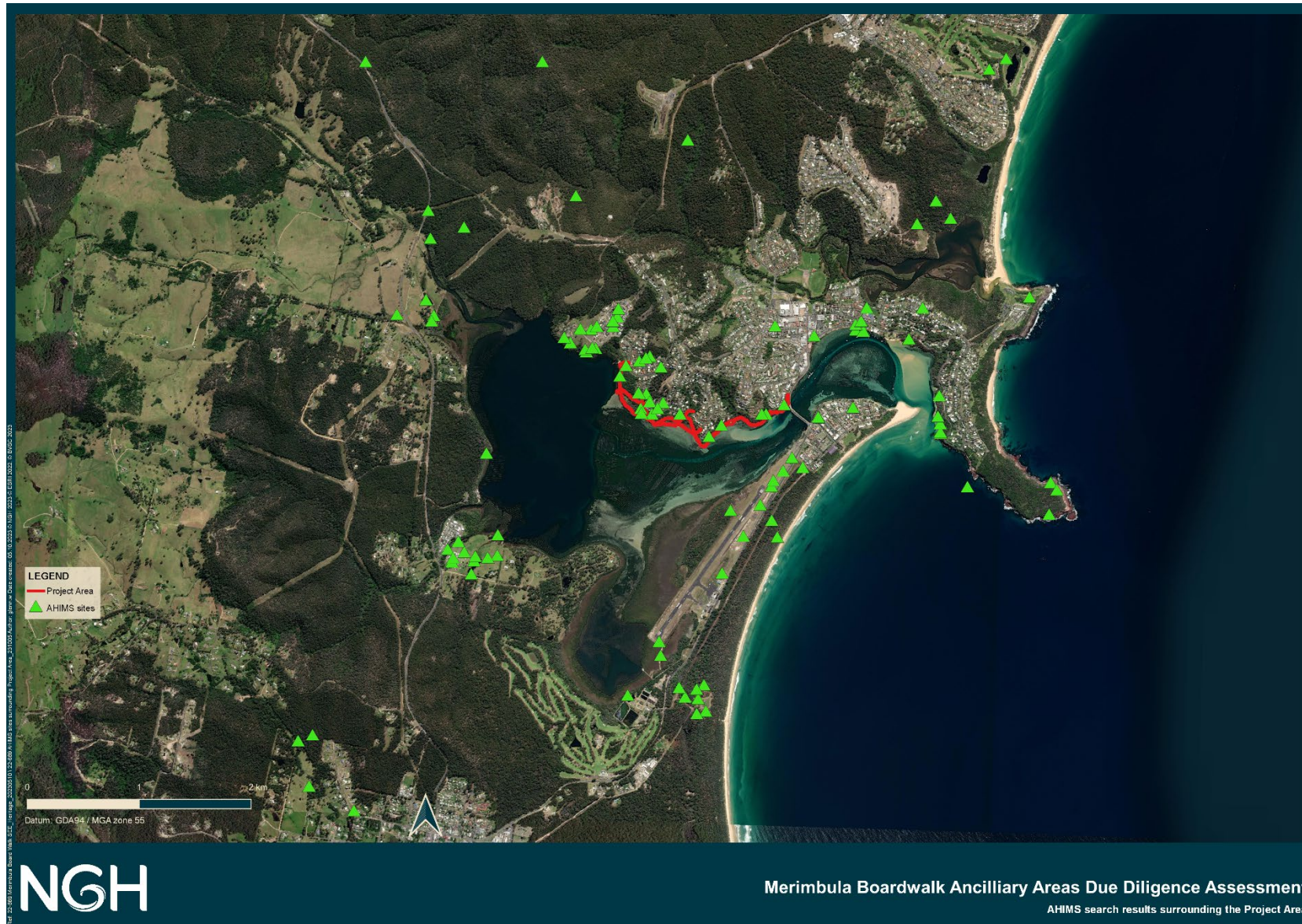


Figure 4-1 AHIMS search results surrounding the Project Area

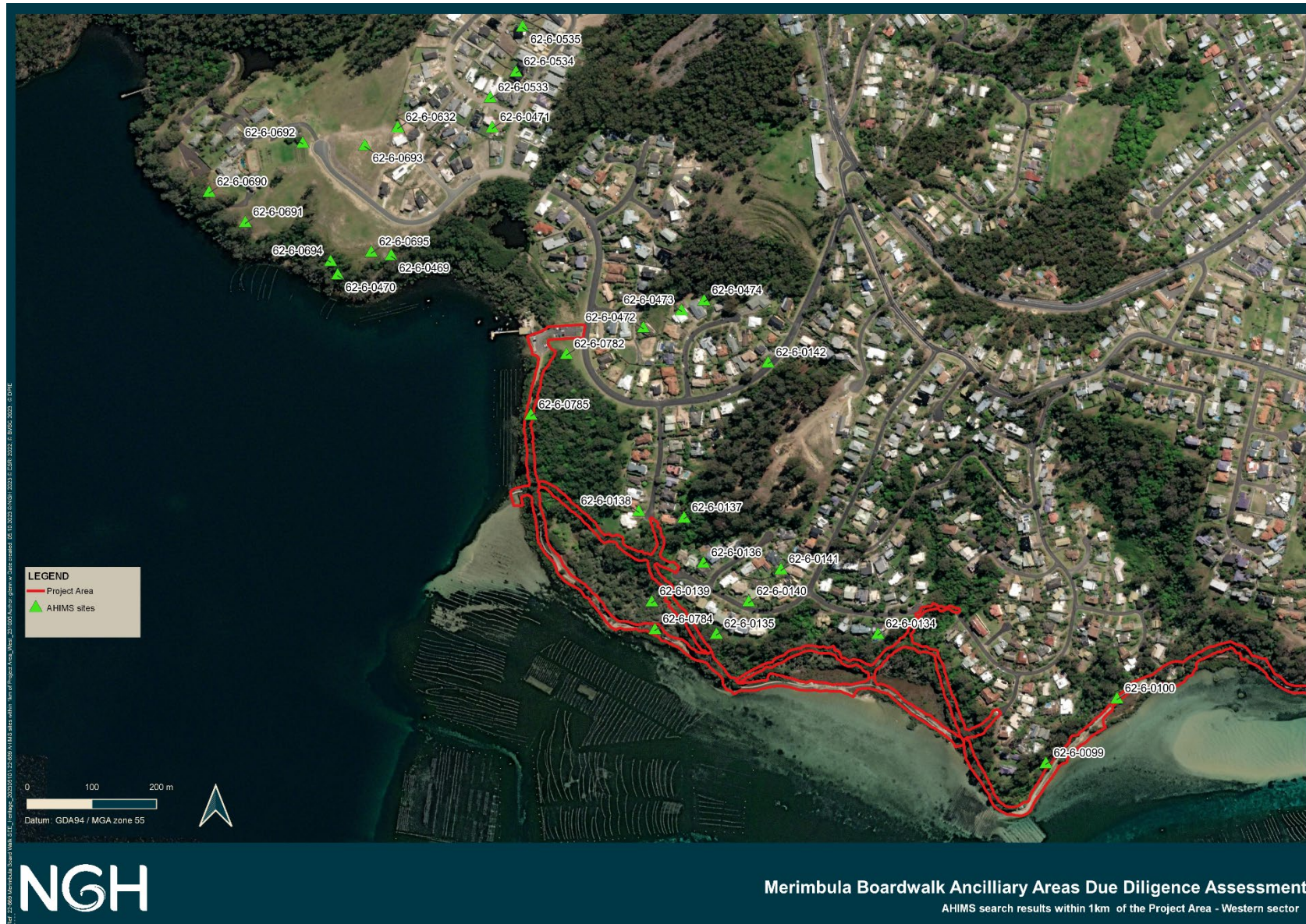


Figure 4-2 AHIMS sites within 1 km of the Project Area – Western Sector



Figure 4-3 AHIMS sites within 1 km of the Project Area – Eastern Sector

4.1 Archaeological context

4.1.1 Regional context

Aboriginal people have occupied what we now know as the Australian continent for at least 40,000 years and perhaps 60,000 years and beyond. Archaeological evidence from Lake Mungo, provides ample evidence of Aboriginal occupation dating back 40,000 years before present (BP) (Hiscock 2007). Aboriginal people have utilised the resources of the South Coast hinterland and adjacent coast for at least the past 20,000 years (Boot 1996, 2002). Despite evidence for the Pleistocene occupation of the area at Burrill Lake, Bass Point and Wallen Creek, it is recognised that the majority of sites in the region date to within the last 5,000 years (Boot 1996). However, this could be representative of a change in sea level with the majority of the Pleistocene coastline no longer visible. The Pleistocene occupation is generally thought to have been sporadic and low intensity, reflecting the low population at the time. It was not until the mid-Holocene, when sea levels reached their present level, that there begins to be an increase in Aboriginal occupation of the region reflected in the archaeological record.

The south coast of NSW has been the subject of considerable archaeological assessment over the last 25 years. This work has come in the form of academic research and more recently through the requirement to conduct impact assessment prior to land development. In the general vicinity of the Project Area within the Merimbula area there have been a number of studies undertaken and the major relevant studies around Merimbula are summarised below.

In 1981 and 1982, Sullivan examined a selection of middens along the south coast as part of her doctoral research. Sullivan argued that the inlet at Pambula Lake, 8 km south of the Project Area, was the focus of intensive Aboriginal activities. The Middens along Pambula River are composed of primarily estuarine cockle, mud oysters, rock oysters, whelk and mussels with minimal appearances of other estuarine species (Sullivan 1982). The remains of fish, birds, land and sea mammals were also present, with small marsupials being present throughout and the bones of larger marsupials, including sea mammals, appearing sporadically (as cited in Dibden 2007, p.24). In addition, a total of 12 different species of fish were recorded, revealing the Aboriginal people inhabiting this coastal landscape to have had a diversification of fishing methods employed over time (as cited in Dibden 2007, p.24). The basal layer of a midden excavated by Sullivan was dated to 3,000 years BP, with the mid-section dating to 2,300 years BP and the upper-section to 1,200 years BP (as cited in Dibden 2007, p.24).

In 1998 Barber surveyed Lot 15A, 22 Beach Street Merimbula. The two stone artefacts previously noted in the area were unable to be relocated and no additional stone artefacts were found. Shell material was identified across the disturbed topsoil of the property however no dense concentrations of shell were found (Barber 1998).

Oakley (2000) examined a house lot at 16 Main Street, Merimbula where shell had been identified. Oakley was not convinced of the Aboriginal origin of the shell, despite it being bleached and of the edible estuarine species, due to the level of disturbance of the area. However, it was noted that there was potential for in situ deposits to exist below the imported fill layer.

In 2002, Kuskie, conducted an archaeological survey for a residential development Lakewood Estate on the northern shores of Merimbula Lake, resulting in no Aboriginal sites recorded. Kuskie (2002) argued that the steep gradients across the site would not have been conducive to Aboriginal camping.

In 2003, Wheeler and Douglas completed an archaeological survey of land associated with the Merimbula Public School, which is located on the isthmus between Back Lagoon and Merimbula Lake. Midden materials and stone artefacts were recorded in ground exposures. Subsurface investigations were later undertaken locating stone artefacts, shell middens and collections of ochre, all within relatively intact soil profiles (as cited in Dibden 2007, p.26). Stone artefact raw materials included rhyolite, silcrete and quartz, with further

evidence indicating that backed artefacts were manufactured on site (as cited in Dibden 2007, p.26). The archaeology recorded indicated that the site was extensive and complex, and most likely represented repeated visitations over a relatively long time period (as cited in Dibden 2007, p.26).

In 2004 Kuskie conducted a subsurface salvage of a midden and artefact scatter at the Merimbula Cove Residential Development site. The shell midden was in situ to a depth of 12 cm and was dominated by estuarine cockle, with lower frequencies of oysters, whelk and mussels. A total of two stone artefacts, several pieces of bone, and charcoal were also recovered. A radiocarbon date was obtained, resulting in a calibrated age of 910-620 Cal BP (Wk14112) (as cited in Dibden 2007, p.26). Another midden was excavated, recovering 47 stone artefacts of which rhyolite was the dominant material with silcrete being present at a moderate frequency. Additionally, two microblades and associated cores were recovered, revealing that microblades were manufactured on site, reflecting the observations made by Wheeler and Douglas in 2003. A radiocarbon date was obtained from this midden providing an age estimate of 807 + 30 years Cal BP (Wk14110). Kuskie concluded the age estimates revealed a continuation of microblade technology into the very recent past (as cited in Dibden 2007, p.26).

In 2004, Oakley conducted an assessment of the Carrington Development at Merimbula following the discovery of midden material during monitoring works at a development site by Eden LALC representatives. The midden was found to be relatively undisturbed and comprised estuarine species. Stone artefacts were also recorded and Aboriginal skeletal remains were subsequently recorded at the site (as cited in Dibden 2007, p.18).

In 2005, Kuskie surveyed the proposed Bega Valley Shire Council works at Rotary Park, Merimbula on a bedrock hill above the sand flats of Merimbula Lake. He located 110 stone artefacts and some dispersed midden material. A previously recorded scarred tree was considered to more likely be of natural origin rather than cultural (Kuskie 2005).

In 2005, Dibden completed an archaeological survey at Millingandi for a proposed caravan park redevelopment located adjacent to Merimbula Lake on an elevated flat landform and bedrock slopes. Several stone artefacts were recorded within surface exposures, and a subsequent subsurface excavation was undertaken revealing a consistent and high-density distribution of stone artefacts across the entire area (Dibden 2006).

In 2006 Dibden carried out an archaeological investigation of a property on the corner of Beach and Alice Streets, known as Merimbula Plaza (as cited in Ironbark Heritage and Environment 2013, 2014). While excavating for footings as part of a building extension within a courtyard area, shell was noted in one of the trenches. After an inspection by the Department of Environment and Conservation, Dibden was contracted to undertake an archaeological investigation and assessment. Dibden identified four layers in the soil profile in trench 1 (2.6 m x 1.45 m x 0.7 m). The upper surface unit consisted of obvious fill material and building debris to a depth of 30-50 mm; a laminated sandy silt layer, most likely imported, containing small round pebbles and a metal knife, to a depth of 180mm; a grey silty sand containing edible species of shellfish, Sydney cockle (*Anadara* sp.) and mud whelk (*Pyrazus*) with two distinct lenses of shell in the east section, the upper lens crushed and the lower one with mostly whole shell, to a depth of 550mm; and a mottled yellow and dark brown sand with no other material to the base of the trench at 700mm (as cited in Ironbark Heritage and Environment 2013, 2014). Dibden noted that within trench 2, there was a thin layer of recent building debris, underneath which shell was present in both disturbed and apparently undisturbed deposits within the trench. The cockle shell was found to be scattered but within the grey silty sand layer situated close to the top of the profile. Trench 3, the closest trench to Beach Street, contained scattered and isolated pieces of shell in a grey silty layer. Stone artefacts were observed in spoil material that may have come from trench 1, and scattered shell and three stone artefacts were observed in deposits outside the property in exposed ground along a boundary fence. This material was found in a light grey sandy deposit that also contained scattered fragments of cockle shell (as cited in Ironbark Heritage and Environment 2013, 2014). Dibden subsequently undertook salvage excavation of the site at Merimbula Plaza. Excavations revealed that while the upper levels of the deposit had been disturbed with modern building rubble over an imported fill material,

there was intact shell midden and in situ stone artefacts present across the site. Midden material consisted mostly of estuarine species such as cockle, mud whelk and rock oyster (*Saccostrea*). All of these species are readily obtainable from Merimbula (as cited in Ironbark Heritage and Environment 2013, 2014). Dibden concluded that despite the previous ground disturbance, the site contained substantial areas of deposit with vertical integrity. The site was also considered likely to extend beyond the boundaries of the 15 m x 15 m area of her investigation, in particular to the west and south (as cited in Ironbark Heritage and Environment 2013, 2014).

In 2007, Dibden, undertook subsurface test excavations at Lot 222 DP1090501 at Pambula Beach Road (Dibden 2007). A total of 246 stone artefacts were recovered from 14-15 auger holes excavated. Not all excavated auger holes contained a high frequency of stone artefacts, with nine of the auger holes recovering fewer than 10 artefacts. Dibden determined the average artefact density across the site was about 58 artefacts/m², revealing artefact density to be moderate. A number of the excavated auger holes did have high frequencies of stone artefacts and included artefacts from single knapping events (Dibden 2007, p.1). The soil context in which the majority of artefacts were found was the intact A2 soil horizon, which was identified as the last level at which artefacts were deposited prior to more recent 20th century soil disturbances (Dibden 2007, p.1). A higher frequency of artefacts was found along the transect situated in close proximity to a neighbouring wetland, which is likely a reflection of Aboriginal preferences regarding an occupation and subsistence strategy employed by Aboriginal people within this particular coastal landscape/environmental context.

In 2013 Ironbark Heritage and Environment (IHE) undertook a due diligence assessment for the proposed Twyford Hall Theatre Development (Ironbark Heritage and Environment 2013). The development area was located in the north-eastern sector of the existing Twyford Hall allotment at the corner of Market and Beach Streets in Merimbula. It was recommended that prior to any construction activity commencing, the presence and significance of any remnant archaeological deposits should be assessed through a programme of subsurface testing. IHE (2014) subsequently undertook subsurface testing with six test pits excavated. Masonry pavers/bricks were lifted, and sections of concrete pathways were cut and removed to provide access to the deposit below. Examination of the deposit supported the broad three-fold deposit profile established by Dibden in 2006 for the adjoining Merimbula Plaza property comprising Group A - Historic and Recent Construction Deposits, Group B – Midden Deposits, Group C – Sub-Midden Soils and Beach Sands. Despite the prior disturbance in the area, the subsurface testing programme revealed there were undisturbed stratified deposits with in situ cultural material present. Of the six test pits excavated, five contained stone artefacts with a total of 59 flaked artefacts recovered (Ironbark Heritage and Environment 2014). The vertical distribution through the deposit profile shows artefacts were retrieved from spits associated with Group A and B horizons and spits associated with the mixed subsoil profile transition between group B and C horizons. The highest density of artefacts was retrieved from spits associated with the base of the group B horizon and the mixed transition deposit between Group B and C horizons. Quartz was the dominant material identified in the assemblage. Varying amounts of shell were found in three of the five test pits. The shell assemblage retrieved from the excavation comprised overwhelmingly disarticulated shells of species and size that were targeted for consumption by Aboriginal people. Cockle (*Anadara* sp.) and Mud Oyster (*Ostrea* sp) dominated the shell assemblage and all shells present are typically identified in Aboriginal middens in the region including the midden excavated on the property adjoining the subject area. The sub surface investigation confirmed the midden site AHIMS # 62-6-0654 recorded on the adjoining property to the east continues in the sub surface deposits of the Twyford Hall courtyard area. Although no human remains were found during the excavations, the presence of remains could not be discounted, given the history of human remains found in Merimbula (Ironbark Heritage and Environment 2014).

In 2018 NGH was commissioned by TSA Management to undertake a Due Diligence assessment for the proposed redevelopment of 10 Short Street, Merimbula known as Bimbimbie. The area of investigation comprised approximately 7.4 ha within an existing retirement village consisting of several generally low-rise structures. The property adjoined the foreshore of Merimbula Lake and a single midden site (AHIMS #62-6-0097) had been previously recorded within the assessment area, situated on the low-lying slope adjacent to

the Merimbula Lake shoreline. The field inspection identified one isolated find, Bimbimbie IF 1, and relocated AHIMS site #62-6-0097. Additionally, an area of high archaeological potential was identified that incorporated both sites. Both sites and the area of high archaeological potential were outside the development footprint and no further Aboriginal cultural heritage was identified within the remaining area, which was assessed as having low archaeological potential. This was primarily attributed to the steep gradient slopes, lack of flat areas, distance to the lake and extensive disturbance that has occurred as part of the original aged car facility, built in the 1970s.

4.1.2 Local context

Hughes (1982) undertook an archaeological investigation within an area of the northern shores of Lake Merimbula, which was characterised by sandy flats, cliffs and slope areas above the lake (as cited in Dibden 2007, p.25). A total of six middens were identified on the cliff tops at the transition from the hill slopes to the rocky platforms and estuarine sandy flats (as cited in Dibden 2007, p.25). The vast majority of the materials in the middens consisted of estuarine species, and the presence of artefacts, charcoal and fish bones and scales were recorded in some (as cited in Dibden 2007, p.25).

In 1983 Hughes (as cited in Dibden 2007) undertook further surveys along the Merimbula Lake foreshore and on elevated slopes above the lake, recording nine additional sites consisting of eight middens and one stone artefact scatter (as cited in Dibden 2007, p.25). Hughes concluded midden material was virtually continuous along the sections of the cliff-line and the estuarine sandy flats at the foreshore (as cited in Dibden 2007, p.25). In comparing the archaeology of Lake Merimbula to that of the Bega River estuary located further north, Hughes identified observable differences regarding the frequency of site types. The Bega River has a high frequency of open artefact scatters compared with Lake Merimbula, which has a high frequency of middens (as cited in Dibden 2007, p.25). Hughes, determined the reason for this difference in site type frequency was the frequency of estuarine shell fish varied from being high at Lake Merimbula and very low at the Bega River (as cited in Dibden 2007, p.25).

In 2000 Kuskie and Gutierrez, completed an archaeological survey of Merimbula Cove property, located along the northern shoreline of Merimbula Lake in 2000. A total of six Aboriginal archaeological sites were identified, which included four middens, one open artefact scatter and an isolated find. Like previously recorded middens in the area, they contained predominantly estuarine shellfish species. The artefacts recorded were manufactured from locally available rhyolite and quartz and determined to be produced from generic flaking activities and the production of microblades (as cited in Dibden 2007, p.26). The sites were located along moderate to low gradient slopes and spur crests within 100 m of the lake foreshore (as cited in Dibden 2007, p.26).

In 2002, Kuskie, conducted an archaeological survey for a residential development Lakewood Estate on the northern shores of Merimbula Lake, resulting in no Aboriginal sites recorded. Kuskie (2002) argued that the steep gradients across the site would not have been conducive to Aboriginal camping.

In 2017 Dibden undertook an Aboriginal Cultural Heritage Assessment for Bega Valley Shire Council to assess proposed works at seven coastal recreation locations sites from Bermagui to Eden (Dibden 2017). The Merimbula Boardwalk and Foreshore Path was included in this assessment process. Dibden noted that the boardwalk/walkway area assessed was immediately in or adjacent to the lake water and traversed lake/low lying, estuarine sand deposit. The assessment area was noted as being generally disturbed. The adjacent land, which includes a portion of the current Project Area, was noted as incorporating a series of low elevation, low gradient, simple slopes and headlands which adjoin the lake with minor drainage lines and gullies separated the low rises. Seven previously recorded AHIMS registered sites were noted as being in close proximity to the assessment area. A field inspection was undertaken during which five previously recorded sites and four newly recorded sites were identified as requiring impact mitigation for the proposed works.

Dibden concluded that the cultural material identified was representative of Aboriginal exploitation of the local area and broader south coast region, with sites identified being close to rich resource zones on landforms suitable for regular habitation. Archaeological test excavation was not warranted as the assessment area was not considered to have potential conservation value and has been subject to generally high disturbance and no information gaps were identified that warranted further field-based investigation. This report was used in support of an AHIP application for the Merimbula Boardwalk and Foreshore Path.

AHIP number C0003582 was issued in June 2018 to authorise impacts from the proposed works to nine sites as shown in the table below for the Merimbula Boardwalk and Foreshore Path upgrade works, however the area covered by the AHIP was not clearly mapped using GIS when it was originally submitted. Based on the hard copy mapping provided within the AHIP documentation, the estimated AHIP area is indicated in yellow in Figure 4-5.



Figure 4-4 AHIMS sites subject to AHIP C0003582



Figure 4-5 Estimated area subject to AHIP C0003582


Table 4-5 Sites authorised for impacts by AHIP C0003582 (extract of table C1 on pages 10 & 11)

That part of the site that exists within the area of the proposed works.	62-6-0783	Shell	Merimbula Boardwalk 1	N	759174	5912917	GDA
That part of the site that exists within the area of the proposed works.	62-6-0784	Shell	Merimbula Boardwalk 2	N	757898	5912841	GDA
That part of the site that exists within the area of the proposed works.	62-6-0785	Shell	Merimbula Boardwalk 3	N	757706	5913173	GDA
That part of the site that exists within the area of the proposed works.	62-6-0782	Shell	Merimbula Boardwalk 4	N	757761	5913267	GDA
That part of the site that exists within the area of the proposed works.	62-6-0100	Shell	Merimbula Lake 3	N	758613	5912734	GDA
That part of the site that exists within the area of the proposed works.	62-6-0099	Shell	Merimbula Lake 4	N	758503	5912634	GDA
That part of the site that exists within the area of the proposed works.	62-6-0135	Artefacts and shell	Merimbula Heights Estate 8	N	757993	5912834	GDA

AHIP number: C0003582
Printed: 2:40:29 PM 1/06/2018

Page 10 of 21

Aboriginal Heritage Impact Permit
Section 90 of the *National Parks and Wildlife Act 1974*


**Office of
Environment
& Heritage**

That part of the site that exists within the area of the proposed works.	62-6-0138	Shell	Merimbula Heights Estate 11	N	757873	5913024	GDA
That part of the site that exists within the area of the proposed works.	62-6-0139	Artefacts and shell	Merimbula Heights Estate 12	N	757893	5912884	GDA

In 2018 NGH was engaged by Bega Valley Shire Council (BVSC) to undertake a Due Diligence assessment for Aboriginal sites for seven locations proposed for upgrade of public recreation facilities including the Merimbula Boardwalk (NGH 2018). Background research for this assessment revealed that the Merimbula Boardwalk area and surrounds is a sensitive landscape for Aboriginal sites. Following a field inspection, the assessment concluded that while there are a number of previously recorded sites in the vicinity of the boardwalk, BVSC have been issued an AHIP that allows certain activities to occur that may impact these sites, including the upgrade and maintenance of the boardwalk. No new sites were recorded during the assessment and therefore, the proposed work, which was assessed as being confined to within the area of

the authorised AHIP, was unlikely to impact on unrecorded sites and no further Aboriginal heritage assessment was required.

4.1.3 Summary of Archaeological Context

The results of previous archaeological surveys in the region show that there are sites present throughout the landscape, albeit concentrated closer to water sources. Aboriginal occupation sites within the Merimbula area tend to be situated on flats and/or low gradient slopes along spur-crests and ridgelines elevated above the Merimbula Lake and in most cases, within 100 metres of the shoreline. Merimbula Lake and the areas surrounding it tend to be dominated by middens, most likely due to the high amount of edible estuarine seashell species present within the lake and along its associated tributaries (Hughes 1983), and artefact scatters. The middens vary in size from single eating events to large sites and their content generally reflects immediately available resource. Artefact scatters in many cases are found in close association with midden sites. Burials are also present around the lake and have also been recorded in the dune system in Merimbula. The stone artefacts recorded around the Merimbula area tend to consist of simple flaked tools, with occasional appearances of backed blades and microliths. The dominant raw material utilised for stone tool manufacture in the Merimbula area is a locally sourced rhyolite, with silcrete and quartz appearing at a lower frequency within the overall assemblage.

4.2 Landscape assessment

Step 2b. Are there landscape features present likely to contain Aboriginal objects?

The Due Diligence Code outlines a range of general landscape features that are more likely to contain Aboriginal objects. These include land that is:

- Within 200m of water;
- Located within a sand dune system;
- Located on a ridge top, ridge line or headland;
- Located within 200m below or above a cliff face; or
- Within 20m of a cave, rock shelter or cave mouth.

It is also necessary to consider whether any sensitive landscape features present have been disturbed or modified which would reduce the potential for Aboriginal objects to occur. The Project Area is located within 200m of the Merimbula Lake shore on flats and low rise elevated landforms adjacent to the lake. While many of the landforms within the Project Area have experienced varying degrees of disturbance due to informal track creation and use, there likely remains undisturbed cultural deposits within the Project Area.

4.2.1 Geology & soils

Understanding the landscape character of the local area can assist with understanding what, if any, resources including raw stone materials may have been available for the manufacture and maintenance of stone tools or for use as shelter. The geology underlying the project area is characterised by early Devonian siliciclastic sedimentary rock of the Lambie Basin, a sub province of the Lachlan Orogen Province of the Merimbula Group. Stone types featured include sandstone, siltstone, mudstone and conglomerates that would have provided suitable resources for the manufacture of stone tools.

4.2.2 Hydrology

The Project Area is adjacent to Lake Merimbula a coastal estuary that is subject to regular tidal flows and there are first and second order drainage lines emptying into lake after transecting through the Project Area.

4.2.3 Flora and fauna resources

The Project Area is adjacent to Lake Merimbula and the flora on site is currently understood to be largely connected with large patches of exotics dominating the understory of the native areas across the site.

The site currently contains four Plant Community Types (PCTs)

- 3273 - South Coast Lowland Shrub-Grass Forest
- 4056 - Southern Estuarine Swamp Paperbark Creek flat Scrub
- 4091 - Grey Mangrove-River Mangrove Forest
- 4097 - Samphire Saltmarsh

PCT 3273 is the most common generally occurring further away from the shore on loamy soils on coastal lowlands. PCT 4056 on sandy saline sediments a lot closer to the high tide mark under 5m. PCTs 4091 and 4097 are found within the estuarine mudflats and saline lagoons. These diverse vegetation communities would have provided forest trees, shrub and grass/rush resources for the manufacture of tools and vessels as well as being home to terrestrial and arboreal animals that would have been available for hunting.

Lake Merimbula is a source of diverse marine life including fish, shell fish and crustaceans. Aboriginal people would have utilised this coastal environment and the lake as it would provide a rich array of food sources in addition to marine life including birds, a variety of terrestrial mammals, and insects.

4.2.4 Historic land use

Parish maps

Pambula Parish maps from Edition 3 dated 1898 to the tenth edition dated 1970 reveal that the northern Merimbula Lake shore, that coincides with the western half of the Merimbula Boardwalk precinct, is noted to have been either used or set aside for a variable width roadway. Whether the gazetted roadway was formalised as a practical road has yet to be determined - see Table 4-6 below for map details.

Historic Aerial Imagery

Historical aerial imagery from 1948 shows the area identified on parish maps as a variable width roadway is clear of vegetation and with exposed shoreline. The apparent cleared nature of the shoreline may be due to its use and maintenance as a roadway or could be a beach shoreline exposed at low tide. See Figure 4-3 below for 1948 image with current Project Area. Consultation with knowledge holders associated with the Merimbula Historical Society revealed that establishment of a road within the road reserve in the past is not understood to have occurred.

The current Merimbula Boardwalk was built in 1997 by Green Corp Trainees and sections have been replaced or substantially repaired over the years (BVSC 2022).

Table 4-6 Parish Maps

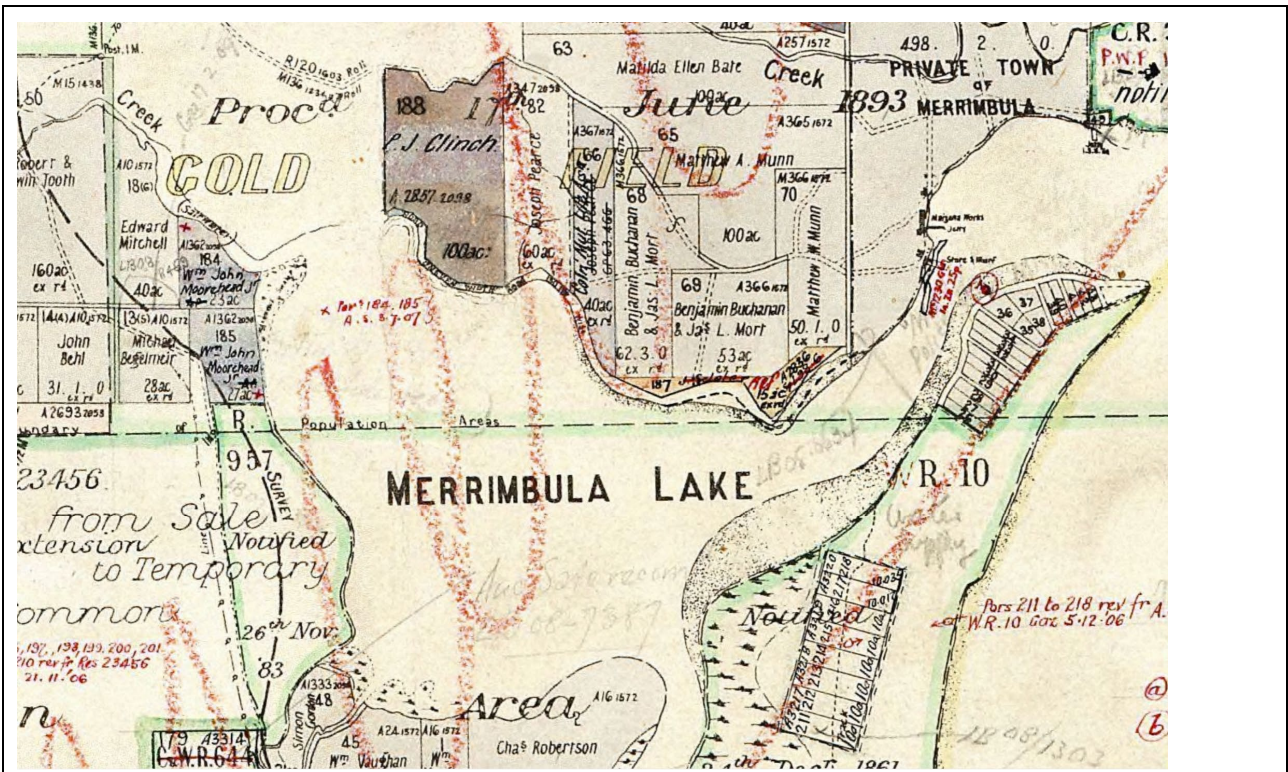


Figure 4-6 Pambula parish map showing variable width roadway on northern Merimbula Lake shore (3rd Edition c. 1898)

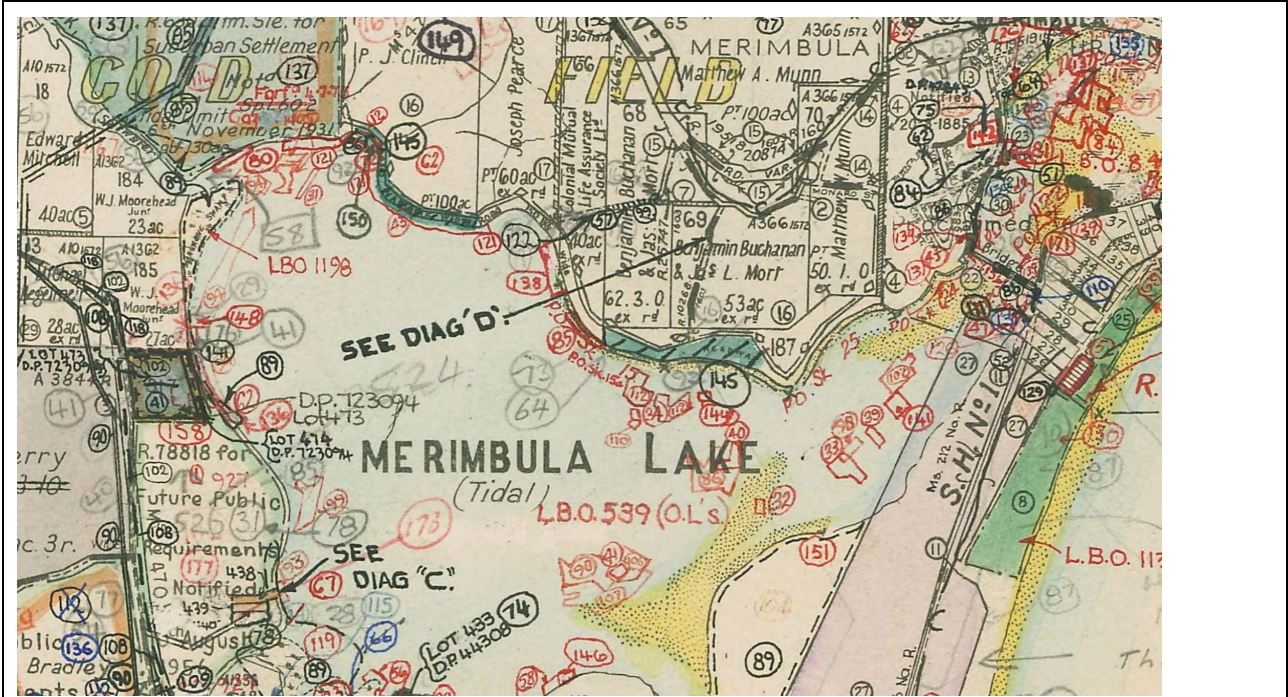


Figure 4-7 Pambula parish map showing variable width roadway on northern Merimbula Lake shore (10th Edition c. 1970)

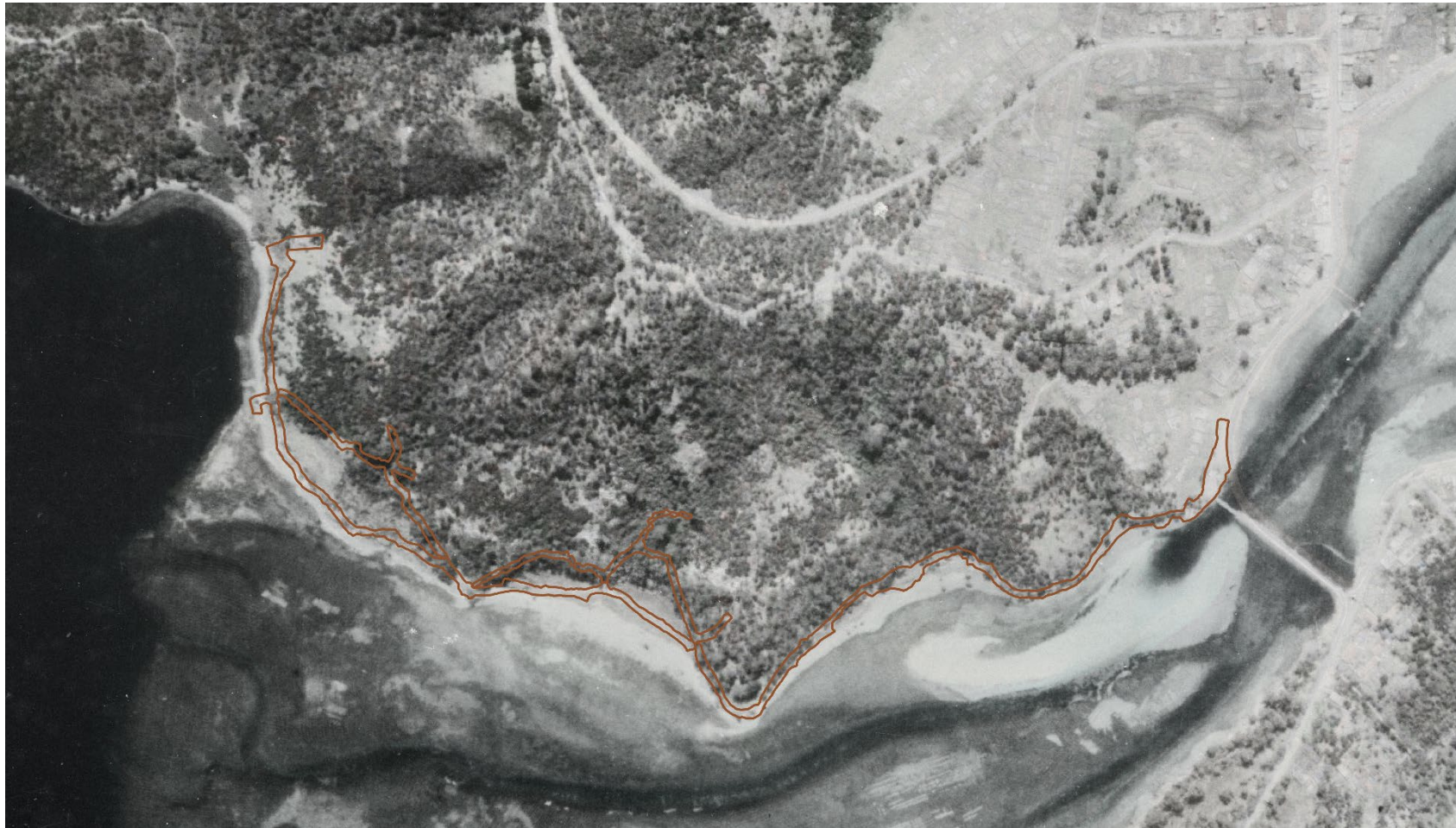


Figure 4-8 Project Area and 1948 aerial image

4.3 Aboriginal site prediction

Based upon the initial desktop assessment, using satellite imagery and topographic data, it appears that there is high potential for Aboriginal objects to occur within the broader Project Area particularly given that there have been several large midden sites identified within and/or adjacent to the Merimbula Boardwalk and Foreshore Path area. The boundaries of the previously recorded sites have not been clearly mapped however an initial assessment of the site descriptions suggests that portions of the Project Area likely transect the previously recorded sites.

While the Project Area has experienced varying degrees of prior disturbance, there remains a possibility that relatively undisturbed surface and subsurface cultural material may be present in the Project Area.

Based upon the previously recorded AHIMS sites within 1km of the Project Area there is potential for shell middens, artefact scatters, isolated artefacts, burials, Potential Archaeological Deposits (PADs) and culturally modified trees where old growth trees remain to be present. Of the 55 AHIMS sites within 1km of the Project Area, 42 contain stone artefacts and 39 contain shell midden material. Three sites include burials and three include PADs, while one modified tree is recorded.

The desktop assessment, therefore, indicates that there are landscapes present within the Project Area that have the potential to contain Aboriginal objects. The nature of the works being undertaken at this site will involve moderate to high level of ground disturbance and it is likely that it would impact on Aboriginal heritage objects.

An outline of predicted Aboriginal objects within the activity area is provided in Table 4-7.

Table 4-7 Aboriginal site prediction statements

Site type	Site description	Potential
Stone artefacts scatters and isolated artefacts	Artefact scatter sites can range from high-density concentrations through to isolated finds	High potential to occur in low to moderate densities on level to moderately sloping landforms.
Shell Midden	Are the agglomeration of shell material disposed of after consumption. Such places are found along the edges of significant waterways and along the coast.	High potential to occur in low, moderate or high densities on lakeshore and near lake shore landforms .
Burial	Burials sites exist throughout New South Wales and can be accidentally uncovered during construction work or become exposed through erosion.	AHIMS registry data and oral histories note that burials are present in the region. There is generally low to moderate potential for human remains to occur in sandy landforms and midden locations which are present in the Project Area, particularly near the shore of Merimbula Lake.
Potential Archaeological Deposits (PADs)	Potential subsurface deposits of archaeological material	Low to moderate potential to occur within Project Area in areas of elevated, flat, dry land associated with water sources

Modified Tree (Scarred or Carved)	Trees that have undergone cultural modification	Low potential to occur within the Project Area in areas where there are remnant mature native trees associated with Aboriginal occupation
-----------------------------------	-------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------

5. Impact avoidance

Step 3. Can any AHIMS listed objects, or landscape features be avoided?

The proposed location of the trail formalisation works in the Project Area are located in an area which contains Aboriginal objects and/or archaeological potential, based on the nature of the landscape. Previous assessments and the current desktop assessment of the landscape have confirmed this.

While the project activity could be amended to avoid Aboriginal objects, landscapes and culturally sensitive areas, by not proceeding with the proposed trail formalisation works, the Project Area is currently being visited by a significant number of people undertaking recreational activities and informal trail maintenance activities are being undertaken. Even if the proposed works were to not proceed, the informal activities will continue to impact any cultural material present.

Desktop assessment alone is not sufficient to conclusively define the archaeological potential of the landscape or identify the location of any Aboriginal objects. Therefore, the next step in the process, a visual inspection, must be conducted to determine the presence of Aboriginal objects or potential archaeological deposits.

6. Desktop assessment and visual inspection

Step 4. Does the desktop assessment confirm that there are likely to be Aboriginal objects present or below the ground surface?

The assessment process is primarily a desktop exercise, using available information such as the AHIMS search results and relevant archaeological reports to develop or refine a model of Aboriginal site prediction based on the type of activity proposed and the level of disturbance of the area. A visual inspection is also required where landscape features are present that may contain Aboriginal objects that cannot be avoided by the activity.

Visual Inspection

A visual inspection of the Project Area was undertaken on the 13th of September 2023 by NGH Senior Heritage Consultant Glenn Willcox assisted by Aboriginal community representatives John Dixon (Djirringanj Elders Federation) and Charles Austin (Bega LALC).

The Project Area was comprehensively surveyed and the trail corridors were located on flat lake shore and sloping hill and gully landforms that largely ranged from gentle to moderately sloping with some sections of trail on more steeply sloping landforms.

Visibility varied across the landforms but was generally poor with dense vegetation growth and introduced materials for trail construction/maintenance limiting visibility. Cultural material was identified on gentle and moderately sloping landforms and moderately sloping landforms had experienced greater erosion activity than more gentle slopes, revealing subsurface deposits. See Plates 1, 4, 6, 7, 11 & 12 for examples of surface visibility.

Four isolated stone artefacts (see Plates 2, 3, 9 & 10 below) and five midden shell expressions (see Plates 4, 5 & 6 below) comprised the cultural material identified during the site inspection. Much of the shell material identified is likely associated with previously recorded sites, however further assessment is required to clarify this. Some shell material and stone artefacts were identified that may represent newly recorded sites, while one stone artefact (MBW_AA_Artefact_03 - see plate 10 below) appeared to not be associated with previously recorded sites.

See Appendix A below for details of shell features and artefacts recorded during the field inspection.

Site photographs below taken during field work: Plate 1 to Plate 12.



	
<p>Plate 1 Steep trail to Otway Close facing north</p>	<p>Plate 2 Flaked artefact on steep trail to Otway Close (MBW_AA_Artefact_01)</p>



Plate 3 Core (MBW_AA_Artefact_02)



Plate 4 Overview of shell fragments on track (MBW_AA_Shell_01)



Plate 5 Shell fragments (MBW_AA_Shell_01)



Plate 6 Overview of shell fragments exposed on track (MBW_AA_Shell_02)



Plate 7 Dense vegetation in gully south of Kiama Place



Plate 8 Fragmented shell and artefact location (MBW_AA_Shell_03 & MBW_AA_Artefact_04) likely associated with AHIMS site 62-6-0135



Plate 9 Flaked artefact with fragmented shell (MBW_AA_Shell_03 & MBW_AA_Artefact_04), likely associated with AHIMS site 62-6-0135



Plate 10 Flaked artefact on lakeshore flat (MBW_AA_Artefact_03)



Plate 11 Dense shell midden deposit in cutting near Project Area boundary (MBW_AA_Shell_04)

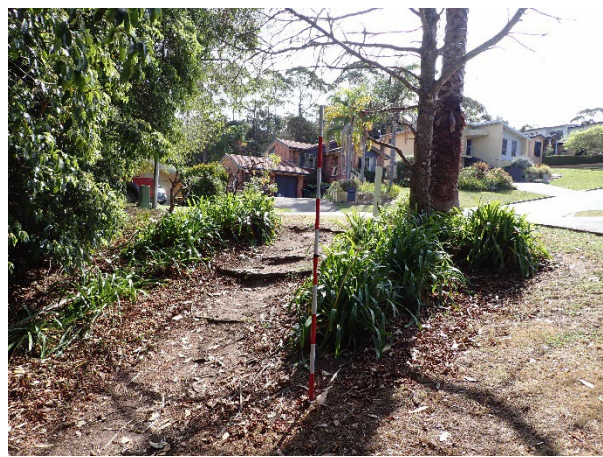


Plate 12 Northern section of trail at Tern Close



Figure 6-1 Field Results

6.1 Summary

The Project Area is located in an area of very high potential for containing Aboriginal cultural material and several large complex sites have been identified and recorded in close proximity. Aboriginal cultural material was identified during the field inspection, the majority of which are likely associated with the previously recorded sites, including some which are approved for partial impact within the area of AHIP number C0003582.

The association between the Aboriginal cultural material identified during this assessment and the previously recorded sites has not been fully established and there remains potential for areas to be identified with potential to contain subsurface cultural material.

It has been established that if the proposed works are to proceed, they will impact on Aboriginal cultural material and values.

The ancillary area portions of the Project Area are outside of the understood AHIP area, and the proposed track and trail establishment works are not considered part of the maintenance and upgrade activities covered by the AHIP.

7. Further assessment

Step 5. Is further investigation or impact assessment required?

The Due Diligence Code states that if, after the desktop research and visual inspection is completed, it is evident that harm will occur to Aboriginal objects or heritage places then further and more detailed assessment is required. However, if the research and inspection conclude that the proposed activity is unlikely to harm Aboriginal objects then the activity can proceed with caution.

The field assessment concludes that the Project Area does require further investigation and assessment, if the Aboriginal sites identified cannot be avoided.

The project activity could be amended to avoid Aboriginal objects, landscapes and culturally sensitive areas outside of the current area for AHIP C0003582 by constraining maintenance and upgrade activities to within the AHIP area and not proceeding with the proposed ancillary trail formalisation works. However, the Project Area is currently being visited by significant numbers of people undertaking recreational activities and informal trail maintenance activities are also being undertaken. Even if the proposed works did not proceed within the Project Area, the informal activities will continue to impact any cultural material present and the upgrade and enhancement of the Merimbula Boardwalk and Foreshore Track will likely result in increased use of the ancillary areas that comprise the Project Area.

An Aboriginal Cultural Heritage Assessment (ACHA) of the Project Area is required to further assess the known and yet to be determined Aboriginal heritage values of the Project Area and to assess the impacts of the proposed activities on values identified. The proponent should seek advice from Heritage NSW regarding the potential for the ACHA to support an application to vary the current AHIP C0003582, to incorporate the proposed activities into the maintenance and upgrade activities authorised by the AHIP.

8. Recommendations

The following recommendations are based on a number of considerations including:

- Background Aboriginal heritage research into the area;
- Assessment of Landscape;
- Land use and disturbance assessment;
- Visual inspection
- Consideration of the impact of the proposed works; and
- Legislative context for the development proposal.

Based on an assessment of the project, the location and previous level of disturbance, and assuming the works proceed as planned, we make the following recommendations:

1. An Aboriginal Cultural Heritage Assessment, including a program of Aboriginal Community Consultation, is required of the Aboriginal heritage values of the Project Area and to assess the impacts of the proposed activities on values identified.
2. The proponent should seek advice from Heritage NSW regarding the potential for the ACHA to support an application to vary the current AHIP C0003582, to incorporate the proposed activities into the maintenance and upgrade activities authorised by the AHIP.
3. If any proposed works for the asset renewal, upgrade and/or maintenance at the existing boardwalk and pathway are to be commenced under existing valid AHIP C0003582, these works **must** be compliant with all the conditions of AHIP C000358, be confined to the land to which AHIP C0003582 applies and be as described in the documents outlined in AHIP C0003582 (specially the Bega Valley Shire Council Various Works ACHA by Dibden dated 23 October 2017).

Bega Valley Shire Council is reminded that it is an offence under the *National Parks and Wildlife Act 1974* to disturb, damage or destroy an Aboriginal object without a valid AHIP.

9. References

- Barber, M 1998, *An archaeological Investigation of Lot 15A, 22 Beach Street Merimbula, Far south Coast, NSW*, Unpublished Report to the D'Arcy Family.
- Boot, P 1996, 'Pleistocene Sites in the South Coast Hinterland of New South Wales', *Tempus*, vol. 6, pp. 275–288.
- Boot, P 2002, *Didthul, Bhundoo, Gulaga and Wadbilliga: An archaeological study of the Aboriginals of New South Wales South Coast Hinterland*, Unpublished Doctor of Philosophy Thesis, Department of Prehistory and Anthropology, The Australian National University.
- BVSC 2022, *Merimbula Boardwalk Concept Design*, (enlocus landscape architects)
- BVSC 2023, *Merimbula Boardwalk and Foreshore Path Development Application*, (Loci Design Collective/Fleetwood)
- Dibden, J. 2006, A Proposed Redevelopment and Kalorama Caravan Park, Millingandi, near Merimbula, NSW: Subsurface Test Excavation Preliminary Research Permit #2404, Unpublished Report to Driftwood Village.
- Dibden, J. 2007, Proposed Rezoning Lot 222 DP 109501 Pambula Beach Road, Pambula Beach, NSW. Subsurface Test Excavation, A report to Planning Initiatives
- Dibden, J. 2017 Bega Valley Shire Council Various Works: Aboriginal Cultural Heritage Assessment
- DECCW 2010, Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.
- DECCW NSW 2010a, Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales,
- DECCW NSW 2010b, Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.
- DE&E 2016, 'Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)'..
- Heritage NSW (formally OEH) 2011, Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW,
- Hiscock. 2007. *Archaeology of Ancient Australia*, Routledge, London
- Hughes, P 1983, An Archaeological Survey of Stage 2 of the proposed Developments of Merimbula Heights Estate Area, Merimbula, NSW, Unpublished report to Sinclair Knight & Partners Pty Ltd.
- Ironbark Heritage and Environment 2013, A Cultural Heritage Due Diligence Assessment for the proposed Twyford Hall Theatre Development, Merimbula, NSW,
- Ironbark Heritage and Environment 2014, Aboriginal Cultural Heritage Assessment (stage 2) Subsurface Test Excavation Twyford Hall Theatre Development Merimbula, NSW, Unpublished Report to Michael Marshman and Associates (MMA).
- Kuskie and Gutierrez, 2000, An Archaeological Assessment of the Proposed Merimbula Cover Residential Development, Far South Coast of NSW. Merimbula Cove
- Kuskie, PJ 2002, An Archaeological Assessment of the Proposed Lakewood Estate Residential Development at Merimbula, Far South Coast of NSW,
- Kuskie 2004, Sub-Surface Archaeological Investigation of Stage 3 and 5 of the proposed Bellbird Ridge Residential Development at Merimbula Cove, Merimbula, Far South Coast of NSW
- Kuskie, P 2005, An Aboriginal Heritage Assessment of Proposed Bega Valley Shire Council Works at Rotary Park, Merimbula, Far South Coast of New South Wales, Unpublished Report to Bega Valley Shire Council.
- NGH 2018, Aboriginal Heritage Due Diligence Assessment - BIMBIMBIE RETIREMENT VILLAGE

NGH 2019. Bega Valley Recreation Sites- Aboriginal Heritage Due Diligence Assessment

OEH. (2011). Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales. Retrieved from <https://www.environment.nsw.gov.au/research-and-publications/publications-search/guide-to-investigating-assessing-and-reporting-on-aboriginal-cultural-heritage-in-nsw>

Oakley, B 2000, Indigenous Heritage Assessment, 16 Main Street Merimbula, NSW, Bega Shire Council DA 99.1971, Unpublished Report to Judy Hori.

State of NSW and Department of Planning, Industry and Environment, I 2020, eSPADE V2.1, retrieved from <espade.environment.nsw.gov.au>.

Sullivan, ME 1982, 'Aboriginal shell middens in the coastal landscape of New South Wales'.

Appendix A Site data

Table 9-1 Shell features recorded

Site Name	Description
MBW_AA_Shell_01	Surface scatter of fragmented shell in poor condition on a vehicle track
MBW_AA_Shell_02	Surface scatter of fragmented shell in poor condition on a vehicle track
MBW_AA_Shell_03	Surface scatter of fragmented shell in poor condition eroding from hill side at rear of residential property. Likely associated with AHIMS site # 62 6 0139. 100+ fragments of mud oyster and shell 25+ fragments of Anadara. Mud oyster dominant species present which accords with 1983 recording
MBW_AA_Shell_04	Dense midden of at least 800mm deep stratified deposit exposed by cutting for track creation. Likely part of complex as recorded by Hughes and registered as AHIMS # 62-6-0135
MBW_AA_Shell_05	Dense midden of stratified deposit exposed by cutting for track creation. There may be undisturbed midden on lake side of track but unlikely given limited relief above water. Likely associated with AHIMS 62-6-0134.

Table 9-2 Artefacts recorded

Site Name	Type	Raw Material	Colour	Size Class	Length mm	Width mm	Thickness	Platform Surface	Plat Type	Termination	Reduction Stage	Notes
MBW_AA_Artefact_01	Flake	Volcanic	Grey	<60mm	49	23	10	Flake scar	Focal	Feather	Tertiary (no cortex)	
MBW_AA_Artefact_02	Core	Silcrete	Grey	<40mm	24	35	21				Secondary (partial dorsal is cortex)	6 negative scars min from 3 platforms
MBW_AA_Artefact_03	Flake	Rhyolite	Dark grey	<30mm	19	24	4	Flake scar	Focal	Feather	Tertiary (no cortex)	
MBW_AA_Artefact_04	Flake	Silcrete	Grey	<40mm	29	20	5	Flake scar	Focal	Feather	Tertiary (no cortex)	1066 ventral, 1067 dorsal



NGH Pty Ltd

NSW • ACT • QLD • VIC

ABN 31 124 444 622 ACN 124 444 622

E: ngh@nghconsulting.com.au

GOLD COAST

2B 34 Tallebudgera Creek Road
Burleigh Heads QLD 4220
(PO Box 424 West Burleigh QLD 4219)

T. (07) 3129 7633

SYDNEY REGION

Unit 17, 21 Mary Street
Surry Hills NSW 2010

T. (02) 8202 8333

BEGA

Suite 11, 89-91 Auckland Street
(PO Box 470)
Bega NSW 2550

T. (02) 6492 8333

MELBOURNE

Level 14, 10-16 Queen Street
Melbourne VIC 3000

T: (03) 7031 9123

TOWNSVILLE

Level 4, 67-75 Denham Street
Townsville QLD 4810

T. (07) 4410 9000

BRISBANE

T3, Level 7, 348 Edward Street
Brisbane QLD 4000

T. (07) 3129 7633

NEWCASTLE - HUNTER & NORTH COAST

Level 1, 31-33 Beaumont Street
Hamilton NSW 2303

T. (02) 4929 2301

WAGGA WAGGA - RIVERINA & WESTERN NSW

35 Kincaid Street (PO Box 5464)
Wagga Wagga NSW 2650

T. (02) 6971 9696

CANBERRA

Unit 8, 27 Yallourn Street
(PO Box 62)
Fyshwick ACT 2609

T. (02) 6280 5053

SUNSHINE COAST

Level 2, 20 Aerodrome Road
Maroochydore QLD 4558

(07) 4410 9000

WODONGA

Unit 2, 83 Hume Street
(PO Box 506)
Wodonga VIC 3690

T. (02) 6067 2533