AUSTRAL ARCHAEOLOGY

WEST CULBURRA

CULBURRA BEACH, NEW SOUTH WALES

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Prepared for Sealark Pty Ltd

26 July 2024

Final

DOCUMENT INFORMATION

PROJECT DETAILS

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Service: Aboriginal Cultural Heritage Assessment

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ACKNOWLEDGEMENT OF COUNTRY

We respect and acknowledge the First Nations Peoples of the lands and waterways on which we live and work, their rich cultural heritage, and their deep connection to Country, and we acknowledge their Elders past and present.

CULTURAL WARNING

Aboriginal and Torres Strait Islander readers are advised that this report may contain images or names of First Nations people who have passed away.

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EXECUTIVE SUMMARY

This is the re-issued Aboriginal Archaeological and Cultural Heritage Assessment (ACHA) for land situated at lots 1 and 3, DP1279350 (formerly part of lots 5 and 6, DP1065111) and lot 1, DP1305809 (formerly lot 2, DP1279350), Culburra Road, Culburra Beach, New South Wales (NSW) [the study area]. This report has been prepared for Sealark Pty Ltd (the Proponent) to include data from the test excavations completed under Aboriginal Heritage Impact Permit (AHIP) [#5076] undertaken on the study area.

The study area is within the Shoalhaven Local Government Area, the parish of Numbaa in the county of St. Vincent, and the boundaries of the Jerrinja Local Aboriginal Land Council. It is approximately 600 metres west of the Culburra Beach Central Business District.

The initial ACHA was undertaken to:

- Satisfy the conditions of consent for the State Significant Development known as the West Culburra Mixed Use Concept Plan (SSD3846), as approved by the NSW Land and Environment Court on 1 December 2021; and
- Assess the significance of Aboriginal objects within the study area, as a part of development applications being prepared in accordance with SSD3846 under Part 4 of the *Environmental Planning and Assessment Act 1979*.

Both the initial and this re-issued ACHA have been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a), the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011), and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010b) [Consultation Requirements].

Background research associated with the original ACHA indicated that the landscape features within the study area were likely to contain evidence of prior use by local Aboriginal communities. These conclusions were supported by the findings of excavations and surveys undertaken by New South Wales Archaeology Pty Ltd (2009), South East Archaeology Pty Ltd (2012), and Austral Archaeology Pty Ltd (2020) within the study area and its surrounds; as well as the results of a supplementary desktop assessment completed by Dr Johan Kamminga (2020).

The preparation of the initial ACHA included an archaeological survey of those lands within the study area. This identified 4 areas considered to exhibit high archaeological potential, and a further 4 considered to be moderate. These classifications were determined by landform, proximity to middens, and the distribution of prior sites in the vicinity of the works. This inspection also identified a potential unregistered midden site.

The proposed testing methodology consisted of a total of 189 test pits measuring 500 millimetre by 500 millimetres, as well as 15 to 38 exploratory augers and a minimum of 10 exploratory test pits, to determine the extents of identified midden sites. For clarity, these were categorised as either 'East' or 'West', based on their location. In total, 180 pits, 15 augers, and 10 exploratory midden units were excavated. Ten of the testing units and one auger contained artefacts, for a total of 17 artefacts identified.

Those materials identified through the testing program were not found to be associated with any existing sites and have been recorded as 5 isolated finds and 3 subsurface artefact scatters. The Aboriginal sites recorded within the study area, including those identified during the preparation of this ACHA report, are described along with their significance in the table below.

Site Name	Aboriginal Cultural Heritage Values	Significance
West Culburra 3/A (AHIMS #52-5-0649)	West Culburra 3/A (AHIMS #52-5-0649) is an isolated, retouched artefact. It has been identified as an acidic, grey volcanic material measuring 27 × 25 × 9 millimetres (mm); identified on a mid-slope, within an area of moderate disturbance associated with a vehicle track. There is noted potential for subsurface deposits to occur in association, but research potential was determined to be low.	Little
West Culburra 4/A (AHIMS #52-5-0650)	West Culburra 4/A (AHIMS #52-6-0650) is a low-density artefact scatter that consists of: • An acidic, brown, volcanic hammerstone; • A grey silcrete core; and • A white quartz flake. The scatter is located on a sandy flat, along a sewer main 50 metres (m) south of Curley's Bay. There is high potential for the scatter to be associated with subsurface Aboriginal objects.	Little
West Culburra 4/B (AHIMS #52-5-0651)	West Culburra 4/B (AHIMS #52-5-0651) is a low-density artefact scatter that consists of: • A brown rhyolite core; • The medial portion of a grey silcrete flake; • A retouched grey silcrete utilised piece; and • A grey silcrete lithic fragment. The scatter is located on a sandy flat, along a sewer main 50m south of Curley's Bay. There is high potential for the scatter to be associated with subsurface Aboriginal objects.	Little
Culburra 13 (AHIMS #52-5-0182)	Culburra 13 (AHIMS #52-5-0182) consists of two compact midden mounds approximately 20m apart from one another. These are on a slope that has been subject to prior bike and trail damage. Species identified within the site include oyster, cockle, and welk.	Moderate
Halloran Isolated Find 03 (AHIMS #52-5-0900)	Halloran Isolated Find 03 (AHIMS #52-5-0900) is a single, pink-brown silcrete proximal flake fragment. This site was located on a slope landform within the wider coastal plain.	Little
WCB Isolated Find (AHIMS #52-5-1068)	WCB Isolated Find (AHIMS #52-5-1068) is an isolated red silcrete flake located on a vehicle track approximately 150m south of Curley's Bay. There was no indication that the artefact is associated with a subsurface deposit.	Little
WCB Midden Site (AHIMS #52-5-1077)	WCB Midden Site (AHIMS #52-5-1077) is a shell midden on a south-facing gentle slope. The site was noted to span up to 50m^2. The testing of the landform identified no associated subsurface materials. The site is therefore considered to be an isolated lens restricted to the track.	Little
WCB Isolated Find 2 (AHIMS #52-5-1115)	WCB Isolated Find 2 (AHIMS #52-5-1115) is an isolated grey silcrete core, found within auger pit AH203. While an isolated find does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little

Site Name	Aboriginal Cultural Heritage Values	Significance
WCB Isolated Find 3 (AHIMS #52-5-1114)	WCB Isolated Find 3 (AHIMS #52-5-1114) is an isolated grey quartzite flake found within testing pit C3 West. While an isolated find does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find 4 (AHIMS #52-5-1113)	WCB Isolated Find 4 (AHIMS #52-5-1113) is an isolated cream chert flake found within testing pit G2 West. As above, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find 5 (AHIMS #52-5-1112)	WCB Isolated Find 5 (AHIMS #52-5-1112) is an isolated white and rose vein quartz proximal fragment found within testing pit H5 West. While an isolated find does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Artefact Scatter 1 (AHIMS #52-5-1118)	WCB Artefact Scatter 1 (AHIMS #52-5-1118) is a sub-surface artefact scatter consisting of two test pits (D1 West and D2 West), which includes: • A pink/grey quartzite flake • A dark grey chert flake • Grey/cream silcrete debitage • A cream/red silcrete medial fragment • A cream and grey silcrete flake As a low density scatter the site is considered to exhibit low significance independently. However, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Artefact Scatter 2 (AHIMS #52-5-1117)	WCB Artefact Scatter 2 (AHIMS #52-5-1117) is a sub-surface artefact scatter originating in F9 West, G10 West, H9 West, and H11 West. This scatter includes: • Grey silcrete debitage • A grey silcrete proximal flake • A pink quartzite flake • A red and white silcrete flake As a low-density scatter the site does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Artefact Scatter 3 (AHIMS #52-5-1116)	WCB Artefact Scatter 3 (AHIMS #52-5-1116) is a sub-surface artefact scatter originating in O1 West, which includes: • A grey, red, white silcrete flake • A grey-pink quartzite proximal flake While the site does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little

It is noted that the midden sites identified are generally within Crown Lands, and therefore outside the proposed development footprint. As outlined above, the testing program incorporated an investigation of these sites to determine their extents. Management strategies for these sites, as detailed in the Aboriginal Cultural Heritage Management Plan, include (but are not limited to):

- Restricting site access to the public; and
- Incorporation of findings into the development outcome (i.e., parks, art, interpretive signage, etc.).

ABORIGINAL COMMUNITY CONSULTATION

Consultation with Aboriginal stakeholders has been completed in accordance with the Consultation Requirements (DECCW 2010b). A summary of this process is included in the table below:

Stage	Component	Commenced	Completed
Stage 1	Letters to agencies	17/05/2022	N/A
	Registration of stakeholders	02/06/2022	16/06/2022
Stage 2	Project information	23/06/2022	N/A
Stage 3	Review of project methodology	23/06/2022	21/07/2022
Stage 4	Review of ACHA by Aboriginal stakeholders	20/12/2022	31/01/2023
Stage 4b	Review of updated methodology by Aboriginal stakeholders	30/06/2023	14/07/2023
Stage 4c	Review of ACHA with testing data by Aboriginal stakeholders	17/06/2024	-

Additionally, an anthropological assessment was completed by Susan Dale Donaldson (Dale Donaldson 2023) to investigate the tangible and intangible heritage of the study area. It was found that the study area possesses value to the local Aboriginal community as a place for travel and for the collection of natural resources. The report also noted the study area is valued as a possible habitat for totemic species and supernatural figures. However, the assessment did not identify any significant value placed on the study area in particular (Dale Donaldson 2023).

The full anthropological assessment is provided in Appendix A, and further information on the consultation completed for the project can be found in Volume 2 of this report.

IMPACT ASSESSMENT

This ACHA has included a programme of investigations that have characterised the nature, extent and significance of Aboriginal sites within the study area. 14 Aboriginal sites were identified within this ACHA.

The proposed works will impact 7 of the 14 identified Aboriginal sites within the study area, with the remaining sites being conserved within the Crown Land areas. An evaluation of harm to the Aboriginal sites identified as part of the ACHA is summarised below:

Site name	Type of Harm	Degree of Harm	Consequence of Harm
WCB Artefact Scatter 1 (AHIMS #52-5-1118)	Direct	Total	Total loss of value
WCB Artefact Scatter 2 (AHIMS #52-5-1117)	Direct	Total	Total loss of value
WCB Artefact Scatter 3 (AHIMS #52-5-1116)	Direct	Total	Total loss of value
WCB Isolated Find 3 (AHIMS #52-5-1114)	Direct	Total	Total loss of value
WCB Isolated Find 4 (AHIMS #52-5-1113)	Direct	Total	Total loss of value

Site name	Type of Harm	Degree of Harm	Consequence of Harm
WCB Isolated Find 5 (AHIMS #52-5-1112)	Direct	Total	Total loss of value
WCB Midden Site (AHIMS #52-5-1077)	Direct	Total	Total loss of value

RECOMMENDATIONS

The following recommendations are derived from the findings described in this ACHA. The recommendations have been developed after considering the archaeological context, environmental information, consultation with the local Aboriginal community, the findings of the test excavations, and the predicted impact of the planning proposal on archaeological resources.

It is recommended that:

A1. Before any works can occur, the Proponent is to apply to Heritage NSW for an Aboriginal Heritage Impact Permit (AHIP) to destroy the following sites.

- WCB Artefact Scatter 1 (AHIMS #52-5-1118);
- WCB Artefact Scatter 2 (AHIMS #52-5-1117);
- WCB Artefact Scatter 3 (AHIMS #52-5-1116);
- WCB Isolated Find 3 (AHIMS #52-5-1114);
- WCB Isolated Find 4 (AHIMS #52-5-1113);
- WCB Isolated Find 5 (AHIMS #52-5-1112); and
- WCB Midden Site (AHIMS #52-5-1077).

These sites are protected under the Section 90 of the *NSW National Parks and Wildlife Act 1974*. It is recommended that the following mitigation measures are implemented as part of the AHIP:

a. The 17 Aboriginal objects collected during the archaeological testing program (under the approved AHIP) will be reburied onsite at a nominated location chosen from consultation with the local Aboriginal community.

A2. If unexpected finds occur during any activity within the study area, all works in the vicinity must cease immediately. The find must be left in place and protected from any further harm. Depending on the nature of the find, the following processes must be followed:

a. If, while undertaking an activity, an Aboriginal object is identified, it is a legal requirement under Section 89A of the *NSW National Parks and Wildlife Act 1974* to notify Heritage NSW as soon as possible. Further investigations and an AHIP may be required prior to certain activities recommencing.

b. If human skeletal remains are encountered all work must cease immediately and NSW Police must be contacted; they will then notify the Coroner's Office. Following this, if the remains are believed to be of Aboriginal origin then the registered Aboriginal stakeholders and Heritage NSW must be notified.

A3. It is recommended that Sealark Pty Ltd continues to inform the Aboriginal stakeholders about the management of Aboriginal cultural heritage within the study area throughout the completion of the project. The consultation outlined as part of this ACHA is valid for a period of 6 months and must be maintained after this by the proponent for it to remain continuous. If a gap of more than 6 months occurs, then the consultation will not be suitable to support an AHIP for the project.

A4. A copy of this report should be forwarded to all Aboriginal stakeholder groups who have registered an interest in the project.

Within the anthropological report prepared by Susan Dale Donaldson (Dale Donaldson 2023) [Volume 4 Appendix], the following management actions have also been recommended by the local Aboriginal community:

B1. Develop a regional cultural heritage management strategy (including a cultural landscape map) to enable better decision making aimed at safeguarding Aboriginal values and practices across the cultural landscape;

B2. Favour impact to land that is already disturbed;

B3. Continue to foster good relationships with the local Aboriginal community;

B4. Ensure development plans protect nearby waters and minimise public access to the foreshore;

B5. Consider ways to ensure Aboriginal people can access foreshore middens to enable site monitoring and cultural teaching;

B6. Involve Aboriginal people in the development of the Management Plan for Crown Land (in the foreshore buffer zone);

B7. Support Aboriginal people to revisit middens across the local area, recorded by AIATSIS in 1979, to check their condition;

B8. Develop and install cultural interpretive signage in public spaces within the development footprint to foster respect between residents and local Aboriginal people;

B9. Ensure built infrastructure (streets/ footpaths/ parks/ pathways/ seats, etc.) are allocated names reflecting local Aboriginal cultural concepts;

B10. Employ the local Aboriginal community members with experience in land management to assist in the management of Sealark properties across the region (including at Culburra West and any Biodiversity Stewardship Sites);

B11. As part of the Cultural Heritage Management Plan, understand and follow local Aboriginal cultural protocols in relation to any unexpected finds (the community wish to discuss options and return items/ remains as close as possible to where they were found);

B12. Enable local Aboriginal community members to collect and propagate seeds as part of a broader long-term environmental program to rehabilitate cleared blocks with local flora species of cultural relevance; and,

B13. Consider rezoning the bushland to the west of the study area as a reserve for public enjoyment and use (which would also enable Aboriginal people to undertake cultural practises).

In addition to these, further recommendations have been devised based on the outcomes of the Stage 4 consultation stakeholder review.

C1. A reasonable attempt must be made to engage members of the Aboriginal Community for a smoking ceremony prior to the start of vegetation clearance activities in any area associated with the West Culburra Concept approval.

   a. All associated activities must be undertaken in compliance with local ordinance.

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APPENDIX A: AHIMS DATA

VOLUME 2 – CONSULTATION

VOLUME 3 – TEST EXCAVATION DATA

VOLUME 4 – WEST CULBURRA ANTHROPOLOGICAL ASSESSMENT (DALE DONALDSON 2023)

FIGURES

TABLES

1. INTRODUCTION

Austral Archaeology Pty Ltd (Austral) has been commissioned by Sealark Pty Ltd (the Client) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the property at lots 1 and 3, DP1279350 (formerly part of lots 5 and 6, DP1065111) and lot 1, DP1305809 (formerly lot 2, DP1279350), Culburra Road, Culburra Beach, New South Wales (NSW) [the study area]. This report has been updated to include the results of the test excavation program and details of the tangible cultural materials identified. It also includes an overview of outcomes from the associated anthropological assessment (Dale Donaldson 2023) of the study area.

The study area consists of the entirety of those allotments listed above (formerly part of lots 5 and 6, DP1065111), as well as several of the surrounding road corridors. It is approximately 600 metres from the township of Culburra Beach, within the Shoalhaven Local Government Areas (LGA), and the parish of Numbaa in the county of St Vincent. It is also within the boundaries of the Jerrinja Local Aboriginal Council (JLALC). The study area is bound to the north by Curley's Bay, to the east by Canal Street, and the south by Culburra Road.

The location of the study area is shown on Figure 1.1 and Figure 1.2.

1.1. PURPOSE OF THE ACHA

The ACHA was undertaken to assess the potential harm that may occur to Aboriginal cultural heritage values as part of the planned mixed-use development of the study area. It aims to:

- Satisfy the conditions of consent for the State Significant Development (SSD), 'West Culburra Mixed Use Concept Plan' [SSD3846], as approved by the NSW Land and Environment Court on 21 December 2021; and
- Further assess the significance of Aboriginal objects within the study area, as a component of subsequent Development Applications (DA) associated with SSD3846. These DAs are being prepared under Part 4 of the Environmental Planning and Assessment Act 1979 (EPA Act).
- Detail the findings of the archaeological test excavations completed in accordance with the Aboriginal Heritage Impact Permit (AHIP) [#5076].

The proposed development will include a combination of residential, commercial, and industrial zoned areas, and the installation of infrastructure and utilities to service the proposed development area. It is understood that this will involve bulk earthworks including the large-scale excavation and levelling of the study area.

Both the original and re-issued ACHAs have been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a), the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011), and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010b) [Consultation Requirements].

To facilitate understanding of the tangible and intangible heritage of the study area, this report has been completed in association with an Anthropological Assessment (Dale Donaldson 2023). The full assessment is provided in Appendix A.

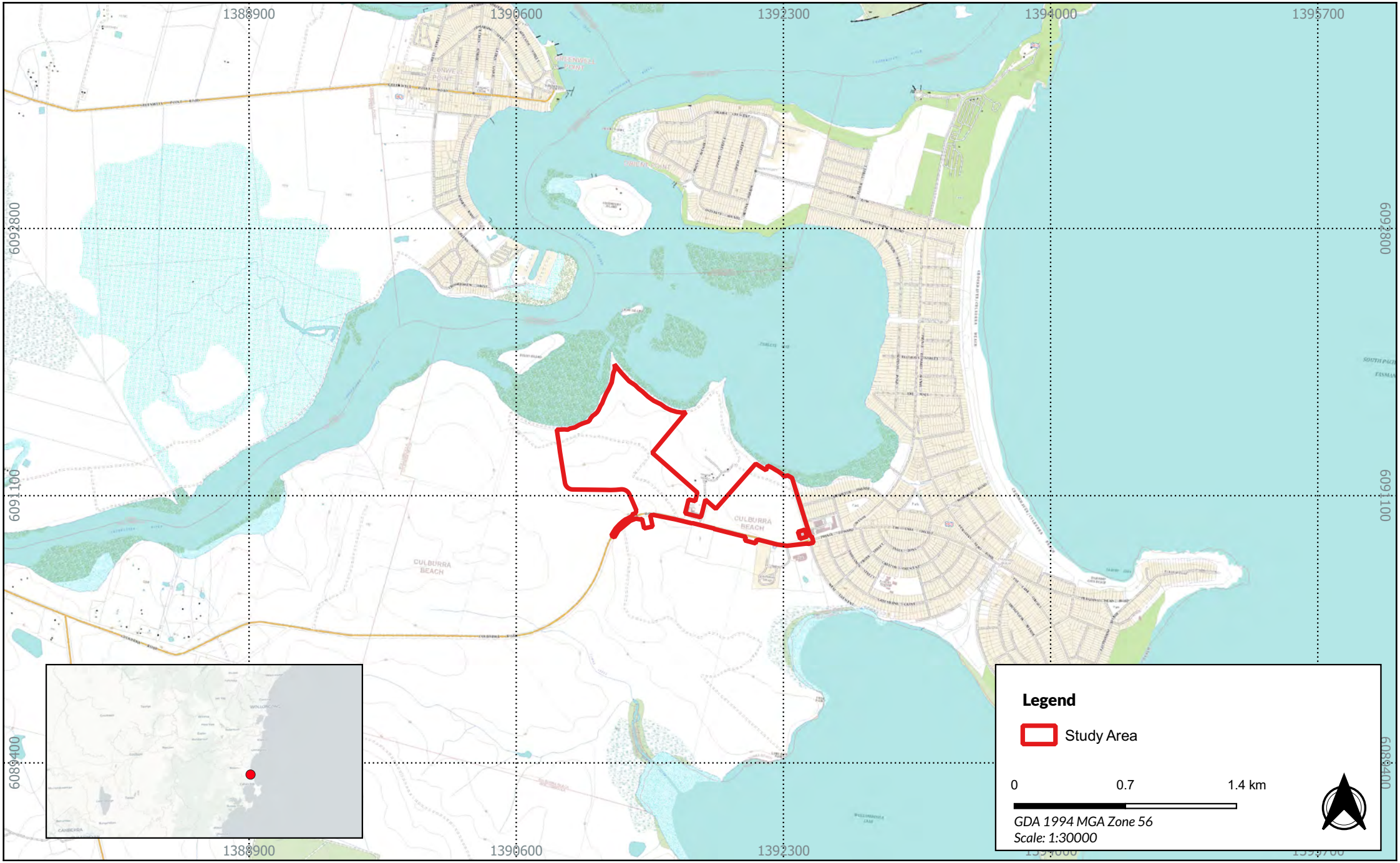

Figure 1.1 - Location of study area in a regional context

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Basemap , CartoDB Positron

Drawn by: ARH Date: 2024-05-30

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Figure 1.2 - Detailed aerial of the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial , CartoDB Positron

Drawn by: ARH Date: 2024-05-30

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1.2. ASSESSMENT OBJECTIVES

The scope of this ACHA report is based on the legal requirements, guidelines and policies of Heritage NSW, formerly the Office of Environment and Heritage (OEH), and prior to that, the Department of Environment, Climate Change and Water (DECCW), Department of Environment and Climate Change (DECC) and Department of Environment and Climate (DEC), as well as the objectives and constraints as outlined in AHIP (#5076). Note that applicable documents have been published under the name of all those Government departments listed above.

Information provided in this assessment includes, but is not limited to:

- A literary review of available data, including previous studies/investigations from within and adjacent to the study area.
- The results of the archaeological fieldwork including an archaeological survey of the study area and archaeological test excavations.
- A description of the Aboriginal cultural heritage values identified as being within the study area and its significance as outlined in an anthropological report.
- An assessment of harm posed to Aboriginal objects, places or values as part of the project.
- A description of practical measures that have been used to protect, conserve, avoid or mitigate harm to Aboriginal objects, places and values.
- Documentation of how the Consultation Requirements have been met (specifically Section 60 of the *National Parks and Wildlife Regulation 2019* [NPW Regulation]).
- The views of Aboriginal people regarding the likely impact of the proposed activity on their cultural heritage, including evidence of their submissions and how these have been addressed.
- Adequate documentation to accompany an Aboriginal Heritage Impact Permit (AHIP) application.

1.3. BACKGROUND TO THE ACHA

On 29 April 2010, John Toon Pty Ltd (on behalf of Sealark Pty Ltd) lodged a request for Director-General's environmental assessment requirements for the West Culburra Beach Expansion Area Concept Plan (Original Concept). The Application was then lodged with the Department of Planning (Major Project 09-0088), along with a supporting ACHA by South East Archaeology Pty Ltd (2012), for determination by the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979* (EPA Act).

In 2015, the Application was transitioned to an SSD under Part 4, Division 4.7 of the EPA Act, where it remained a Concept Plan. This Original Concept was a much larger area than the current revised proposal.

On 16 June 2018, the Department of Planning & Environment recommended refusal of the Original Concept application to the NSW Independent Planning Commission (IPC). Subsequently, a review by the IPC culminated in the refusal of the Original Concept on 17 October 2018. The IPC statement of reasons disclosed:

> *The Department's [application refusal] (AR) concluded that: "the proposal has the potential to have irreversible impacts on Aboriginal heritage sites of regional conservation significance and high cultural significance to Aboriginal People, as noted in the JLALC submission. The Department considers the concept proposal presents an unacceptable risk and should be refused [179].*
>
> *The Commission accepts the Department's AR and its conclusion set out in paragraph 179, because there is potential for the Project to have irreversible impacts on Aboriginal heritage sites [183].*

On 23 May 2019, the applicant lodged an appeal of the AR by the IPC with the Land and Environment Court. During this process the Respondent raised concerns regarding the impact to Aboriginal cultural heritage associated with the Proposal. The key issues raised by the Respondent in their Statement of Facts and Contentions (SOFAC) were:

> *The Applicant has not demonstrated that the proposal would not have an unacceptable impact on Aboriginal cultural heritage;*
>
> *a) [The Applicant had provided an inaccurate] methodology to assess Aboriginal heritage values and cultural significance;*
>
> *b) [The Applicant had provided inadequate] assessment of the impact of the Proposal on Aboriginal cultural heritage within the development area and foreshores area; and*
>
> *c) [The Applicant had provided inadequate] consultation with Aboriginal people.*

A conciliation conference was held between the parties on 14 November 2019. From this it was determined that the Applicant would provide a revised concept plan. The revised plan reduced the size of the proposed development, removing most of Lake Wollumboola catchment from the proposed impact footprint. The Applicant also agreed to prepare a supplementary report to the original ACHA, to address those concerns raised in the IPC's SOFAC.

In 2020, the revised concept plan was reviewed by Dr. Johan Kamminga on behalf of the Client. This review concluded that, subsequent to the completion of a detailed design and in association with subsequent development approvals under Part 4 of the EPA Act, further heritage investigations should be undertaken to identify the nature, extent, and significance of any cultural heritage materials that were present. Given the nature of the archaeological values associated with the study area, an AHIP to conduct test excavations was obtained, this ACHA report details the results of the testing program.

The current concept plan is provided in Figure 1.3.

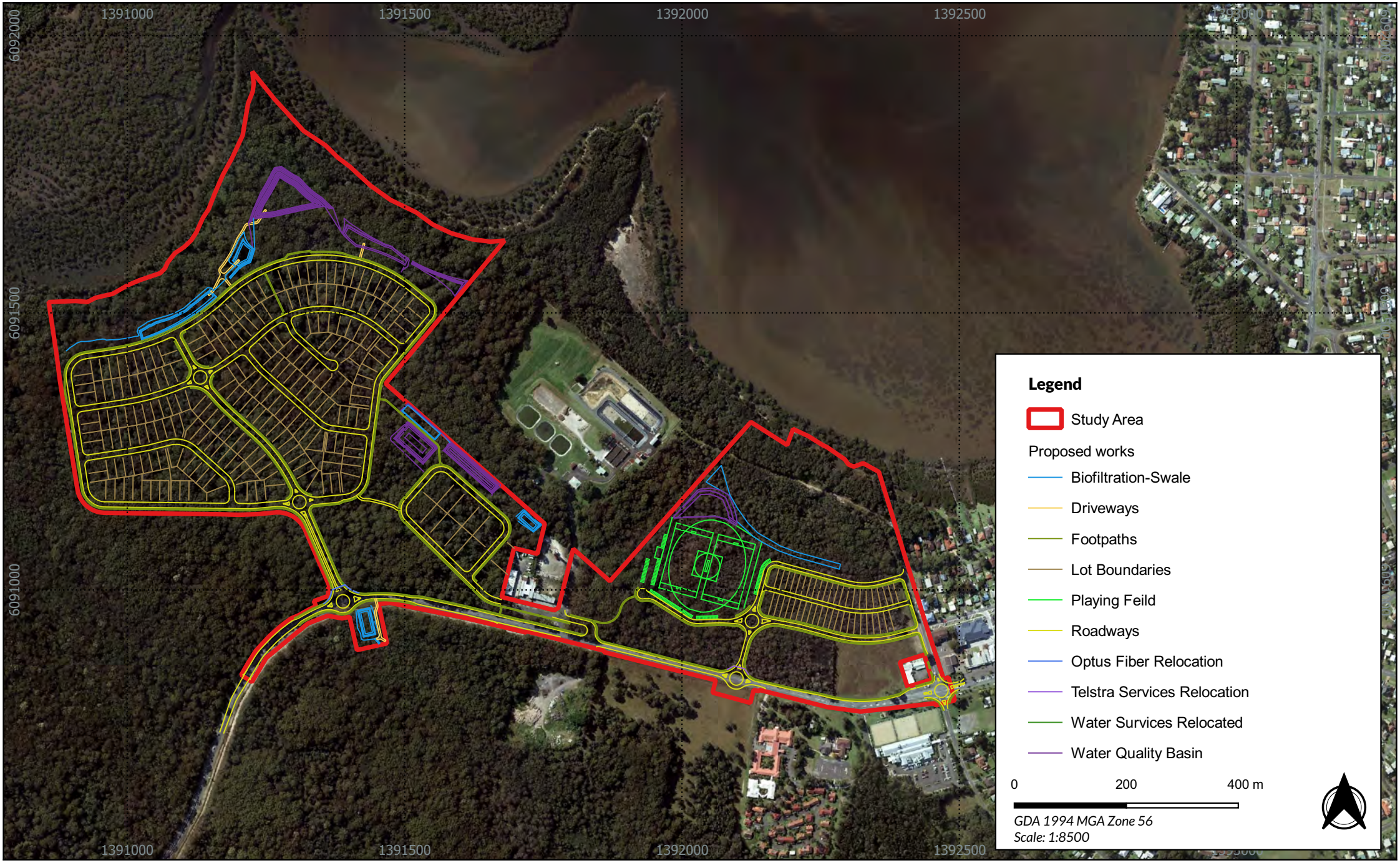

Figure 1.3 - Proposed development works within the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-06-03

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DEVELOPMENT CONSENT

On 1 December 2021, Sealark Pty Ltd was granted consent for SSD3846. Section B of the *Determination of DA by Grant of Consent* details the requirements for Aboriginal heritage as a condition of this approval. These state that:

> *B.13 The applicant must conduct formal consultation with the Aboriginal Community in accordance with Clause 60 of the National Parks and Wildlife Regulation 2019.*
>
> *B.14 The consultation activities described in Condition B13 must be undertaken prior to the commencement of Construction. The outcomes of consultation and any amendments made to the Concept Proposal to address Aboriginal cultural values and heritage impacts must be detailed in an Aboriginal Cultural Heritage Assessment report, which is to be submitted to Council.*
>
> *B.15 Prior to commencement of construction of any approved stage of the Concept Proposal, an Aboriginal Cultural Heritage Management Plan must be prepared for:*
>
> *a) the Crookhaven River middens located in the Foreshore Reserve as identified in the Sealark Supplementary Report to the Aboriginal Cultural Heritage Assessment, prepared by Dr. Johan Kamminga, dated 14 April 2020;*
>
> *b) other already identified places of cultural significance and any identified in ongoing consultation with the Aboriginal community;*
>
> *B.16 The Aboriginal Cultural Heritage Management Plan required by Condition B15 must:*
>
> *a) be prepared in collaboration with representatives of the Aboriginal Community by a suitably qualified and experienced person;*
>
> *b) be in accordance with conservation of cultural significance as identified by the Aboriginal Community;*
>
> *c) ensure an appropriate management buffer zone to conserve the significance of the Crookhaven middens being no less than 40 metres from the outside edge of the middens;*
>
> *d) detail the practical measures for the management and conservation of the middens (including who is responsible for the implementation of those measures) and outline the routine of ongoing protective care including periodic monitoring and maintenance; and*
>
> *e) include details of how the maintenance program would be funded over the long-term and support ongoing Aboriginal engagement.*
>
> *B17. Inductions should be delivered to all contractors regarding the significance of Aboriginal cultural heritage, prior to any on site works. The induction should be provided by local Aboriginal people and cover all significant Aboriginal heritage values and procedures related to Aboriginal objects, known sites, and unexpected finds.*

B18. Where disturbance is proposed in the immediate vicinity of known Aboriginal sites and objects, testing should be undertaken where practicable and feasible, such as D-probe or auger hole transects or other such archaeological subsurface testing methodology to determine the nature and extent of the site and objects, so as to minimise any direct and indirect impacts.

B19. All archaeological subsurface testing, or other such archaeological field investigations should be undertaken with engagement of the Aboriginal Community, supported as appropriate by suitably qualified and experienced archaeologists with expertise in Aboriginal cultural heritage.

B20. If impacts are anticipated outside of previously assessed and surveyed areas further Aboriginal heritage research and investigation will be required. This will involve archaeological survey with the Aboriginal Community and preparation of a supplementary Aboriginal heritage impact assessment report which is to be submitted to the Planning Secretary for approval.

B21. If unrecorded or unexpected Aboriginal sites or objects are identified prior to or during the course of development, all works in the immediate vicinity of the works shall cease and Heritage NSW should be notified. Further works should not be carried out in the area unless and until permitted to do so by Heritage NSW, subject to any conditions imposed by Heritage NSW. The Planning Secretary mays also require a supplementary Aboriginal heritage impact assessment report to be submitted to the Planning Secretary for approval.

B22. Prior to construction of any approved stage of the Concept Proposal, the Applicant must provide a report to Council documenting consultation with the Aboriginal Community, in relation to the interpretation of Aboriginal heritage values within the Concept Proposal area or amendments to the concept design to ensure ongoing conservation of Aboriginal heritage.

B23. Subsequent to detailed design of the Concept Proposal, and subject to any further consultation, heritage assessment or investigation, given the potential for Aboriginal Objects in the development area, an Aboriginal Heritage Impact Permit (AHIP) should be obtained, where required, with any subsequent development application for the Concept Proposal.

B24. During works, known areas of Aboriginal heritage significance, including objects, and sites, should be protected from harm with suitable protective fencing or other such measures.

1.4. SUMMARY OF LEGISLATIVE PROCESS

Aboriginal archaeological and cultural heritage assessments in NSW are carried out under the auspices of a range of State and Federal acts, regulations, and guidelines. The acts and regulations allow for the management and protection of Aboriginal places and objects, and the guidelines set out best practice for community consultation in accordance with the requirements of the acts.

This section outlines the acts and guidelines that are applicable or have the potential to be triggered with regards to the proposed development and are detailed in Table 1.1 to Table 1.4.

Table 1.1 Federal acts.

Federal Acts	Applicability and Implications
Environment Protection & Biodiversity Conservation Act 1999	This Act has not been triggered and so does not apply, on the basis that: • No sites listed on the National Heritage List are present or in close proximity to the study area. • No sites listed on the Commonwealth Heritage List are present or in close proximity to the study area.
Aboriginal & Torres Strait Islander Heritage Protection Amendment Act 1987	Applies, due to: This Act provides blanket protection for Aboriginal heritage in circumstances where such protection is not available at the State level. This Act may also override State legislation.

Table 1.2 State acts.

State Acts	Applicability and Implications
National Parks and Wildlife Act 1974 (NPW Act)	The Act is triggered by the potential presence of Aboriginal cultural material and offers the following protection: • Section 86 – Prohibits both knowingly and unknowingly, causing harm or desecration to any Aboriginal object or place without either an AHIP or other suitable defence from the Act. • Section 87 – Allows for activities carried out under an AHIP or following due diligence to be a defence against the harm of an Aboriginal object. • Section 89A – Requires that the Heritage NSW must be notified of any Aboriginal objects discovered, within a reasonable time. • Section 90 – Requires an application for an AHIP in the case of destruction of a site through development or relocation.
National Parks and Wildlife Regulation 2019 (NPW Regulation)	The Regulation serves to support the implementation of the NPW Act in the following ways: • Section 57 – States minimum standards for due diligence to have been carried out. • Section 60 – Requires documented Aboriginal community consultation to be undertaken before applying for an AHIP. • Section 61 – Requires production of a cultural heritage assessment report to accompany AHIP applications.
Environmental Planning and Assessment Act 1979 (EPA Act)	Applies to the wider project and governs the approval pathway required: • The project is being assessed under Part 4 of the EPA Act. • This ACHA is required to support a SSD. • As such, sections 86, 87, 89A and 90 of the NPW Act will apply to this project.
NSW Heritage Act 1977	There are no sites listed on the State Heritage Inventory associated with the study area, and therefore Section 57 of this Act does not apply.

Table 1.3 State and local planning instruments.

State Acts	Applicability and Implications
Local Environmental Plan (LEP)	The following LEP is applicable to the study area: • *Shoalhaven Local Environmental Plan 2014* Aboriginal cultural material is discussed in Section 5.10 of the LEP, which requires consent be granted for any works which may impact on Aboriginal cultural material.
Development Control Plan (DCP)	The following DCP is applicable to the study area: • *Shoalhaven Development Control Plan 2014* Aboriginal cultural material is discussed in Part 5 Miscellaneous provisions, Section 5.10 Heritage conservation of the DCP, which requires developmental consent to impact Aboriginal objects or sites.

Table 1.4 Aboriginal community consultation requirements.

State Acts	Applicability and Implications
Consultation Requirements	The development is to proceed in accordance with Part 4 of the EPA Act. This means that the requirements of Part 6 of the NPW Act will apply, including the need to obtain an approval prior to impacting Aboriginal objects in accordance with Section 90 of the NPW Act, and that it will be necessary to prepare an ACHA in accordance with Section 61 of the NPW Regulations. As such, consultation with Aboriginal stakeholders on this project will follow the Consultation Requirements.

1.5. PROJECT TEAM AND QUALIFICATIONS

The following personnel have been involved in the preparation of this ACHA.

ALEXANDER BEBEN (MASTER OF ARTS [ARCHAEOLOGY & ANCIENT HISTORY] BA. ARCHEOLOGY [HONS])

Alexander has unrivalled experience in the practical applications of heritage management, particularly within the Illawarra and South Coast regions. He is a Director at Austral, and specialises in historical heritage.

Alexander has provided technical oversight for this project, and had assisted with fieldworks, project management, and provided input into technical recommendations. He also completed the initial review for this ACHA.

DAVID MARCUS (MASTER OF ARTS [ARCHAEOLOGY & CELTIC MYTHOLOGY], BA. ARCHAEOLOGY & ANCIENT HISTORY)

David is a director at Austral and brings a wealth of experience to our projects. Over the course of his career, he has worked on several hundred projects across Australia. He specialises in historical heritage, and the vetting of Austral's technical advice.

For this project, David has completed quality assurance and reviews of all deliverables.

LINDSAY COSTIGAN (BS. ANTHROPOLOGY/SOCIOLOGY, FOCUS IN ARCHAEOLOGY).

Lindsay is a Senior Archaeologist with 8 years' experience. She began her career in the USA — graduating top of her class from Eastern Oregon University — and carried out numerous projects in Washington, Oregon, and Idaho. Lindsay's experience includes project management, mapping and GIS, designing field methodologies, carrying out of surveys and excavations, report writing and review, analysis of a wide variety of artefact types, artefact curation, and mitigation.

For this project, Lindsay contributed to report writing and completed pre-reviews of draft reports.

TAYLOR FOSTER (BA. ARCHAEOLOGY & ENGLISH [HONS])

Taylor was a Senior Archaeologist with Austral specialising in Aboriginal cultural heritage. Her experience included project management, mapping and GIS, artefact analysis, the designing of field methodologies, carrying out of survey and excavations, and report writing. Taylor has acted in the capacity of project manager and was the primary author of the pre-testing ACHA.

JAKE ALLEN (G. DP. ARCHAEOLOGY & HERITAGE MANAGEMENT, MASTER OF MARITIME ARCHAEOLOGY [IN PROGRESS], BA, BCMS)

Jake is an archaeologist with Austral specialising in maritime and historical heritage contexts. In addition, he is a trained copywriter with experience in project management, report writing, predictive modelling, and the carrying out of surveys and excavations. Jake has acted as field lead and assumed the role of project manager for the post-testing ACHA report. He has also contributed to reporting and consultation.

ZOE BOSEVSKI (BA. ARCHAEOLOGY [IN PROGRESS])

Zoe is a graduate archaeologist with Austral. She has contributed to the archaeological testing detailed within this report, has assisted with the consolidation of data, and assisted with report writing.

FINN OTLEY (MASTER OF SCIENCE [GEOSPATIAL])

Finn is a graduate GIS officer with Austral. He has prepared all mapping presented within this ACHA report.

1.6. ABBREVIATIONS

The following are common abbreviations that are used within this report:

ACHA	Aboriginal Cultural Heritage Assessment
ACHDDA	Aboriginal Cultural Heritage Due Diligence Assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AR	Application refusal.
BP	Before Present
Burra Charter	*Burra Charter: Australia ICOMOS Charter for Places of Cultural Significance 2013*
Client, the	Sealark Pty Ltd
DCP	Development Control Plan
EPA Act	*Environmental Planning and Assessment Act 1979*
GSV	Ground Surface Visibility
ICOMOS	International Council on Monuments and Sites
IPC	NSW Independent Planning Commission
JLALC	Jerrinja Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	*National Parks and Wildlife Regulation 2009*
NSW	New South Wales
Original Concept	West Culburra Beach Expansion Area Concept Plan
RAO	Registered Aboriginal Owners
SSD	State Significant Development
Study Area, the	Lots 1, 2, and 3, DP1279350 Culburra Road, Culburra Beach, New South Wales
Shoalhaven DCP	Shoalhaven Development Control Plan 2014
Shoalhaven LEP	Shoalhaven Local Environmental Plan 1985
SOFAC	Statement of Facts and Contentions

2. CONSULTATION PROCESS

This section outlines the consultation process that has been followed as part of the preparation of this ACHA.

2.1. INTRODUCTION

Stakeholder consultation for this project commenced in line with the Consultation Requirements (DECCW 2010b). Heritage NSW recognises that (DECCW 2010b, p. iii):

- Aboriginal people should have the right to maintain their culture.
- Aboriginal people should have the right to participate in matters that may affect their heritage directly.
- Aboriginal people are the primary determinants of the cultural significance of their heritage.

The Consultation Requirements outline a four-stage consultation process which includes:

- Stage 1 – Notification of the project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of the draft cultural heritage assessment report.

A copy of the consultation log and evidence of all correspondences that were sent and received as part of the consultation process is included in Volume 2, Appendix A of this ACHA.

2.2. STAGE 1: NOTIFICATION AND REGISTRATION OF INTEREST

The following section outlines the tasks that were undertaken as part of Stage 1 of the Consultation Requirements.

2.2.1. IDENTIFICATION OF RELEVANT ABORIGINAL STAKEHOLDERS

In accordance with the Consultation Requirements, Austral notified the bodies and organisations listed in Section 4.1.2 (DECCW 2010b, p. 10) with the following responses (Table 2.1):

Table 2.1 Stage 1.1 notification responses.

Organisation	Response
Heritage NSW	Provided a list of potential stakeholders.
JLALC	Registered for the project.
National Native Title Tribunal	Provided contact details for JLALC.
NTSCORP	Registered 'South Coast People' for the project.
Office of the Registrar	Geospatial search returned no response, provided details for JLALC.
Shoalhaven City Council	Provided a list of potential stakeholders.
South-East Local Land Service	Responded that they had no record of potential stakeholders.

A copy of these letters, searches and responses are included in Volume 2 of this ACHA.

2.2.2. INVITATION TO REGISTER

Letters were written to the Aboriginal stakeholders identified through notifying the various agencies suggested in Section 4.1.2 of the Consultation Requirements (DECCW 2010b, p. 10). Aboriginal stakeholders were provided with a 14-day period to register an interest in the project. A copy of outgoing letters and responses are included in Volume 2 of this ACHA.

As a result of the consultation procedure, the groups shown in Table 2.2 registered as Aboriginal stakeholders with an interest in this project.

Table 2.2 List of registered Aboriginal stakeholders.

Organisation	Contact Person
Guntawang Aboriginal Resources Incorporated	Wendy Morgan
Individual	Gary Caines
JLALC	Alfred Wellington
Jerrinja Tribe	Ronald Carberry
Kamilaroi-Yankuntjatjara Working Group	Philip Khan
Murrabidgee Mullangari Aboriginal Corporation	Darleen Johnson; Ryan Johnson
South Coast People (via NTSCORP	Isobel Brinin; Sandy Chalmers
Thoorga Nura	John Carriage
Three Ducks Dreaming Surveying and Consulting	Leonard Wright
Warra Bingi Nunda Gurri	Nathaniel Kennedy

2.2.3. PUBLIC NOTICE

An advert was placed in the *Shoalhaven & Nowra News* to run on 3 June 2022 requesting the registration of individuals or organisations who hold cultural knowledge relevant to the project area. A copy of this advert is included in Volume 2 of this ACHA.

2.2.4. SUBMISSION OF RECORDED STAKEHOLDERS

In accordance with Section 4.1.6 of the Consultation Requirements (DECCW 2010b, p. 11), Austral provided details of all registered Aboriginal stakeholders to Heritage NSW and JLALC on 17 May 2022 and a search of the Native Title Tribunal on the same day.

A copy of this letter is included in Volume 2 of this ACHA.

2.3. STAGE 2: PRESENTATION OF INFORMATION

All registered Aboriginal stakeholders were provided with information outlining the proposed works, including information relating to proposed impacts as well as the project's methodology, on 23 June 2022.

Copies of all correspondence relating to the provision of project information is included in Volume 2 of this report.

2.4. STAGE 3: GATHERING INFORMATION ON CULTURAL SIGNIFICANCE

This sections details information relating to cultural significance provided by Aboriginal stakeholders through the formalised process of Stage 3 of the Consultation Requirements and any additional information which may have been provided during fieldwork.

2.4.1. REVIEW OF PROJECT METHODOLOGY

Austral provided each Aboriginal stakeholder with a copy of the project methodology on 23 June 2022. The methodology outlined the proposed assessment process that would be used in the completion of the ACHA. Aboriginal stakeholders were provided with 28 days to review and provide feedback on the methodology.

The following comments were received from Aboriginal stakeholders:

- Guntawang Aboriginal Resources, Inc. expressed an interest in the project and involvement in meetings, fieldwork, and providing feedback on the project generally.
- Ryan Johnson endorsed the documents provided and supported the recommendations.
- Thoorga Nura supported the methodology and had no additional comments at this stage of the project.

Copies of all correspondence relating to the draft methodology is included in Volume 2 of this ACHA.

2.4.2. INFORMATION GATHERED DURING FIELDWORK

Austral conducted a visual inspection of the study area on 25 July 2022, with a representative from JLALC present. During liaisons with this representative, he stated his support for the development of a testing program. It was determined that this should be developed so as to identify the extent of the midden sites, as well as any other sites potentially located within the study area.

2.5. STAGE 4: REVIEW OF INTITIAL DRAFT ACHA

The draft of the original initial ACHA was provided to Aboriginal stakeholders on 20 December 2022 for their review and comment. Aboriginal stakeholders were given 28 days to review the ACHA.

The following comments were received from Aboriginal stakeholders:

- Ryan and Darleen Johnson (Murrabidgee Mullangari Aboriginal Corporation) confirmed that they read the project information and draft ACHA, and that they endorsed the recommendations that were made.
- Wendy Morgan (Guntawang Aboriginal Resources Incorporated) responded noting the significance of the surrounding landscape, and particularly, the significance of 2 nearby ceremonial sites and burials. She requested that any construction works be mindful not to impact any such sites.
    - In her response, she further requested clarification as to whether any women's or men's sites had been identified within the project area, citing the nearby ceremonial ring site shown in Figure 4.2 and outlined in Section 12.

A project information meeting was held on site on 19 January 2023 with all registered stakeholders invited to attend. Table 2.3 presents a summary of meeting minutes.

Table 2.3 Summary of meeting minutes.

Speaker	Comments
Alfred Wellington	Raised concerns about the marrying of intangible values and project management asked how this would be incorporated.
Alexander Beben	Specified the intent behind the project information meeting and incorporating Susan's anthropological report was to receive feedback and determine appropriate management through consultation.
Susan Dale Donaldson	Invited Alfred and any who had interest to be interviewed to share knowledge on the study area and its cultural values and to put forth his own recommendations in addition to whatever he was able to share during consultation and the course of the meeting.
Taylor Foster	Acknowledgement of country. Introduced self and project. Asked for everyone to introduce themselves.
Susan Dale Donaldson	Spoke of her role in looking at the site in the broader cultural landscape and wish to interview knowledge holders relating to the study area.
Taylor Foster	Spoke of consultation to date. Survey completed with representative of JLALC, Stage 4 began 20 December to end 31 January.
Taylor Foster	Spoke of proposed testing methodology. Asked meeting invitees to join for a general site walkover where they could provide feedback into the methodology.
Ronald Carberry	Made note that culture involves protection of flora and fauna as well as the cultural heritage. Suggested designated exclusion buffers and areas of public access to control public interaction and maintenance of culture.
Ronald Carberry	Has requested no auger pits be used in sand where midden material is identified.
Ronald Carberry	Also wants to ensure we consider impacts to sites adjacent to the study area by environmental runoff and loosening of sediments through tree removal.
Ronald Carberry	Requested Aboriginal sites be inspected after some minor vegetation (scrub and weed) clearance has occurred so that the ground surface is visible.
Ronald Carberry	Against the Crown Land being managed solely by council – prefers co-management.
Ronald Carberry	Foreshore is significant due to site types and location.
Ronald Carberry	Noted that all vegetation in the study area in natural regrowth as it had previously been entirely cleared.
Ronald Carberry	Noted foreshore is ecologically significant as facilitates growth of aquatic species and plants.
Ronald Carberry	Suggest access tracks to the Aboriginal sites so that they may be maintained. Aboriginal community and those approved may also use these tracks to go to sites for educational purposes as well as to monitor and preserve the sites.
Ronald Carberry	Suggested in management plan we specify installation of tracks, who has access and how the sites will be maintained. He has also suggested interpretative signage and potentially incorporating local place/flora/fauna names into street signs.
Consensus	Clearing and weed control was suggested before testing with the ability to manipulate test pits dependent on clearing around sites and ground-truthed place of sites - to be written into ACHA.
Consensus	After inspecting shell material on track, Ronald Carberry agrees with the potential for the shell to be the remnants of a camp midden, rather than part of the track. Determination made due to site being consistent with an isolated lens, with potential to have been washed out and eroded, as shell does not occur consistently along track.

2.5.1. PROVISION OF FINAL ACHA

To comply with Section 4.4.5 of the Consultation Requirements (DECCW 2010b, p. 14), a copy of the final version of the pre-testing ACHA and AHIP application was lodged with Aboriginal stakeholders and JLALC on 27 February 2023.

Further communication with Ronald Carberry on 30 May 2023 confirmed that, while he had requested auger pits not be implemented within shell material located within the environmental zone, auger pits should be used adjacent to areas containing shell deposits, or in areas where no shell deposit can be seen, to determine site presence and extent. This data should then be used to inform the management plan.

Austral received a preliminary summary of identified cultural values from Susan Dale Donaldson on 2 June 2023.

2.6. UPDATES TO STAGE 3 TESTING METHODOLOGY

On 30 June 2023, an updated testing methodology was sent to registered stakeholders for their review. One single response was recorded from Kamilaroi-Yankuntjatjara Working Group, stating their support for the recommendations.

Copies of all correspondence relating to the review of this updated methodology are included in Volume 2 of this report.

2.7. STAGE 4: REVIEW OF DRAFT POST-FIELDWORK ACHA

A copy of this post-fieldwork ACHA was provided to stakeholders on 17 June 2024. In accordance with the Consultation Requirements, stakeholders were given 28 days to review and respond to the draft ACHA report. It is noted that this stage 4 review was completed alongside the Stage 4 review of the associated Aboriginal Cultural Heritage Management Plan. In total, 4 responses were received from 3 registered stakeholder groups.

- Darleen Johnson (Murra Bidgee Mullangari Aboriginal Corporation) responded on 20 June 2024 stating that they had read the reports and endorsed the recommendations.
- Ronald Carberry (Jerrinja Tribe) responded on14 July 2024 stating that they believed Austral and Sealark Pty Ltd had exercised due diligence. They also requested 3 additional recommendations. An overview of these and how they have been integrated into this assessment is provided in Table 2.4 below.
    - In an additional correspondence received 14 July 2024, Ronald Carberry also requested that an update be made to his registration in Table 2.2. This has been actioned.
- A late response was received from Phil Khan (Kamilaroi-Yankuntjatjara Working Group) on 17 July 2024. In this he stated his agreement and support for the recommendations.

Table 2.4 Integration of feedback and responses from Stage 4 stakeholder review.

Requested recommendation	ACHA/ACHMP Integration
Jerrinja Tribe to do a smoking ceremony over the subdivision. The associated fires are to be maintained throughout the day to encourage animals to move on — culturally and spiritually —by themselves.	ACHA Recommendation C1; ACHMP Condition 12
Jerrinja Tribe and JLALC site officers to be present for installation of all utilities and infrastructure, as these will penetrate deeper into Country than the test pitting.	ACHMP Condition 16b.

Requested recommendation	ACHA/ACHMP Integration
A fence is to be erected separating the subdivision site from the conservation area. Interpretive signage is to be installed facing the subdivision to inform new residents understand the significance and sensitivity of the area/Country.	ACHMP Condition 14b-d; Condition 23.

2.7.1. PROVISION OF FINAL ACHA

To comply with Section 4.4.5 of the Consultation Requirements (DECCW 2010b, p. 14), a copy of the final pre-testing ACHA and AHIP application will be provided to Aboriginal stakeholders and JLALC once finalised.

2.8. EVIDENCE OF CONTINUAL CONSULTATION

As part of the AHIP application process, it is necessary to demonstrate that consultation with Aboriginal stakeholders has remained continuous from project commencement through to AHIP determination (Table 2.5). Heritage NSW guidelines state that, as a general rule, gaps in the consultation process of 6 months or more will not constitute a continuous consultation process (Office of Environment and Heritage NSW 2011, p. 11).

Table 2.5 Record of continuous consultation.

Stage	Component	Date
Initial ACHA		
1	Letters to agencies	17/05/2022
	Registration of stakeholders	02/06/2022
2	Project information	23/06/2022
3	Review of project methodology	23/06/2022
4	Review of ACHA by Aboriginal stakeholders	20/12/2022
4b	Project information meeting	19/01/2023
4c	Final ACHA to stakeholders and JLALC	27/02/2023
Post-fieldwork ACHA		
3	Review of updated project methodology	30/06/2023
-	Approved AHIP to stakeholders	21/07/2023
-	Cultural heritage management meeting	31/01/2024
4	Review of post-fieldwork ACHA by Aboriginal stakeholders	17/06/2024
4b	Final post-fieldwork ACHA to stakeholders and JLALC	24/07/2024

3. LANDSCAPE CONTEXT

The following section defines the study area, and discusses the site in relation to its landscape, environmental, and Aboriginal landscape resources.

3.1. ENVIRONMENTAL CONTEXT

This environmental context has been prepared in accordance with Requirement 2 of The Code (DECCW 2011, pp. 8–9), and should be read in conjunction with the corresponding sections of the Volume 2 and Volume 3 of this ACHA.

The study area is located within the Sydney Basin bioregion, which spans the area between Batemans Bay in the south to Nelson Bay in the north, and spreads almost as far inland as Mudgee (NSW NPWS 2003). This bioregion is characterized by coastal areas featuring frontal dunes with well-developed podzol profiles. The sandstone plateaus of the Sydney Basin are very similar to the sandy soils of these frontal dunes (NSW NPWS 2003). The Sydney Basin Bioregion was subject to post-glacial sea level rise during the Late Pleistocene/Early Holocene (between 18,000 and 6,000 years before present [BP]). This resulted in the formation of estuaries and deep harbours, providing rich resources to Aboriginal communities (NSW NPWS 2003).

3.1.1. TOPOGRAPHY AND HYDROLOGY

The study area is within 4 distinct landform contexts, identified as ridgelines, tidal flats, crests, and slopes. It is mostly within the Wandandian Coastal Plains Mitchell landscape, which is commonly comprised of undulating slopes and wide, flat valleys. A small portion of the study area is situated within the Seven Mile Barrier (Slb) Mitchell landscape; a Quaternary coastal barrier system with a series of quartz sand dunes, formed into parallel multiple beach-ridges north of the mouth of the Crookhaven River. General elevation ranges from 0 to 25 metres above sea-level, with a local relief of 8 metres.

Moving inland, ridges are older and exhibit a higher degree of soil development and vegetation composition when compared to the adjacent coastal beach contexts. Within the study area, the innermost ridge is adjacent to extensive swamps and wetlands overlying organic-rich quartz sands. The landform units identified with the study area are identified in Figure 3.1.

The study area is surrounded by a complex system of creeks and rivers in the immediate proximity of the Pacific Ocean. The closest fresh water resource to the study area is the Crookhaven River, a 7th order stream that runs East to West from the Tasman Sea into Culburra. The study area is also located alongside Curley's Bay, a lagoon off the Crookhaven River. By synthesising this information with AHIMS site location data, it appears that the Crookhaven River was likely to have been a primary resource for local Aboriginal occupations.

The hydrological systems identified within and in the locality of the study area are identified in Figure 3.2.

3.1.2. GEOLOGY

The major underlying geological formation within the study area is the Wandandian Formation (Pshw) of the Guadalupian epoch [295.0-254.14 million years ago] (Colquhoun et al. 2019). The Wandandian Formation is a siliciclastic sedimentary rock characterized by silty sandstones, siltstones, and mudstones. It often consists of matrix-supported pebbles and bioturbated fossils (Colquhoun et al. 2019).

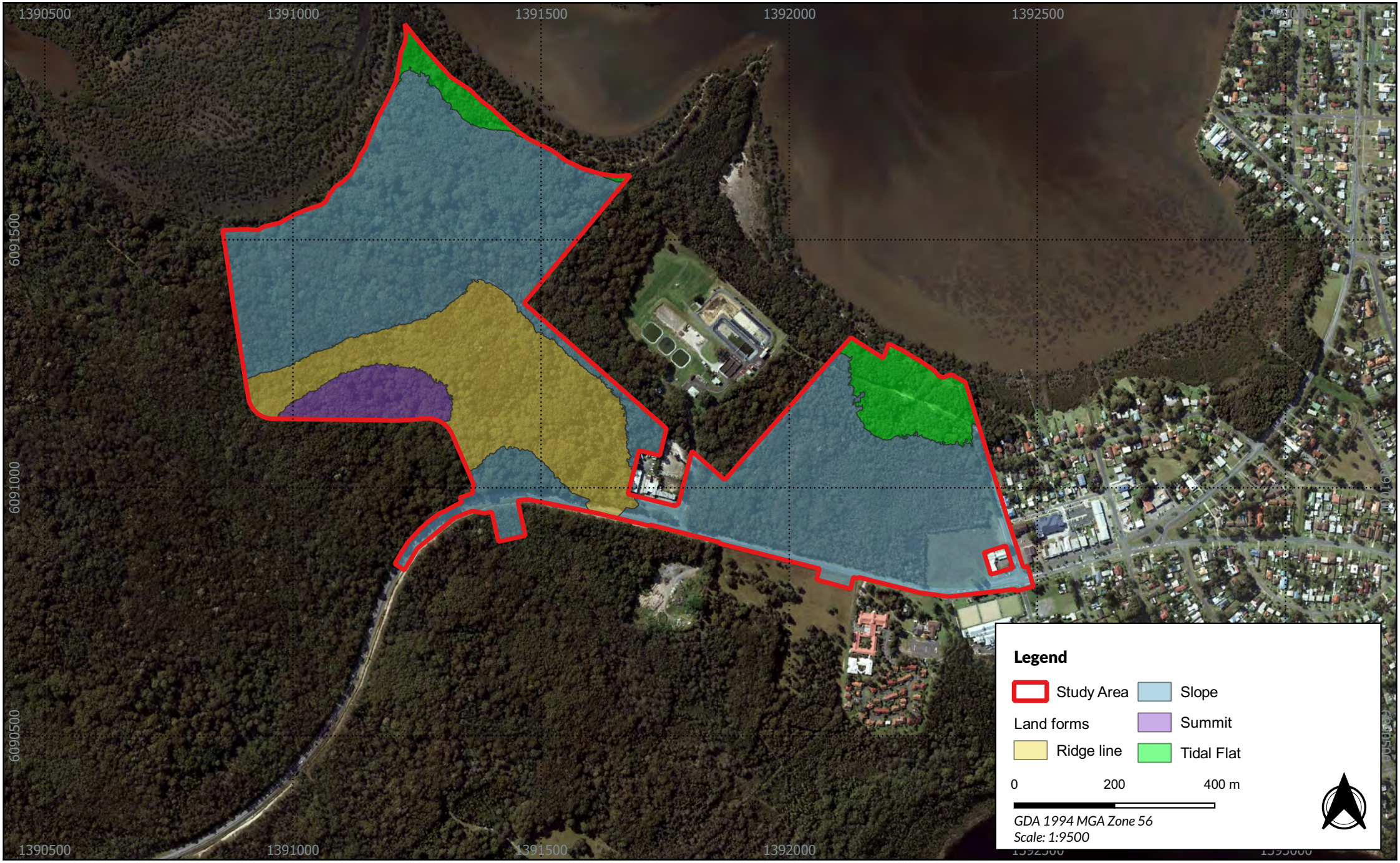

Figure 3.1 - Landform units identified within the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

AUSTRAL ARCHAEOLOGY

Other underlying geological formations within the study area are the estuarine shoreline ridge and dune deposits (QH_e), and estuarine in-channel bar and beach deposits (QH_eci), both dated to the Holocene epoch [0.0117 – 0.0 million years ago] (Colquhoun et al. 2019). The estuarine shoreline ridge and associated dune deposits are characterized by fluvially deposited lithic-quartz sand, carbonate-quartz sand, silt, clay, and gravel (Colquhoun et al. 2019). Comparatively, the estuarine in-channel bar and beach deposits consist of fine to medium-grained, marine-deposited, carbonate-quartz sand, clay, gravel and shell (Colquhoun et al. 2019).

Beneath these sediments lies the Abercrombie Formation of the Early Ordovician period [479.4-458.4 million years ago] (Colquhoun et al. 2019).

These underlying geological formations may give rise to favourable archaeological conditions, which can increase factors such as raw material preservation. They are conducive to the occurrence of site types associated with inland and brackish water sources: particularly open campsites, modified trees, shell middens, and hearths. The Wandandian Formation has also been suggested to be younger than other surrounding geological formations, and contains shallow stratigraphy (Baydjanova and George 2019).

The geological units identified within the study area are identified in Figure 3.2.

3.1.3. SOILS

The undulating slopes and wide flat valleys within the study area result in dendritic drainage on the horizontal Permian lithic sandstone and pebbly siltstone, on a general elevation 20 to 80 metres above sea-level, with a local relief <30 metres. The landform is characterised by yellow and yellow-red deep texture-contrast soils with bleached topsoils and harsh clay subsoil.

The soil landscapes identified within the study area are identified in Table 3.1 and Figure 3.3.

Table 3.1 Soil landscapes identified as being within the study area.

Soil landscape	Description
Seven Mile (sm)	A rudsol soil landscape with series of dune ridges and swales, swamps, or lagoons on Quaternary marine sands. Deep siliceous sands and podzols occur on ridges, peats occur in swamps and humus podzols occur in swales.
Greenwell Point (gp)	A dermosol soil landscape of gently undulating rises o siltstone with small coastal cliffs. Shallow structured loams or moderately deep yellow podzolic soils occur on coastal cliffs and red solodic soils occur on simple slopes and in drainage lines.
Mangrove Creek (mc)	An estuarine soil landscape with vegetated tidal flats on Holocene sediments. Deep siliceous sands, calcareous sands and solonchaks occur on mangrove flats. Humic grey soils and solonchaks occur on saltmarshes.

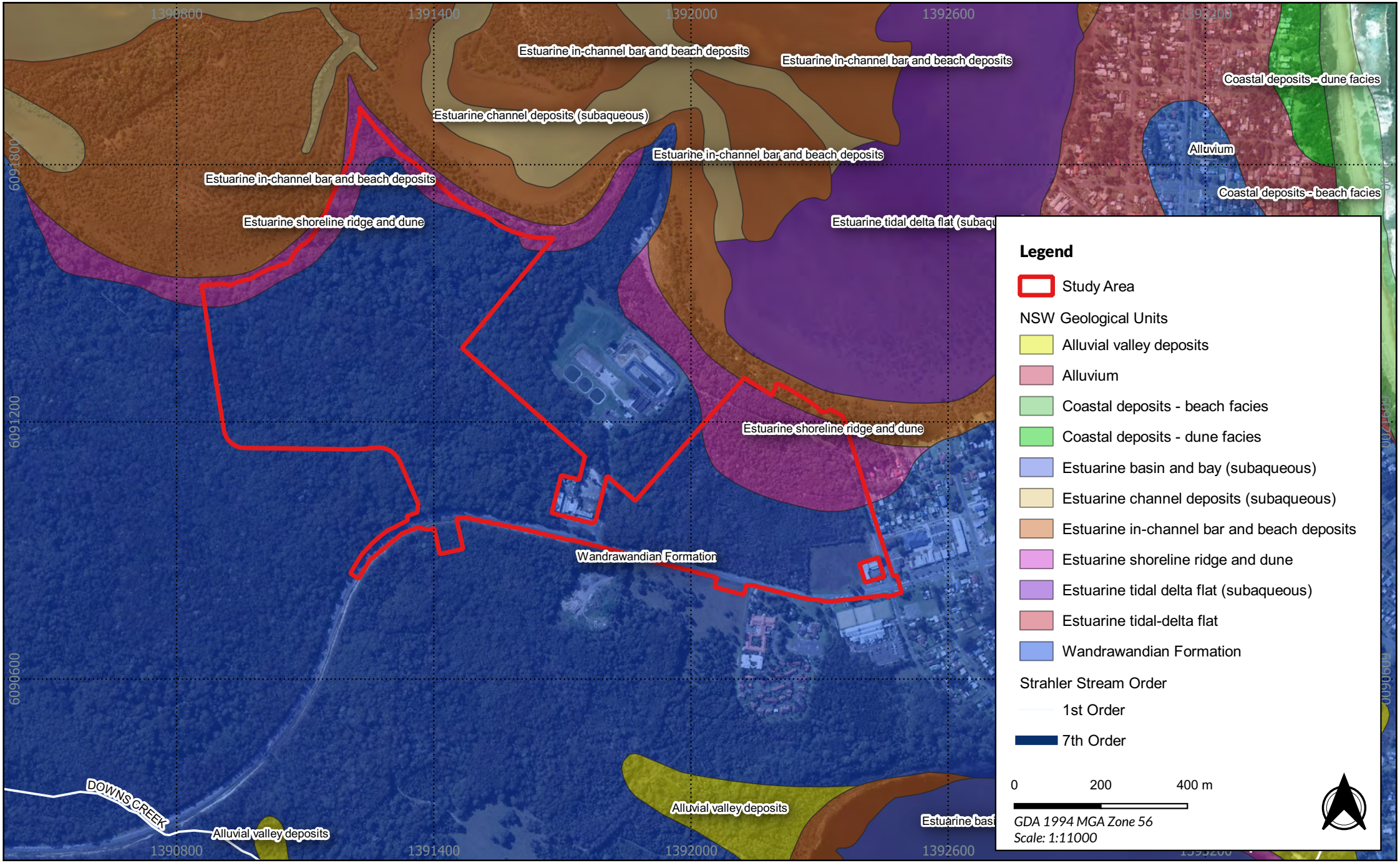

Figure 3.2 - Geology and hydrology of the study area and surrounding landscape

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

AUSTRAL ARCHAEOLOGY

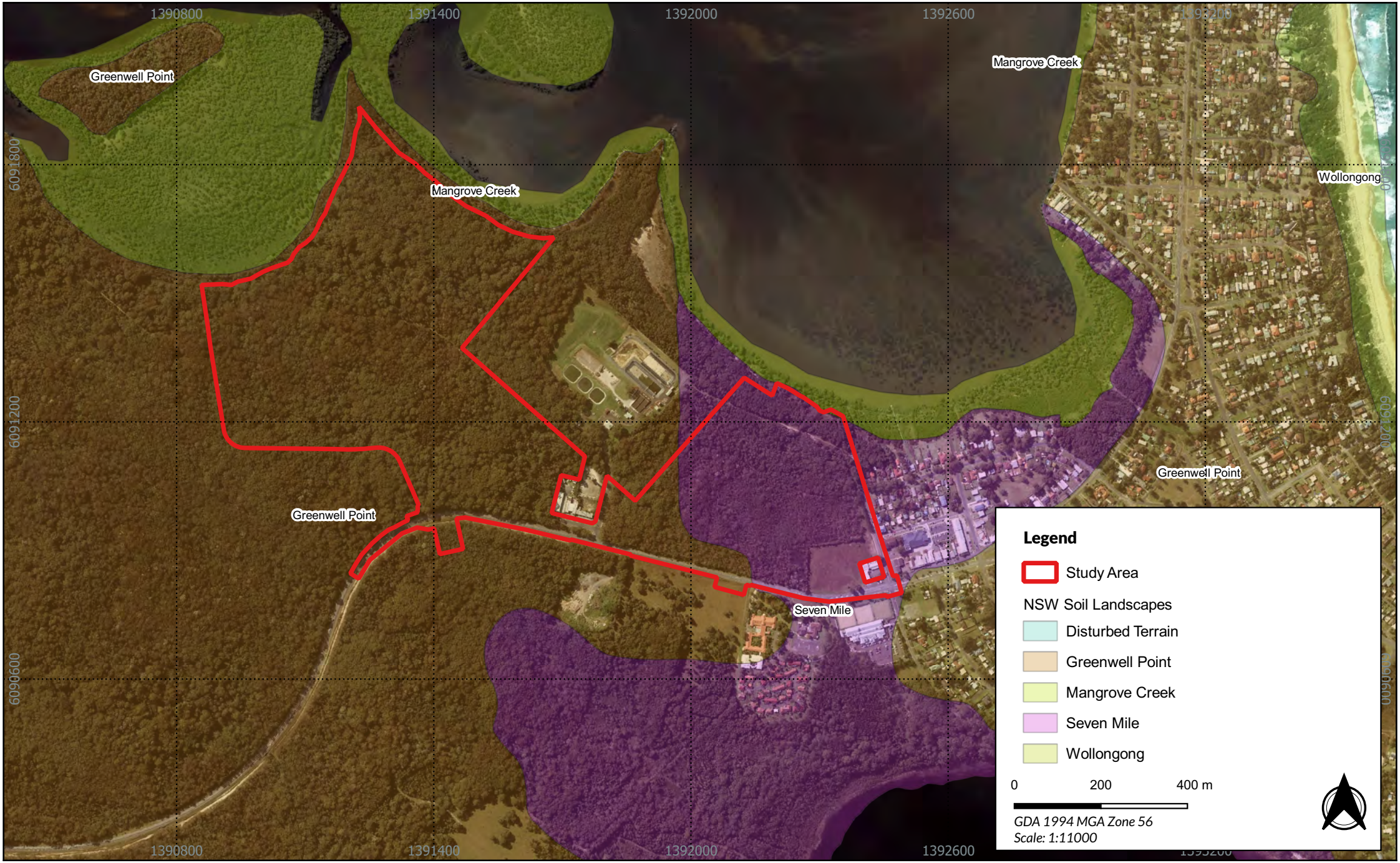

Figure 3.3 - Soil units identified within the study area and surrounding landscape

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

AUSTRAL ARCHAEOLOGY

3.1.4. CLIMATE AND VEGETATION

The study area is located between Curley's Bay and Lake Wollumboola. This area is a temperate coastal zone, characterized as an oceanic climate with intermittent rainfall and a narrow temperature range. Oceanic climates have milder winters and warm summers, with the region specifically incurring a max mean temperature of 24° C in summer and 9° C in winter. The maximum rainfall is in May (approximately 135-milimetres) and lowest mean rainfall is in September (80-millimetres). (BOM, Summary Statistics Perpendicular Lighthouse).

The temperate climates allow for year-round occupation of the area, and an abundance of natural resources. There is a diverse plant species, with the region supporting extensive forest of spotted gum (*Corymbia maculata*), forest oak (*Allocasuarine torulosa*), as well as the macrozamia family. The study area is in proximity to several islets at the boundary of the Crookhaven River and Curley's Bay. These are home to large mangrove colonies (New South Wales Coastal Conference 1991). The floral resources in the vicity of the study area would have provided invaluable resources for the production of tools, for habitation, and for nourishment.

3.1.5. LANDSCAPE RESOURCES

There are an abundance of potential resources within and in the vicinity of the study area: those indicative of the adjacent estuarine and coastal landscapes, as well as Lake Wollumboola.

The nearby coastline would provide access to considerable marine resource, which in turn would be reflected in the archaeological resource, particularly middens, which evidence cultural use and consumption of oyster and abalone, as well as other bivalve and gastropod species. Shell was commonly used as a material in the construction of fishhooks, allowing the communities of the time to further exploit the maritime contexts of their surrounding landscape. Similarly, beached whales may have also served as a potential source of food, particularly during colder months when migratory activities are more common (Wan et al. 2022, p.3).

Turning inland, the Crookhaven River is a marine estuary offering a substantial source of fish (Wan et al. 2022, p.3). The salty water of the Crookhaven River, and to a lesser extent Comerong and Curleys Bay, are occupied by Mangroves and mudflats, and provide habitat for birds, crabs, and other wetland fauna. Similarly, Lake Wollumboola similarly is a source of a great variety of local resources. As a saline coastal lake (Deura 2003), it is typically closed from the sea and acts as a catchment area for the surrounding landscape. During high tides, or considerably high lake levels, Lake Wollumboola does open to the sea; however, this is an uncommon occurrence and lasts only for a few months at a time. This cycle of water levels and sedimentation has a considerable effect on the presence of food for bird life.

The rapid growth of aquatic plants and algae during periods of low water is directly connected with greater quantity and diversity of avian species (Kinhill 2000). The dependence of the faunal population on rainfall to populate the lake leads to considerable variation in the types of food resources available. Common avian species to the region include species of waterfowl, piscivores, gulls, as well as a large population of black swans and migratory birds. During the summer months, the lake habitat is used as a nesting ground for certain migratory species, and as a wintering ground for black swan populations.

In total, 42 native fish species have been identified as being endemic to the lake (Kinhill 2000); of these, 27 are considered to be commercially viable for human subsistence. During periods where the Lake is open to the sea, this landscape becomes a viable location for prawning activities, as well as the foraging of mussels and bivalve species.

The floral and faunal resources of the saltmarsh and shrubland surrounding the lake are similarly unique and ensure the health and stability of the nutrient-rich resources. Comparative to the faunal resource, there is less variation in aquatic vegetation, with an abundance of seagrass and algae colonies. However, the vast array of resources available offer a sustainable environment for year-round occupation.

3.2. PAST LAND USE PRACTICES

The study area is found within a local area under constant artificial change. The broader landscape was cleared for agricultural and pastoral purposes in the early 1800s, and these practices continued until much of the area was included as part of the Jervis Bay National Park. In the mid-20th century, a waste treatment facility and formal road into the Culburra Beach settlement were constructed through this area. A small industrial estate was also constructed adjacent to the study area during this time, though the study area has largely remained undisturbed.

While large-scale land clearance in the 1800s may have harmed Aboriginal archaeological sites, there is limited evidence to suggest that the study area was sufficiently cleared for this to have impacted the archaeological resource, if present, in any meaningful capacity. Therefore, sites therein are unlikely to have been subject to this disturbance.

In the central and southern contexts of the study area, the installation of infrastructure to support the suburb of Culburra Beach, and the adjacent industrial estate and wastewater treatment facility, is likely to have impacted archaeology in these zones, if present. This is particularly likely to have occurred in the easements for the associated access roads.

It should also be noted that both tidal and historical changes in water levels, and the impact of these waters on the landscape, is likely to have had an impact on the nature, presence, context, and preservation of Aboriginal archaeological sites within the study area, especially near Curley's Bay and associated mangrove swamps.

A summary of the past land use within the study area is provided Table 3.2, and in Figure 3.4 to Figure 3.6.

Table 3.2 Summary of past land uses within the study area.

Past Land Uses	Potential Impacts on archaeological resources
Agriculture and pastoral grazing	Areas that have been subject to agricultural and pastoral activities may have resulted in the displacement of Aboriginal cultural materials, however, this is highly unlikely to have completely harmed sites that are present.
Wastewater treatment facility and associated constructions	Previous building may be associated with some excavation and disturbances at the locations of these buildings. While cultural values within these impact footprints may be damaged, this in unlikely to extend to identified cultural values within the study area.
Installation of Regmoore Close and Culburra Road	Areas that have been subject to the installation of access roads are likely to exhibit low archaeological sensitivity, due to the nature of their construction, ongoing use, and any associated maintenance works.

Excavation of test pits and observation of soil profiles indicated that little to no previous ground disturbance has occurred in much of the study area. Data for soils and excavations can be found in Volume 3 of this ACHA.

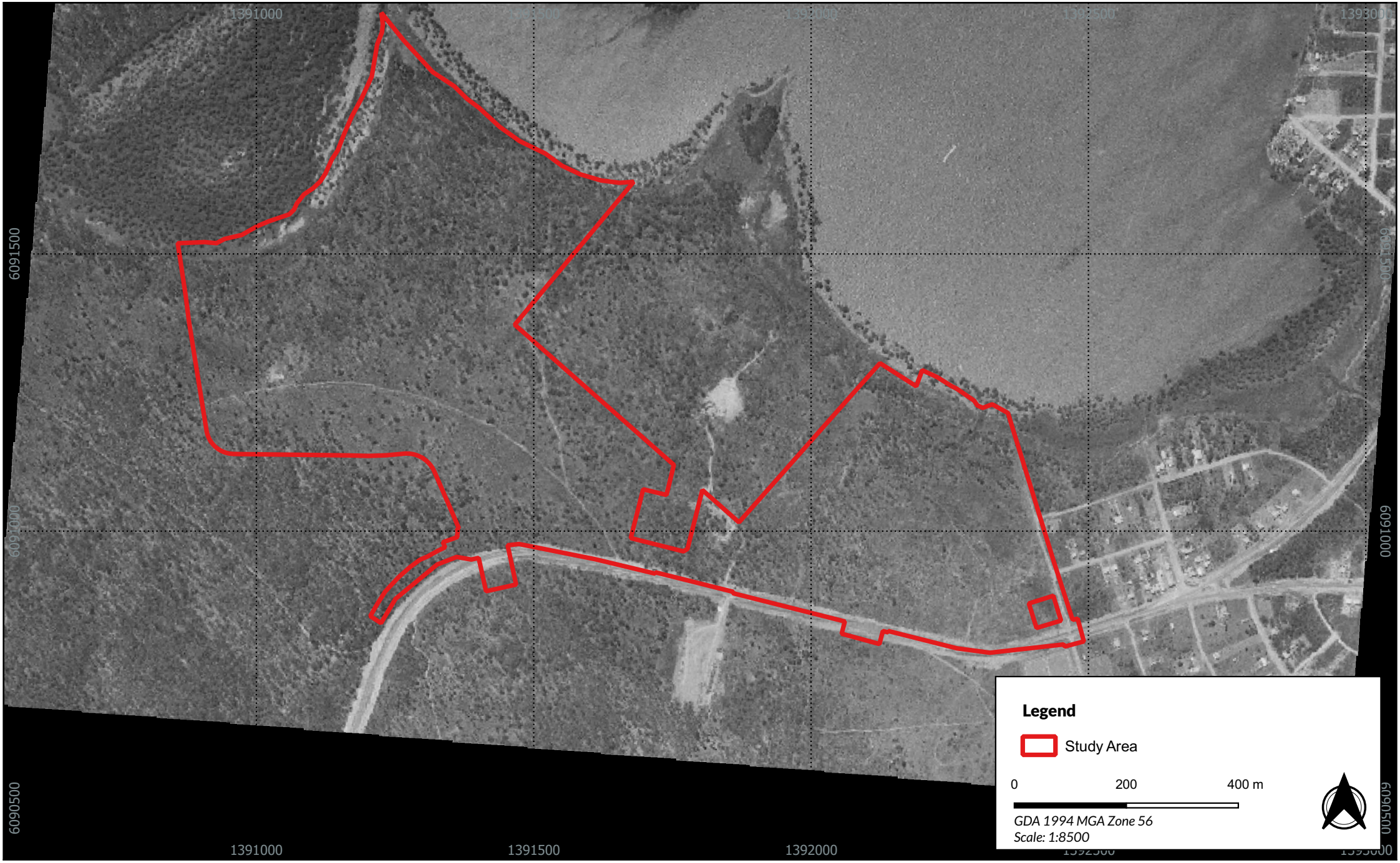

Figure 3.4 - 1969 aerial showing the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW Spatial Services

Drawn by: ARH Date: 2024-05-30

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Figure 3.5 - 1984 aerial showing the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW Spatial Services

Drawn by: ARH Date: 2024-05-30

AUSTRAL ARCHAEOLOGY

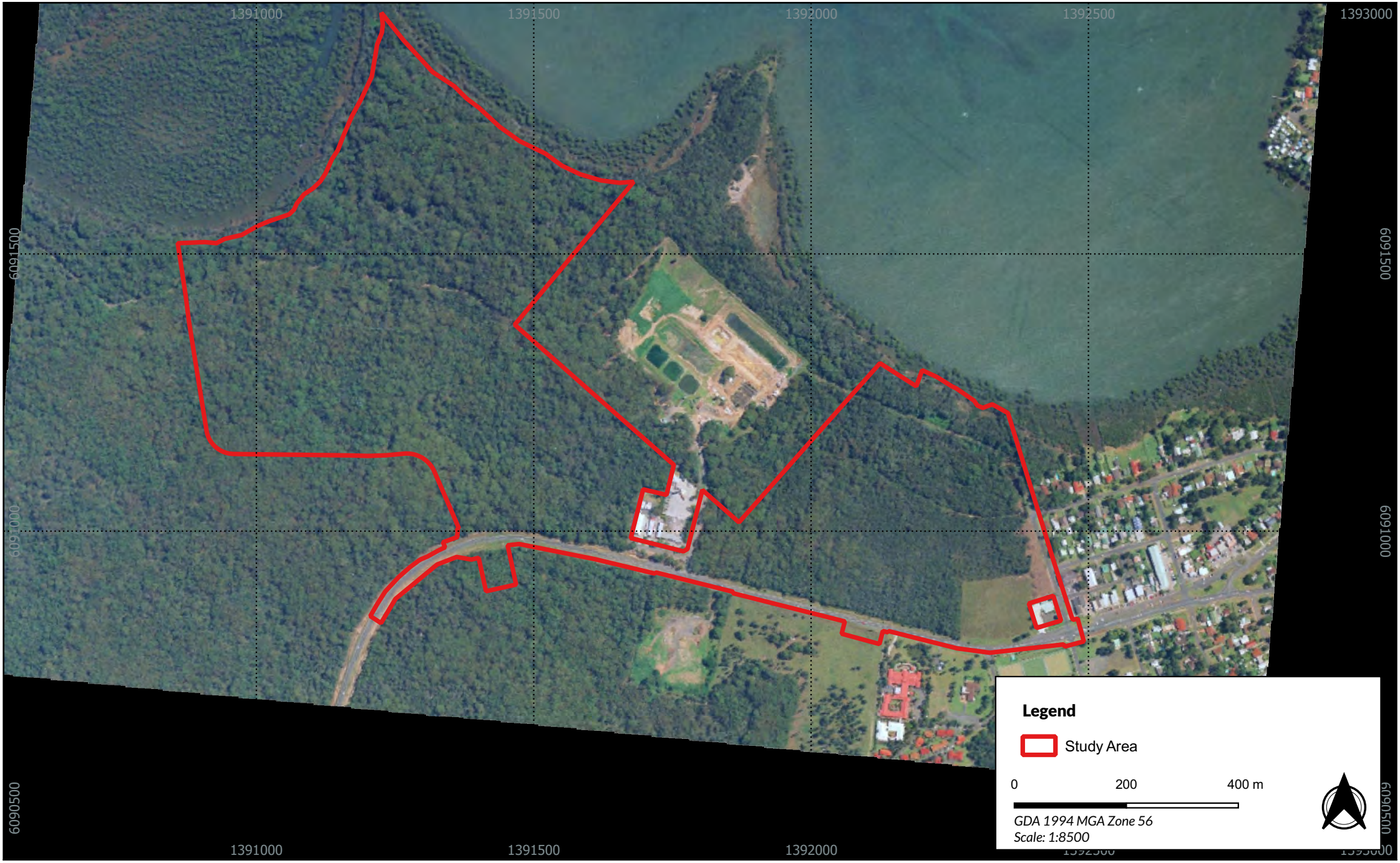

Figure 3.6 - 2002 aerial showing the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW Spatial Services

Drawn by: ARH Date: 2024-05-30

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4. ARCHAEOLOGICAL CONTEXT

The range of environments and landscapes within the Shoalhaven region had a profound influence on the lives of the Aboriginal people who lived there. As hunters and gatherers, Aboriginal people were reliant on their surroundings to provide food. Their transitory lifestyle affected population size, social interactions, and degree of mobility, which can be confirmed in the archaeological record.

4.1. POPULATION AND CONTACT HISTORY

Tindale identified the area around Culburra Beach to be the traditional home of the Wandandian peoples. (Tindale 1974). He describes this group as ranging from the Ulladulla to the Shoalhaven River, and inland to the Shoalhaven River to the north of Braidwood. The Jerrinja tribe today define their boundaries as between the Clyde and Crooked Rivers along the South Coast. (The New Bush Telegraph, 24 Jan 2019). The Wandandian peoples are within the Dharawal language group, which was spoken throughout the Shoalhaven District and north across the Illawarra.

It has been estimated that in 1825 there were 1,800 Aboriginal people in the Illawarra and South Coast region, although determining an accurate population at the time of European contact is difficult. The Indigenous peoples of the area were mobile across large areas of the region, but by the time records were being commenced, the effect of European diseases such as influenza and the smallpox epidemic, had had a severe and tragic impact on population size. The region was some of the most densely populated within Australia, with between 2 to 4 people present per kilometre^2. (Organ & Speechley 1997, p.1).

Alexander Berry makes note of two Aboriginal chiefs at the time he established the settlement of Coolangatta. These were Wagin, chief of Numba (Shoalhaven) and Yager, chief of Jervis Bay who Berry notes to have taken on board a cutter as part of a crew going to and from Sydney (Organ 1993, p.115). After land grants were issued to settlers in the Shoalhaven region in the early 1820s, Aboriginal food supplies were compromised and land use was forever altered through the introduction of European livestock, exotic plants and crops, tree-felling, hunting, the fencing off lands and the enforcement of European rules about “trespassing” ((Organ & Speechley 1997, p.11)). All land grants fronted onto fresh water which would have had a hugely detrimental impact on traditional Aboriginal land use (Department of Environment and Conservation 2005, p.15). From the 1850s onwards, reports indicate that Aboriginal camping and hunting became concentrated along the coast as a result of being pushed to the fringes of their own country by European settlement and farming (Department of Environment and Conservation 2005, p.25).

There was no record of large-scale armed resistance from the Aboriginal people of the Shoalhaven area against the European settlers, but small-scale resistance including homicide, intimidation and the sabotage of European farms that took place in an attempt to drive off the Europeans. Further thefts occurred in attempts to obtain food once traditional hunting and plant collecting practices had been disrupted by farming (Department of Environment and Conservation 2005, p.18).

Pressure from the environmental and social impacts of European settlement led to conflict between Aboriginal groups in the Shoalhaven region. Furthermore, as vacant land disappeared, forced interaction between European settlers and Aboriginal people become more frequent, resulting in campsites being established near established European settlements with a variety of responses from the residents.

A full ethnographic assessment is provided in the Volume 4 Appendix (Dale Donaldson 2023).

4.2. PREVIOUS ARCHAEOLOGICAL WORK

The material evidence of Aboriginal land use has been compiled based upon a review of previous archaeological studies at a regional and local level, heritage database searches and field investigations. The primary reference for this work was the Aboriginal Cultural Heritage Assessment for West Culburra, Culburra Beach, New South Wales prepared by Austral for Sealark Pty Ltd in June 2023, which identified four areas of high archaeological potential and three areas of moderate potential (Austral 2022).

4.2.1. REGIONAL ARCHAEOLOGICAL CONTEXT

Aboriginal occupation is attested within the Shoalhaven region to the Pleistocene, with occupation sites such as the Burrill Lake Shelter dating to 20,000 years ago and occupation at Bass Point dating back to 18,000 years (Lampert 1971, p.10). Pleistocene sites, however, are rare, with most of the known sites dating to the mid-to-late Holocene when sea levels had reached their current position. Patterning in the distribution and character of archaeological sites has long been used to investigate the nature of the past occupation, subsistence, mobility, and land use patterns. Boot (2002) employed a variety of resources, including ethnographic records and archaeological studies, to develop a broad model of the likely changes in Aboriginal occupation and use of the coast versus coastal hinterland through time. Table 4.1 below provides an overview of this model and the key broad changes that are predicted to have occurred.

Table 4.1 South Coast occupation model (Boot 2002).

Time period	Characteristics
~20,000 ka	• Coastline located ~20 km east of current position. • Coast represented a marginal environment. • Harsh Pleistocene environment led to occupation of large inland rock shelter sites located in proximity to potable water. • Greater availability of resources in the hinterland led to longer duration of occupation sites in those areas. • Near-coastal occupation expected to be rare. • Archaeology: a range of artefacts including large silcrete and volcanic cores and small implements.
17,000 – 11,000 ka	• Decreased rainfall, temperature, and sea levels. • More variable intensity of site occupation based on fluctuating environmental conditions and thus resource availability.
11,000 – 8,000 ka (Early Holocene)	• Population levels increasing. • Sea levels rising and temperatures increasing. • Limited use of the (then) hinterland. • More intensive use of the coast with the increase in new littoral resources.
7,000 – 1,000 ka (Mid-to-late Holocene)	• Sea levels stabilizing. • Reduced rainfall along with warm and stable temperatures. • Increase in use of both coastal and hinterland zones (i.e., all topographic contexts expected to have been utilized). • More reliable and diverse resources available particularly associated with the range of hinterland environments. • Congregation of larger groups during warmer months.

It is important to recognise that the current shoreline stabilized approximately 6000 BP. Inhabitants of the South Coast region, particularly during the last 6,000 years since the sea level stabilised, had a diverse economy utilising marine, riverine, and terrestrial resources.

Post-European arrival, four Aboriginal reserves were created in the region between 1881 and 1901: Wreck Bay in 1881, Kangaroo Valley in 1890, Seven Mile Reserve in 1899, and Roseby Park in 1901. The reserves were established at the request of the Aboriginal community to secure land they were occupying and cultivating. Alexander Berry moved his Aboriginal and Maori workers to 155 acres of land at Orient Point where they intermarried with the local Wandandian people eventually marking the first grant of land to an Aboriginal community in Australia in the early 1900s (State Heritage Inventory, Heritage NSW. n.d.). This community are the Jerrinja people, now situated at Orient Point. Ten families were located on 27 acres excised from Crookhaven Park established in 1879 through the efforts of Mr. John Roseby MLA. In the early 1900s, the Roseby Park Aboriginal Reserve was first opened, one of the earliest gazetted Aboriginal reserves in Australia. While the park was a mission, it was considered to be home to the Aboriginal community occupying the land. The photograph in Figure 4.1 depicts the Rosebury Park Mission at Orient Park in approximately 1855.

At the turn of the century, the Aborigines Protection Board decided to locate the Shoalhaven Aborigines at Roseby Park. Five buildings were transferred from Coolangatta, and five new ones were built at the cost of 300 pounds. In 1903, there were 100 people, of whom 42 were children, and a school was built in 1906. By 1959, Roseby Park comprised 66 acres with a population of 113. The public school at Roseby Park closed in 1964. In 1967 the Jerrinja Tribal Council was formed but it was not until much later that the land became the responsibility of the Local Aboriginal Land Council (State Heritage Inventory, Heritage NSW. n.d.).

Figure 4.1 Housing at the Roseby Park Mission, Orient Point c.1855.

Source: PIC/12958/1 LOC Box PIC/12958

4.2.2. HERITAGE DATABASE SEARCH

A search of the Heritage NSW AHIMS database was undertaken on 8 June 2022 (Client Service ID 689664), again on 29 May 2023 (Client Service ID 786056) and also on 28 May 2024 (Client Service ID 896151). The results from the first AHIMS search identified 113 previously recorded sites within a 14 kilometre radius of the study area (Figure 4.2). The search indicates that shell and artefact site complexes are the predominant site type with over 36.28% of known sites belonging to this category (Table 5.1). Most sites are located in proximity to the Crookhaven River and the shoreline of Curley's Bay.

The second AHIMS search was conducted due to a discrepancy in site numbers and locations between Austral's mapping and the ground-truthed locations of sites in the proponent's concept plans. While Kamminga's (2020) and Austral's assessments mapped similar site locations, some sites were mapped incorrectly by the AHIMS database. These sites include:

- AHIMS #52-5-0185;
- AHIMS #52-5-0181;
- AHIMS #52-5-0180;
- AHIMS #52-5-0179;
- AHIMS #52-5-0900; and
- AHIMS #52-5-0182.

The new search was focused on the study area and its immediate surrounds in order to ensure the AHIMS sites within and adjacent to the study area were accurate. The search identified 59 sites in a 5.6-kilometre search area. This confirmed that those sites ground-truthed by Kamminga (2020), as identified within the proponent's concept plan, were the correct locations of the AHIMS sites. There are 8 AHIMS sites registered within the study area. The sites are identified in Table 4.3 and Figure 4.3. For the purpose of these, it is assumed that the correct coordinate system has been registered for each site.

The supplementary AHIMS search undertaken on 28 May 2024 (Client Services ID 896151) was completed with the same extents as the 2023 search, and returned 6 additional sites not included in the prior search. These were noted to be the 6 sites registered on the AHIMS database by Austral following the testing program detailed in this ACHA.

Table 4.2 Summary of sites recorded within the study area and adjacent.

Name	Type	Location Landform
Culburra 9 (AHIMS # 52-5-0179)	Artefact, Shell	Cliff adjacent to study area
Culburra 10 (AHIMS #52-5-0180)	Midden	Cliff adjacent to study area
Culburra 11 (AHIMS # 52-5-0181)	Midden	Cliff adjacent to study area
Culburra 12 (AHIMS #52-5-0186)	Midden	Cliff adjacent to study area
Culburra 13 (AHIMS #52-5-0182)	Artefact, Shell	Cliff within study area
Culburra 14 (AHIMS #52-5-0183)	Artefact, Shell	Cliff within study area
Culburra 15 (AHIMS #52-5-0184)	Midden	Cliff adjacent to study area
Culburra 16 (AHIMS #52-5-0185)	Midden	Sandstone cliff adjacent to study area
Halloran Isolated Find 03 (AHIMS #52-5-0900)	Artefact	Coastal plain within study area
Shelly Point (AHIMS # 52-5-0114)	Artefact, Shell	Cliff adjacent to study area
WCB Isolated Find (AHIMS #52-5-1068)	Artefact	Rolling hills within study area
WCB Midden Site (AHIMS #52-5-1077)	Shell	Slope within study area
West Culburra 3/A (AHIMS #52-5-0649)	Artefact	Rolling hills within study area
West Culburra 4/A (AHIMS #52-5-0650)	Artefact	Coastal plain within study area
West Culburra 4/B (AHIMS #52-5-0651)	Artefact	Rolling hills within study area

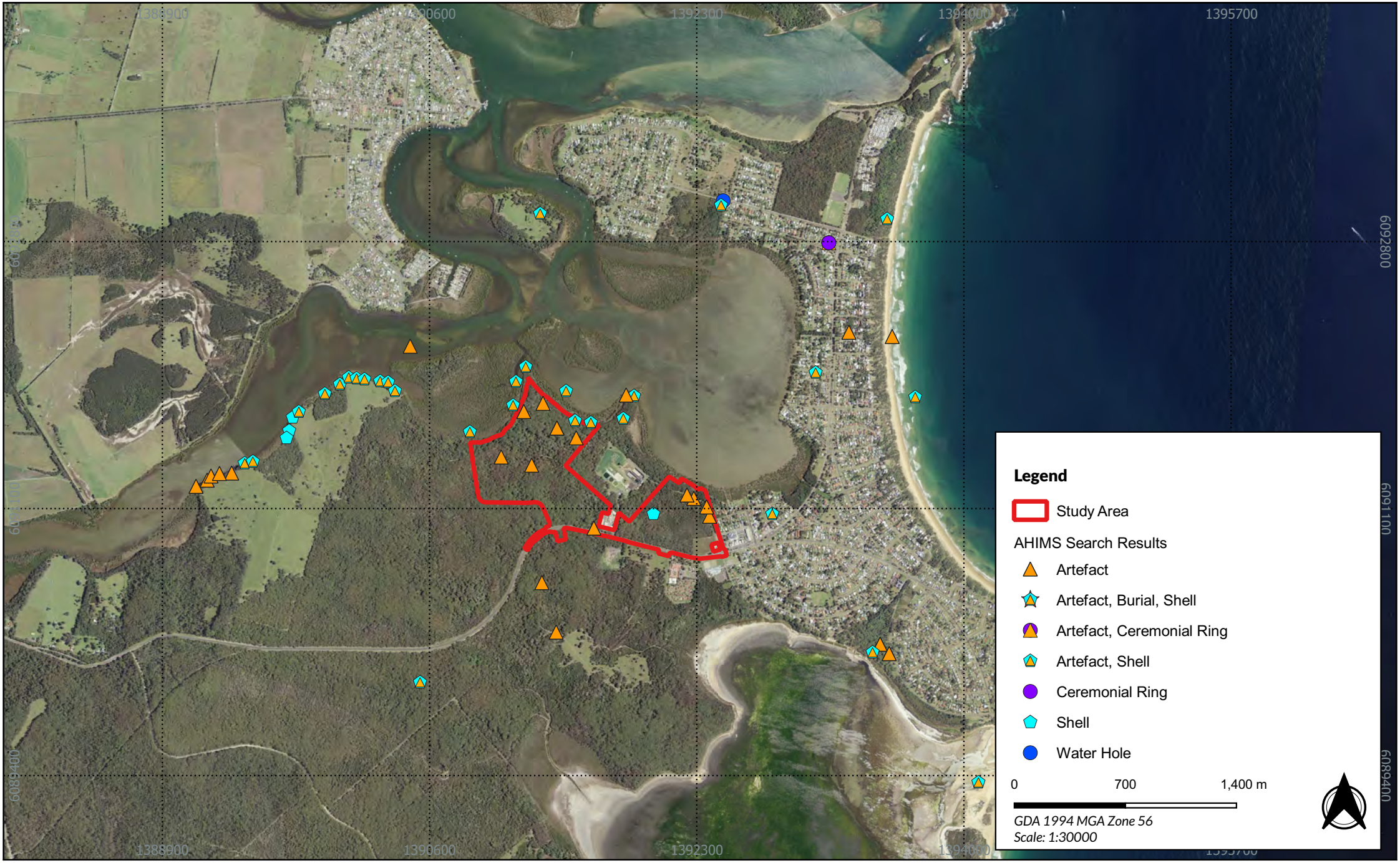

Figure 4.2 - AHIMS registered sites within 5 kilometres of the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

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Figure 4.3 - Identified AHIMS sites in proximity to the study area

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-06-03

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4.2.3. LOCAL ARCHAEOLOGICAL CONTEXT

Archaeological investigations of the Shoalhaven area, and in particular the suburb of Culburra Beach, have been conducted largely in response to the spread of urban development. The limited ethnographic accounts of early settlers and explorers were once considered the primary source for archaeological enquiry. However, with the recent spread of urban development within the Shoalhaven environs, archaeological investigations have increased accordingly.

Several studies have been completed in the region, as such, this section presents a synopsis of selected archaeological investigations of direct relevance to the Study Area. These reports have been selected based on their landform context, proximity and in particular, relationship to Lake Wollumboola and Crookhaven River. A review of archaeological studies completed either within or in the vicinity of the study area is outlined in Table 4.3.

Table 4.3 Reports selected for review as part of local archaeological context.

Author	Date	Relevance to Study Area	Type of assessment
New South Wales Archaeology Pty Ltd	2009	Reports on surveying of East Crescent Culburra Beach located approximately 1.5 km southeast of the study area within a similar coastal environmental context.	Aboriginal Archaeological Assessment
New South Wales Archaeology Pty Ltd	2010a	Reports on test excavations of East Crescent Culburra Beach under AHIP #1113917, located approximately 1.5 km southeast of the study area within a similar coastal environmental context.	Subsurface Test Excavation
New South Wales Archaeology Pty Ltd	2010b	Reports on salvage of East Crescent Culburra Beach, under AHIP # 1119662, located approximately 1.5 km southeast of the study area within a similar coastal environmental context.	Salvage Report
South East Archaeology Pty Ltd	2012	Encompasses the current study area.	Aboriginal Cultural Heritage Assessment
South East Archaeology Pty Ltd	2012	Reports on area <1 km south of the study area.	Aboriginal Cultural Heritage Assessment
Feary	2014	Located approximately 14 km southwest of the study area. Assessment area was noted to be in proximity to a region of high archaeological potential.	Archaeological Investigation
Navin Officer Heritage Consultant	2014	Approximately 100 km away, however, salvage excavation conducted within a similar coastal landscape context to the study area.	Salvage Report
RPS Australia East Pty Ltd	2019	Encompasses the current study area.	Aboriginal Cultural Heritage Assessment
Kamminga	2020	Re-evaluates the current study area.	Report to Aboriginal Cultural Heritage
Austral Archaeology Pty Ltd	2020	Within 3 km of the study area.	Salvage Report

BARLINGS BEACH, RESIDENTIAL DEVELOPMENT - ARCHAEOLOGICAL SALVAGE PROGRAM

Navin Officer was commissioned to perform salvage excavations across 33.5 hectares of land at Barling's Beach in preparation for residential subdivision. The program resulted in a total area of 6,110 m² being excavated (Navin Officer Heritage Consultant 2014). A combination of hand and mechanical excavation for applied across three 'zones' of the study area (110 m² and 5,900 m² respectively).

Zone 1 – A low-density scatter.

Zone 2 – Substantial archaeological deposit.

Zone 3 – Area of high archaeological value considered for conservation.

The salvage resulted in the recovery of 24,864 artefacts, representing a diverse assemblage of stone tool technologies and raw materials. Assemblages were generally denser in the upper six spits, with spit 3 containing the highest density on average.

Quartz artefacts heavily dominated the assemblage though a high proportion of rhyolite was also recorded indicating a variation from the usual dominance of silcrete within the archaeological record of the local area (Navin Officer Heritage Consultant 2014, p.13). Silcrete and rhyolite were approximately equal in being the second most dominant stone material. A breakdown of the raw materials found in the Barling's Beach assemblage is provided in Table 4.4.

Sixty-two shell species and several animal bones were also retrieved through the salvage. Of the shell assemblage, *Pyrazus ebeninus* (mud whelk) was the most common species followed closely by *Saccostrea glomerata* (oyster). Animal bones consisted of fish, bird, crab, cow, pig, sheep, and rabbit, with less readily identified fragments being categorised as 'tiny mammal', 'very small mammal', 'small mammal', 'mammal', and 'large mammal' (Navin Officer Heritage Consultant 2014, p.13). Evidence of charring on animal bones indicated they had either been cooked or discarded in open fires.

Additionally, the first example of a bundle burial on the south coast of NSW was excavated within this assessment area, dating at 927±25 BP. The burial contained the upper and lower limb bones bound into a bundle and buried in the sand. Analysis of the bone indicated a diet largely made-up marine food and an active, traditional lifestyle.

Overall, the site was interpreted to be a large-scale permanent camp with evidence of differential sites use, for example the separation of manufacturing areas from maintenance areas. The unexpected dominance of rhyolite within the study area indicates a local source is likely to have been exploited. The higher concentration of artefacts in proximity to creek lines rather than beaches shows there was a preferential use of the land surrounding drainage channels.

Table 4.4 Breakdown of materials from the Barling's Beach assemblage.

Raw Material	Occurrence	Frequency (%)
Quartz	16,250	65.36%
Rhyolite	3,941	15.85%
Silcrete	3,670	14.76%
Chert	645	2.59%
Quartzite	140	0.56%
Basalt	49	0.20%

Raw Material	Occurrence	Frequency (%)
Volcanic	43	0.17%
Sandstone	33	0.13%
Fossilised Wood	33	0.13%
Crystal Quartz	27	0.11%
Siltstone	18	0.07%
Metamorphic	11	0.04%
Chalcedony	3	0.01%
Glass	1	0.00%
Total	24,864	100.00%

Source: (Navin Officer Heritage Consultant 2014, p. 30).

PROPOSED GOLF COURSE, LONG BOW POINT, CULBURRA – ACHA

(Kuskie 2012a) was commissioned to undertake an ACHA on Lots 5 and 6 DP 1065111, at Long Bow Point, Culburra approximately <1 kilometre south of the current study area. The archaeological survey sampled 18 investigation areas, and the total survey coverage equated to approximately 3.6% of the investigation area. The survey identified two Aboriginal sites (West Culburra 23/a, and 23/b), both small open artefact scatters. West Culburra 23/A comprised two grey silcrete longitudinal flake fragments found on a dirt track in a ridge crest landform. West Culburra 23/B comprised 1 white quartz core with 2 platforms and 2 negative flake scars. The site was located on a ridge crest.

PROPOSED MIXED-USE SUBDIVISION AT WEST CULBURRA, SHOALHAVEN CITY, SOUTH COAST OF NEW SOUTH WALES – ACHA

(Kuskie 2012b) prepared an Aboriginal cultural heritage assessment for the proposed subdivision at Portions 61, 81 and 90 DP755971. The investigation encompassed approximately 100 hectares of land at West Culburra. No previously identified Aboriginal sites were listed within the study area. Eighteen previously recorded sites (17 middens and one scatter) were located immediately adjacent to the investigation area, between it and Crookhaven River. All but one of the sites identified are located within 100 metres of the Crookhaven River estuary. Further, 16 of the 17 midden sites are recorded as being within 30 metres of the shore.

A survey did not reveal any sites within the study area; however, it did identify three sites immediately adjacent to the study area within 100 metres of the Crookhaven River estuary. These sites (West Culburra 3/A, 4/A and 4/B) are all open artefact scatters. A description of the sites identified during the survey can be found in Table 4.5.

Table 4.5 Description of stone artefacts recorded during Kuskie (2012b) survey.

Site Name	Artefact #	Colour	Stone Material	Lithic Item Type	Size (mm)	Cortex Amount (%)	Cortex type	Comments
WC 3/A	1	Grey	Acidic Volcanic	Retouched Piece	37x25x9	-	-	4 scars, 1 platform, distal portion

Site Name	Artefact #	Colour	Stone Material	Lithic Item Type	Size (mm)	Cortex Amount (%)	Cortex type	Comments
WC 4/A	1	Brown	Acidic Volcanic	Hammerstone	112x54x25	90	Pebble	Extensive edge damage on both ends
WC 4/A	2	Grey	Silcrete	Microblade Core	24x22x22	-	-	1 platform, 7 microblade scars
WC 4/A	3	White	Quartz	Flake	20x13x5	-	-	-
WC 4/B	1	Brown	Porphyritic Rhyolite	Core	48x40x26	10	Pebble	8+ scars, 4 platforms; several elongated microblade scars
WC 4/B	2	Grey	Silcrete	Flake – Medial	20x18x5	-	-	Proximal fragment
WC 4/B	3	Grey	Silcrete	Retouched Utilised Piece	34x25x6	-	-	Edge damage and retouch on both lateral margins
WC 4/B	4	Grey	Silcrete	Lithic Fragment	12x7x4	-	-	-

The survey resulted in the conclusions that within a zone potentially extending up to 200 metres from the shore of the Crookhaven River there was a high potential for subsurface deposits of artefacts to occur. The survey also identified that in the remainder of the investigation area, the potential for artefact deposits of research value or significance was generally low, but that low density distribution of artefacts consistent with 'background discard' was likely to be present. It was determined that prior to the works being commenced a testing program should be undertaken.

HALLORAN TRUST PLANNING PROPOSAL – ACHA

In 2019 RPS was commissioned to prepare an ACHA for the Halloran Trust Planning Proposal which covered approximately 1,680 hectares of land at Culburra Beach, Callala Bay and Currarong, NSW. The assessment area was associated with multiple waterbodies, namely Crookhaven River, Lake Wollumboola and Jervis Bay National Park (RPS Australia East Pty Ltd 2019).

A total of 11 AHIMS sites were located within the proposed Culburra study area. A sample survey of the study area resulted in the identification of 13 previously unrecorded Aboriginal sites. All the sites identified during the survey were within terrace, slope, and bank landforms.

PROPOSED SUBDIVISION LOT 1 DP 614607 EAST CULBURRA BEACH – ABORIGINAL ARCHAEOLOGICAL ASSESSMENT, TEST EXCAVATIONS AND SALVAGE

New South Wales Archaeology (2009) was commissioned to perform an Aboriginal Archaeological Assessment of 3.39 hectares of land purchased for the residential subdivision. 1.9 hectares of the study area was nominated for sample surveying, though only 0.1 hectares was effectively surveyed due to the limitation of ground surface visibility.

The survey was arranged into three units:

- SU1 – low lying landform, predicted to contain Aboriginal objects in a subsurface context.
- SU2 – gently sloping landform containing sand deposition. Forty-four artefacts were located and were predicted to be associated with a subsurface assemblage. The artefacts were located across the majority of the unit where exposures were present along with prolific fragmented shell. The surfaces were noted to be subject to daily impacts from vehicular and pedestrian traffic. Additionally, it could not be determined to what extent the soils were natural versus imported.
- SU3 – flat landform containing one Aboriginal object in introduced clay overlying sand. Aboriginal burials were predicted to be located within this substrate. The context was noted to be disturbed though the extent to which was unclear at the time of surveying.

Given the results of survey, additional assessment of the study area was undertaken in 2010 via test excavation (New South Wales Archaeology Pty Ltd 2010). Twenty-two test pits were positioned across the three original survey units each measuring 0.5 × 0.5 metres. Each unit contained two parallel transects each 20 to 30 metres apart, with SU1 containing a total of six pits and SU2 and SU3 each containing eight test pits (New South Wales Archaeology Pty Ltd 2010). A total of 526 stone artefacts were retrieved across SU2 and SU3, and no artefacts were located within SU1. SU2 contained 435 artefacts and SU3 contained 91 artefacts. The most common raw material was silcrete (43.92%) followed by quartz (35.80%). Chert, Chalcedony, fine grained volcanic, and quartzite were also located throughout the assemblage as minor components. Shell fragments were retrieved throughout SU2 and SU3 though it was noted to be an insignificant portion of the material excavated. SU2 and SU3 were concluded to be highly disturbed as a result of mechanical works. The lower levels of both units were recognised to be intact (New South Wales Archaeology Pty Ltd 2010).

Two artefacts within SU2, a grinding dish fragment and Bondi point located during surveying, were also recommended for salvage ((New South Wales Archaeology Pty Ltd 2010), p.20, New South Wales Archaeology Pty Ltd 2010b). Both items were removed from the assessment area and placed within the care of Jerrinja Local Aboriginal Land Council as per conditions outlined in AHIP #1119662.

SEALARK SUPPLEMENTARY HERITAGE REPORT TO ABORIGINAL CULTURAL HERTIAGE ASSESSMENT

Dr. Johan Kamminga conducted a review of an ACHA for land along the West Culburra foreshore nominated for mixed industrial and residential development (Lots 5 and 6 DP1065111) (Kamminga 2020). Prior reporting noted the presence of the Crookhaven midden complex within the proposed development footprint. Kamminga noted that only six midden sites are located within the foreshore immediately adjacent to the study area. Middens along lower Crookhaven River are noted to be ground surface scatters and layers or low mounds over shallow sediment layers, bedrock, and bedrock rubble. The nearest middens to the site were determined to be beyond the 100 metres foreshore buffer included within the revised concept plan and as such are determined unlikely to be impacted by the works (Kamminga 2020).

The original ACHA also denoted the potential for the assessment area to overlap with a significant women's dreamtime route located south of Culburra Beach. Kamminga noted that while the route has significant heritage value, it is not applicable to the assessment area and would not be impacted by the revised plan (Kamminga 2020).

Concerns were raised regarding AHIMS #52-5-0649, AHIMS #52-5-0650 and AHIMS #52-5-0651 within the boundaries of the study area. Kamminga's review of the study area noted the sites were located along an existing sewer line which was subject to significant disturbance due to the works associated with its installation and the movement of vehicles along the easement (Kamminga 2020, p.11).

EAST CRESCENT, CULBURRA BEACH NEW SOUTH WALES – ARCHAEOLOGICAL SALVAGE REPORT

Sealark Pty Ltd proposed to subdivide and develop 14 residential lots and associated infrastructure at Lot 1 DP 614607 East Crescent, Culburra Beach, NSW within the Shoalhaven LGA.

Previous archaeological investigations undertaken by (New South Wales Archaeology Pty Ltd 2009, New South Wales Archaeology Pty Ltd 2010a) within the study area resulted in the identification of the following Aboriginal archaeological sites: Culburra Beach SU2/L1-a (AHIMS# 52-5-0620); Culburra Beach SU3/L1-a (AHIMS# 52-5-0621), Culburra Beach SU2/L1 (AHIMS# 52-5-0562), Culburra Beach SU3/L1 (AHIMS# 52-5-0563) and Culburra Beach Midden 1 (CB_M1) (AHIMS# 52-5-0968). These Aboriginal archaeological sites would be disturbed by the proposed development.

Archaeological salvage excavations were undertaken by Austral Archaeology Pty Ltd (Austral) and representatives from JLALC under AHIP #4633 and resulted in the recovery of a total of 20,146 stone artefacts.

Stage 1 of the salvage program involved the excavation of 66 1 x 1 metre pits across the study area. Three Stage 2 pits (open area pits of up to 9m² in size) were also excavated as part of the salvage program. A total of 84m² was excavated over the course of the salvage.

Several specialist assessments (geomorphological and Optically Stimulated Luminescence [OSL] studies) were also undertaken to assist with understanding site formation and chronology.

Information derived from the salvage program builds on previous data from the test excavations undertaken by Dibden in 2010 which resulted in the collection of 526 stone artefacts from 22 test pits. Overall, the results of the salvage assemblage analysis are largely consistent with the patterns that were identified based on Dibden's (2010a) test excavation program. Consistencies between the two assemblages include:

- Similar artefact densities (based on comparison of non-biased[1] Stage 1 salvage pits).
- Similar composition of different artefact classes with flaking debris dominant (i.e., flakes and flake fragments) in both assemblages. Similar frequency of retouched artefacts.
- Similar raw material proportions with silcrete and quartz dominating both assemblages.
- Similar frequency of cortical artefacts and similarly high proportion of water-rolled (pebbled cortex).
- Silcrete associated with the lowest proportion of cortical artefacts. Small artefacts measuring >20 millimetres in maximum dimension dominate both assemblages.

[1] The Stage 1 pits are considered 'non-biased' because they were not targeting areas of highest artefact density (in contrast to the Stage 2 pits which were placed in areas known to contain the highest artefact densities based on Stage 1 results.

The larger sample-size of the salvage assemblage has, however, resulted in several key technological and compositional differences between the two assemblages. Divergences between the two assemblages include:

- An overall higher artefact density in the salvage assemblage due to the inclusion of Stage 2 pits which targeted areas with the highest artefact concentrations.
- The presence of non-flaked artefact types such as hammerstones and an anvil in the salvage assemblage (through a grinding dish fragment was recovered during the surface salvage completed by Dibden (see Dibden 2010b).
- A higher frequency of cores in the salvage assemblage.
- A higher diversity of retouched artefact types in the salvage assemblage.
- The identification of several conjoin artefact sets and several spatially defined boundaries of individual raw material usage and/or discard areas (i.e., potential knapping floors).

In relation to exploring disturbance in the study area, the results of the salvage program were consistent with understandings gained during previous assessments and demonstrate variable disturbance levels spatially and vertically across the study area (particularly within the upper 20 to 30 centimetres of the deposit). Data from the technological analysis of the salvage assemblage indicate that deposits below 30 to 40 centimetres were relatively intact across much of the study area. This was demonstrated in the patterning and distribution of small artefacts (<20 millimetres in maximum dimension) in addition to the identification of several sets and potential knapping floors.

The results from the geomorphological and OSL assessments undertaken as part of the salvage program were useful in refining the timeframe over which the site formed and the period during which past Aboriginal groups utilised the site. Results demonstrate that:

- The site formed through a combination of coastal wind and wave deposits.
- Aboriginal occupation of the site occurred during the mid-to-late Holocene between ~1,000 and 5,500 years ago.
- The lack of charcoal associated with the pumice deposits and their location at the same depth in pits located over 30 m apart, suggests that the pumice is likely a result of natural storm deposits rather than representing cultural hearths as originally suggested by field archaeologists.

Table 4.6 below provides a broad overview of the timeline for the site formation processes responsible for the Culburra Beach site.

Table 4.6 Broad timeline of site formation processes.

Date	Description
~5.5 ± 0.3 ka	• Sea levels 1.2 meters above present. • Pumice and underlying poorly sorted sands with pebbles clasts deposited during storm event.
~4.7 ka	• Aeolian beach sands deposited in the northern portion of study area to form the upper part of the profile in C16.
~3.0 ± 0.3 ka to 1.0 ± 0.1 ka	• Another storm event inundated the lower elevation within the study area depositing pumice (as observed in D4).
~2,000 years cal BP	• Sea levels reached modern level.

Technological analysis of the medium-to-high density stone artefact assemblage provided evidence for:

- The on-site reduction and manufacture of stone artefacts.
- Production of tool blanks for the manufacture of backed artefacts.
- Re-tooling activities / maintenance of toolkits including the replacement of broken tool components.

The salvage assemblage was considered to be a palimpsest of mid-late Holocene behaviour with 'snapshots' of human activity visible in different pits at different depths.

The Culburra Beach assemblage represented a common site type within the region, consisting of an open artefact scatter adjacent to water. The site is one of many mid-late Holocene sites that have been identified in the region (Navin Officer 1992, GML Heritage Pty Ltd 2018, Kelleher Nightingale Consulting Pty Ltd 2019). Technological patterning in the assemblage was consistent with that reported for similar mid-to-late Holocene sites. For example, regional similarities include:

- Dominance of silcrete and quartz raw material types.
- Dominance of flakes and broken flakes.
- High proportion of backed artefacts present within the retouched artefact component of assemblages.

The Culburra Beach assemblage, however, is distinctive in its larger-than-average assemblage size (compared to most sites located within the local region), and the density of materials recovered.

Overall, the Culburra Beach study area was re-assessed as having high research potential due to the density of artefacts associated with the assemblage, and subsequently its ability to provide information concerning the Aboriginal occupation of the area during the mid-late Holocene. This significance rating is consistent with those reported for similar mid-late Holocene sites (e.g., YTOF AS 9 at Calderwood; Kelleher Nightingale Consulting Pty Ltd 2019)

5. PREDICTIVE MODEL

Austral has used the information produced as part of the archaeological and environmental context sections to formulate a broad predictive model that identifies the type and character of Aboriginal cultural heritage sites that may be present within the study area.

The predictive model is based upon the analysis of the following key variables:

- Relationship between site types and their spatial distribution within the landscape.
- Raw site types, raw material types and site densities and their relationship to salient environmental features.
- Information in ethnohistorical sources that may indicate important natural resources or landscape features that may have been exploited.
- Potential chronological and spatial relationships between sites

A predictive model has been developed based on the consideration of the variables outlined above that indicates the lively site types that will be encountered during the archaeological survey and archaeological testing.

5.1. ANALYSIS OF KEY VARIABLES

Commonly recorded site types in the wider region are artefact (35.7%) and artefact, shell (36.6%) sites, which account for the majority of site types in the local area. However, a large variety of site types are also represented in comparatively smaller numbers near the study area. These site types include burials, modified trees, grinding grooves and ceremonial sites.

It should be noted that any analysis using AHIMS data will be prone to biases as it relates to sites that have been recorded over the past 40 years. During this time, varying methodologies have been used to identify sites and a large portion of the surrounding landscape may have been subject to limited or no assessment. Therefore, site distribution is likely to be reflective of survey methods and patterns and should not be considered a comprehensive list of all Aboriginal sites within a given region.

A summary of Aboriginal heritage sites within 14 kilometres of the study area is included in Table 5.1.

Table 5.1 Summary of sites recorded within a 14-kilometre radius of the study area.

Feature Type	Occurrence	Frequency (%)
Artefact, Shell	41	36.61
Artefact	40	35.71
Shell	6	5.36
Water Hole	5	4.46
Burial	5	4.46
Ceremonial Ring	2	1.79
Modified Tree	2	1.79
Artefact, Ceremonial Ring	2	1.79
PAD	1	0.89
Grinding Groove	1	0.89
Artefact, Shell, Water Hole	1	0.89

Feature Type	Occurrence	Frequency (%)
Artefact, Burial	1	0.89
Artefact, Burial, Shell	1	0.89
Artefact, Burial, Shell, Water Hole	1	0.89
Artefact, Non-Human Bone and Organic Material, PAD	1	0.89
Aboriginal Ceremony and Dreaming	1	0.89
Aboriginal Ceremony and Dreaming, Burial	1	0.89
TOTAL	112	100.00

5.1.1. SOIL LANDSCAPE

The local area is within four soil landscapes: Greenwell Point, Seven Mile, Shoalhaven and Wollongong. Most sites (75.9%) fall within the Greenwell Point soil landscape. The sites within this soil unit largely comprise artefact (26.4%) and shell (27.6%) site types but burials and ceremonial sites have also been identified within this context. Comparatively 13.8% of sites in the local area are located within the Seven Mile soil landscape, 8% are within the Shoalhaven soil landscape and 2.3% are within the Wollongong soil landscape. A breakdown of the soil landscapes within the local area is shown in Figure 5.1.

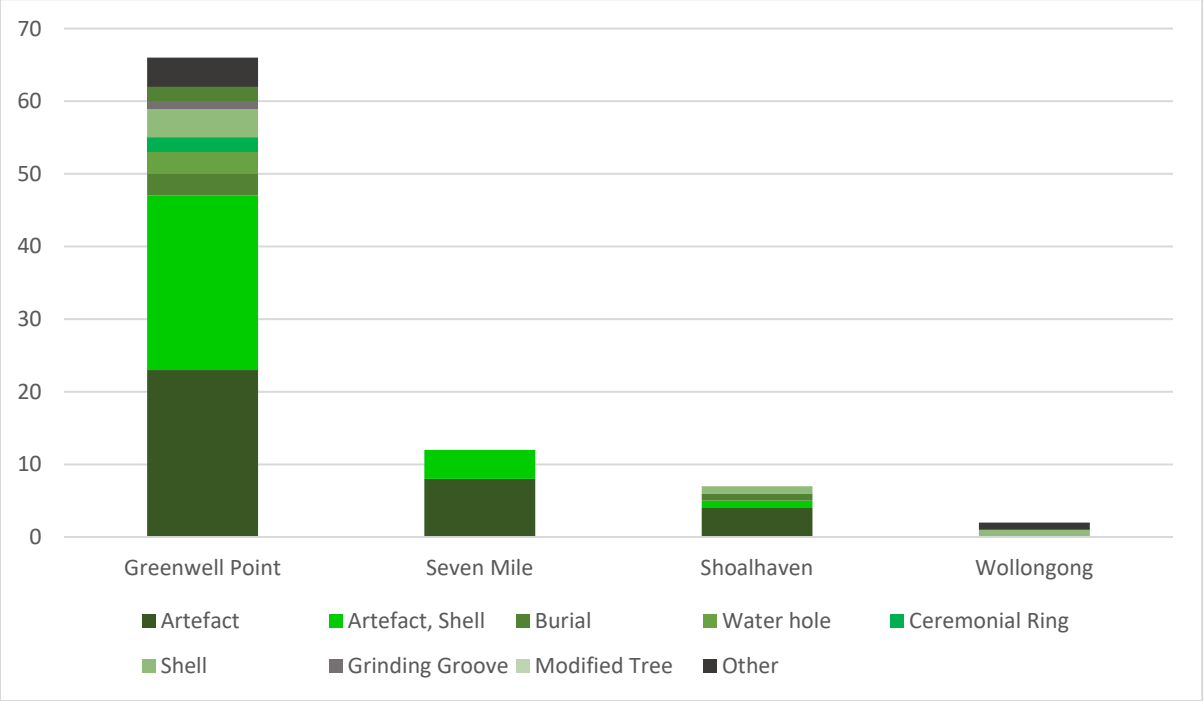

Figure 5.1 Number of local sites and site types in relation to soil landscapes.

5.1.2. GEOLOGY

The study area is found within the Wandrawandian Formation, Estuarine shoreline ridge and dune and the Estuarine in-channel bar and beach deposits geological formations. These formations are characterized by silty sandstones, siltstones, and mudstones and fluvially deposited lithic-quartz sand, carbonate-quartz sand, silt, clay and gravel respectively. Identifying geological units can be useful in identifying the types of stone materials that may occur in an area. A variety of site types including artefact, shell and burials have been identified within the Wandrawandian geological unit, however only artefact and shell sites have been identified within the Estuarine Shoreline Ridge and Dune geological unit.

While no rock outcrops appropriate for sourcing raw materials appear to be present within the study area, the geological composition indicates that suitable outcrops may be available in broader area. Within the greater local area, just over half recorded sites are located within a Wandandian Formation geological unit (57.4%). Sites have been found across a broad range of geological units in varying frequencies, and this is displayed in Figure 5.2.

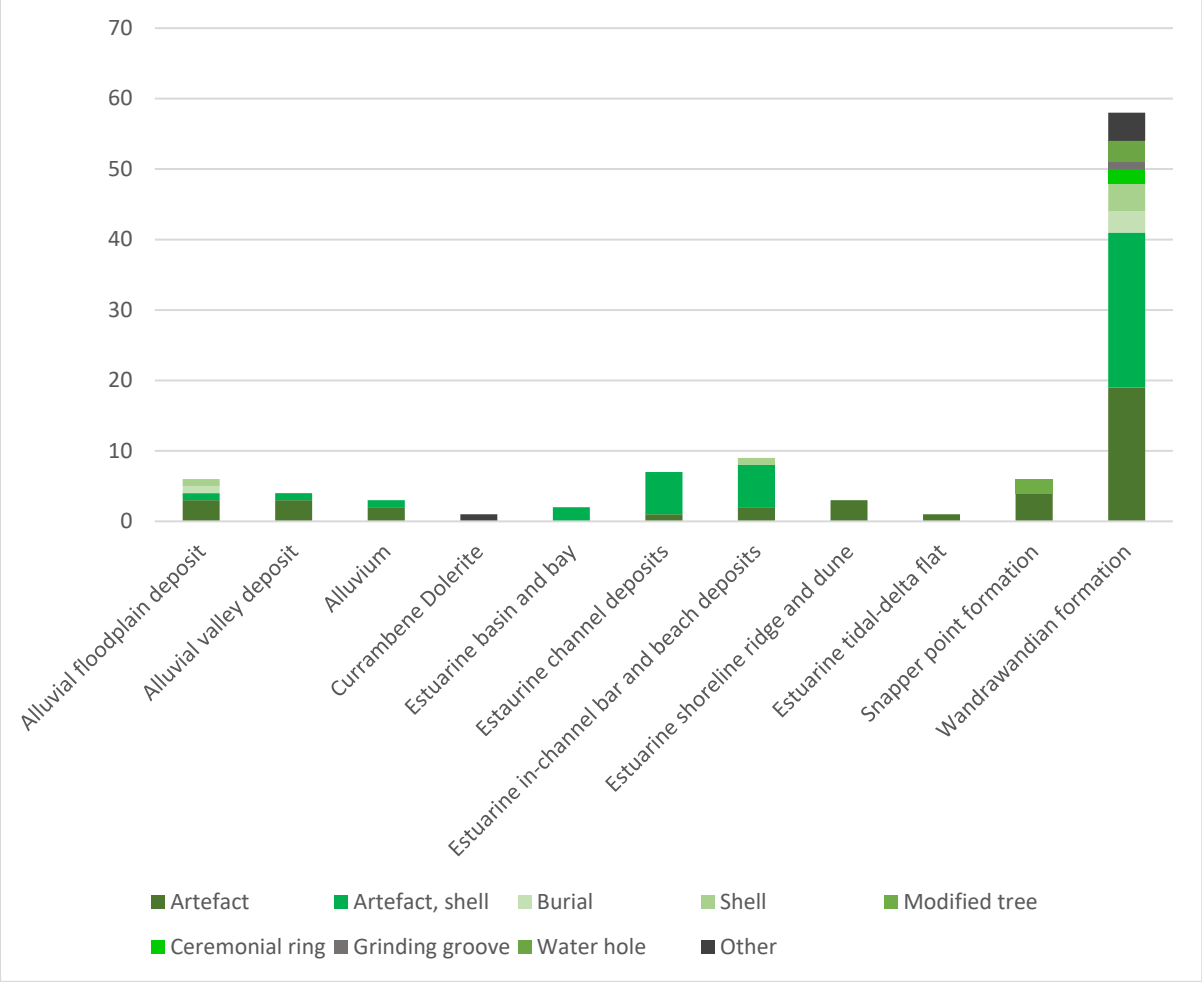

Figure 5.2 Number of local sites and site types in relation to geological formations.

5.1.3. HYDROLOGY

Proximity to water is a significant determinant of site location. In the Due Diligence Code of Practice (DECCW 2010), it has been determined that this sensitivity increases within 200 metres of waters. Of the 112 previously identified AHIMS sites within 10 kilometres of the study area, 41 (36.6%) are within 200 metres of watercourses. Sites within 200 metres of water are of a variety of site types, however, the majority of these are artefact and shell sites. Further investigation showed that the highest number of sites (n=57 ,50.9%) are associated with 7th order streams, with 1st order streams (n= 46, 41.1%) being associated with the next highest quantity. The most common site types associated with all stream orders are artefact sites and shell sites, however, a variety of site types are located in association to most stream orders (Figure 5.3 and Figure 5.4).

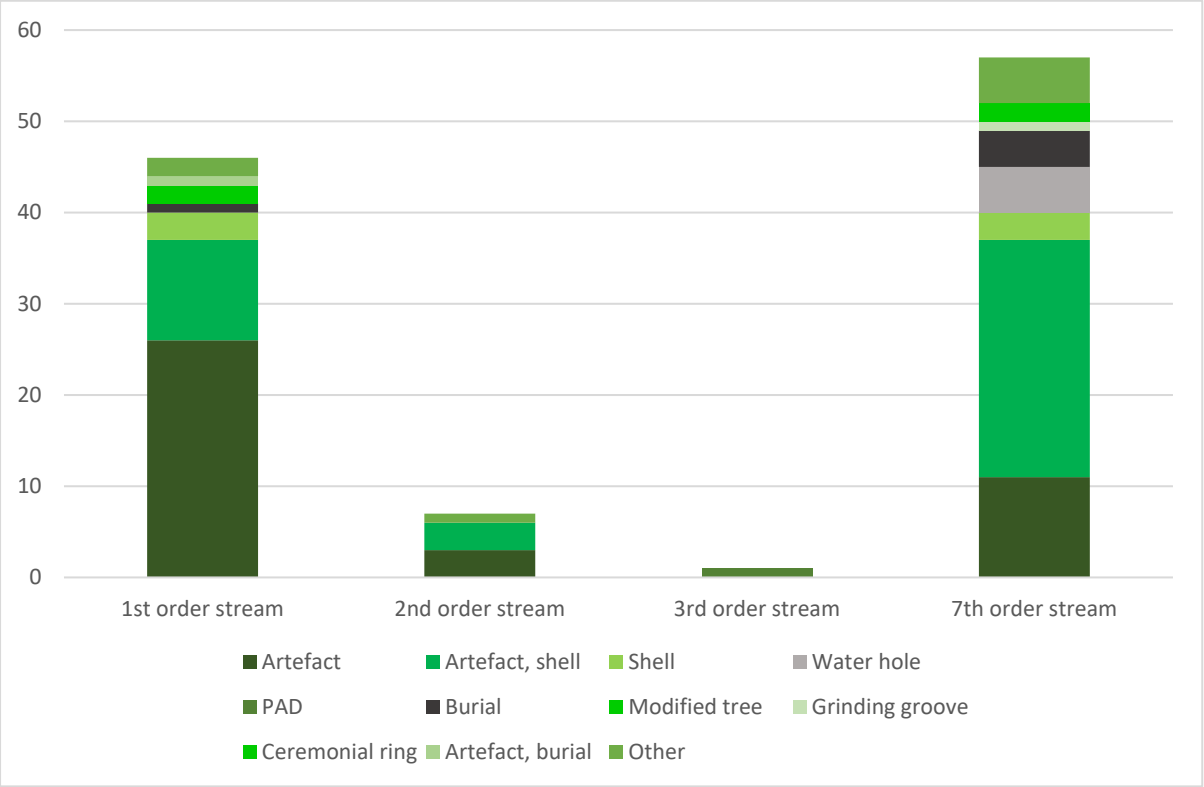

Figure 5.3 Number of local sites and site types in relation to stream order.

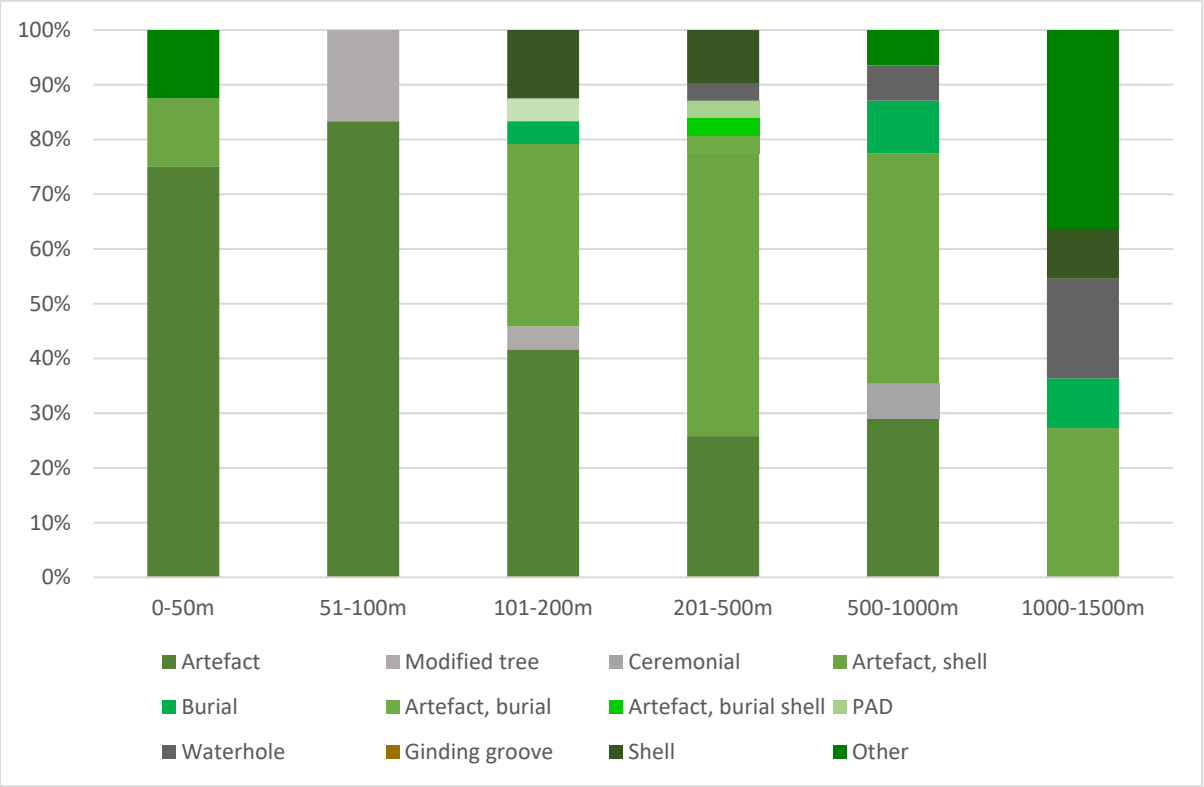

Figure 5.4 Number of local sites and site types in relation to distance to water.

5.1.4. TOPOGRAPHY

An analysis of the distribution of local sites in comparison to terrain has been undertaken using a spatial tool that classifies landforms using a range of parameters including slope, elevation and form (Stepinski and Jasiewicz 2011, Jasiewicz and Stepinski 2013). An overview of the landform classifications used by the algorithm are detailed in Figure 5.5.

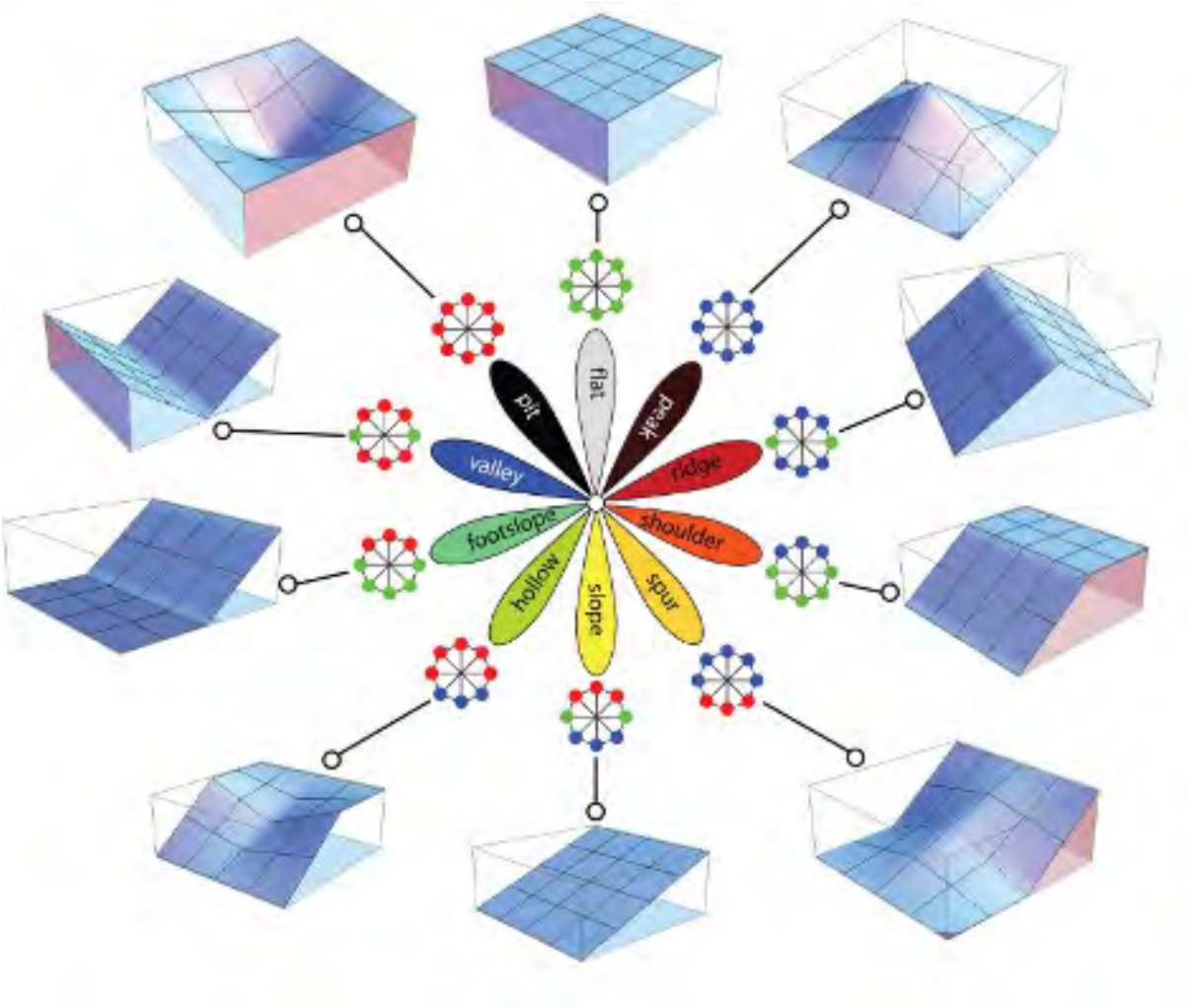

Figure 5.5 Examples of landform definitions by geomorphons.

Based on these landform definitions the study area is located within ridge, peak, flat and slope landforms. It comprises a ridge landform in the southwest that slopes down to the north and east, to the lake foreshore, with areas of higher elevation to the west and south of the study area. In the local area, most sites within the 8-kilometre search radius are in "flat" landforms, with 60.7% of all local sites located within this area. Flat landforms in the local area are largely in proximity to water, bordering lakes, creeks and the ocean. Several sites (26.8%) are also located within "slopes", which the algorithm defines as landforms with a gradient of more than 3 degrees. Slope landforms are the most prominent in the local area. A comparison of Aboriginal site types and landform contexts can be seen in Figure 5.6.

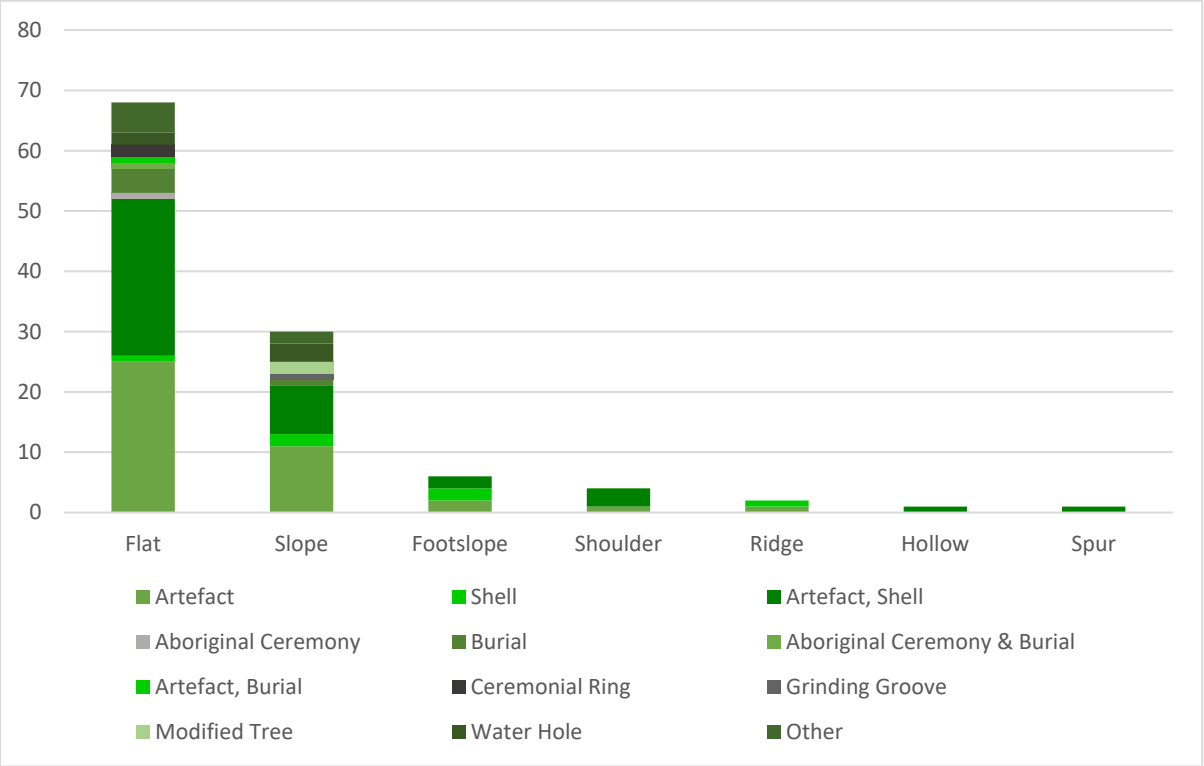

Figure 5.6 **Number of local sites and site types in relation to landform contexts.**

5.1.5. ANALYSIS OF THE KNOWN SITES IN THE LOCALITY

As most known sites within the locality are artefacts, Austral has undertaken an analysis of excavated sites throughout the coastal landforms of the Shoalhaven region to provide a detailed breakdown of the anticipated density and composition of lithic assemblages in the locality. Excavation results have been drawn studies up to 100 kilometres from the study area due to the representative nature of the landscape within these contexts. The studies selected are in proximity to bays presumed to have provided abundant resources to Aboriginal populations while also providing shelter from the more tumultuous nature of oceanic environs. This identified 11 sites that had been subject to archaeological excavation and salvage. Details from these excavations is summarised in Table 5.2.

Table 5.2 **Composition and density of local lithic assemblages.**

Site name	No. test pits	Test pits w/ artefacts	Total ex. (m^2)	Total artefacts	Max artefact density	Average artefact density
East Culburra	66 (3 nominated for expansion)	66	84 m^2	18,043	237.6 artefacts/m^3	214.8 artefacts/m^2
Barling's Beach	134 (110 hand excavated, 24 mechanically excavated)	134	6110 m^2	24,864	514 artefacts/m^3	4.07 artefacts/m^2
Sussex Inlet	36	9	9.25 m^2	68	100 artefacts/m^3	7.35 artefacts/m^2

Table 5.3 indicates sheltered coastal environments are generally associated with large and complex lithic sites reflected in the high average density of salvaged and excavated materials. Artefact deposits were generally located within the upper 300 millimetres of test pits indicating relatively shallow distribution of assemblages within the coastal environments.

In terms of raw material, quartz is the most common followed by silcrete and volcanic material, although rhyolite as co-dominant with silcrete at Barlings Beach. This is likely due to increased commonality of volcanic raw material sources south of Murramarang Point. As such, volcanic raw materials are not expected to occur in the same abundance within the study area. Quartz and Silcrete are expected to be located in abundance within the assemblages contained in the study area. A representation of raw material types is contained within Table 5.4.

Table 5.3 Artefact types from locally excavated assemblages.

Type	Number	Frequency (%)
Flake	28,736	72
Flaked Piece and Other	8,278	21
Tool	1,730	4
Core	1,106	3
Total	**39,850**	**100**

Table 5.4 Raw material types from locally excavated assemblages.

Raw Material	Number	Frequency (%)
Quartz	20,469	47.63
Silcrete	13,380	31.13
Volcanic	4,520	10.52
Non-Quartz Silicates	2,404	5.59
Quartzite	1,355	3.15
Indurated Mudstone Tuff (IMT)	684	1.59
Sandstone	44	0.10
Petrified Wood	33	0.08
Crystal Quartz	27	0.06
Ochre	20	0.06
Siltstone	18	0.04
Metamorphic	11	0.03
Other	10	0.02
Total	**42,975**	**100**

5.2. PREDICTIVE STATEMENTS

In general, an archaeological predictive statement for any study area draws on surrounding environmental data, previous archaeological research, and predictive models for Aboriginal occupation. Another essential aspect to predicting the archaeological integrity of a site and something that must be considered is previous land uses of the study area and degree of disturbance.

In summary, the main trends broadly seen across eastern NSW are that:

- Archaeological sites occur on most landforms.
- Site frequency and density are dependent on their location in the landscape.
- There is a dominance of low-density surface open artefact scatters and isolated finds.
- There is a noted paucity of scarred trees due to land clearance.
- Artefact scatters are commonly located in close proximity to permanent water sources along creek banks, alluvial flats and low slopes, largely concentrated within the first 100 metres of a creek line. More complex sites are usually located close to water sources with major confluences being key locations for occupation sites.
- Archaeological material is also present beyond the immediate creek surrounds in decreasing artefact densities.
- There may be concentrations of sites occurring on ridge tops and crests that are associated with pathways through the landscape.
- Subsurface archaeological deposits are often recovered in areas where no visible surface archaeological remains are evident.
- The dominant raw material used in artefact manufacture is silcrete and fine-grained silicious material with smaller quantities of chert, quartz and volcanic stone seen.
- Artefact assemblages usually comprise a small proportion of formal tool types with the majority of assemblages dominated by flakes and debitage.
- While surface artefact scatters may indicate the presence of subsurface archaeological deposits, surface artefact distribution and density may not accurately reflect those of subsurface archaeological deposits.
- Aboriginal scarred trees may be present in areas where remnant old growth vegetation exists.

While these statements provide an adaptable framework for applying a predictive model to the study area, based on the previous models it is possible to further expound on the generalisations made above. The general studies of the region, the specific investigations surrounding the study area and the search of the AHIMS database have helped to predict what certain site types can be expected within the study area. These predictive statements are presented in Table 5.5.

Table 5.5 Summary of sites with potential to be present within the study area.

Attribute	Knowledge Summary	Predictive Statement
Site Type	Sites in region dominated by artefact and midden sites, with low frequencies of burials, water holes, modified trees, ceremonial sites, grinding grooves and a variety of other site types.	Sites will be mainly artefact occurrences and/or shell midden material. Burials might occur in deeper sandy deposits and/or shell middens. Modified trees are possible but unlikely due to prior clearing.
Water Availability	Most sites located on 7th order streams, with a significant proportion also located on 1st order streams. ~ 40% of sites located within 200 metres of a watercourse.	Sites are most likely to occur in proximity to the higher order streams of freshwater catchments. Modelling and prior research also indicates landforms within 200 metres of 1st order streams are likely to be host to Aboriginal sites.
Topography	Most sites (60.7%), specifically artefact and shell middens are located on "flat" landform units (flats and crests), and a lesser proportion (26.8%) are located within "slope" landform units.	The southwest of the study area has crest and ridgetop landforms, these will have a higher potential to more dense material than adjacent slopes. Level raised areas closer to the lagoon will have a high potential to exhibit shell midden material.
Artefact Density	Artefacts densities of up to 237.6 / m^2 have been found close to the study area. Regionally, archaeology around embayment's have average densities of between 100 and 240 /m^2.	In landforms with high potential in the study area, high densities of artefacts are likely to occur.
Stone Materials	Quartz is the most common material, accounting for around half of all stone artefacts, with silcrete accounting for 31.13% of materials. Other stone materials have been found, mainly in far lower proportions than silcrete and quartz.	Any stone assemblage found will be dominated by quartz and silcrete, reflection local availability. Other raw material types likely to be present to varying degrees include volcanics, silicates, quartzite, IMT, sandstone, petrified wood, and several other materials.

6. FIELD METHODS

A site specific investigation methodology has been developed for the project that complies with the Requirements of the Code of Practice (DECCW 2011).

6.1. SURVEY METHODOLOGY

The survey was conducted on 25 July 2022 by Taylor Foster (Senior Archaeologist, Austral) and Dominique Bezzina (Archaeologist, Austral) with assistance from a member of the JLALC.

6.1.1. SURVEY OBJECTIVES

The objectives of the survey were to:

- Complete a systematic survey that targets areas that have been identified as having the potential to contain Aboriginal heritage values.
- Identify and record Aboriginal archaeological sites visible on the ground surface and areas of PAD.
- Re-identify previously recorded Aboriginal archaeological sites (AHIMS #52-5-0649, AHIMS #52-5-0150, AHIMS #52-5-0651, AHIMS #52-5-0900, AHIMS #52-5-0182 and AHIMS #52-0179) identified within the study area.

6.1.2. SAMPLING STRATEGY

The survey methodology was designed to optimise the investigation of areas where archaeological materials may be present and visible, as well as investigation of the broader archaeological potential of all landform elements present within the study area, which included:

- Crest
- Slope
- Ridge Line
- Tidal Flat

The specific survey methodology developed for this assessment was guided by the survey requirements as set out in Requirement 5 to 10 of the Code of Practice (DECCW 2011) and based upon consideration of the overall landform pattern within the study area, known landform elements (after Speight 2009) and the location of the previously identified sites. The survey targeted portions of the study area where Aboriginal sites were known to occur and areas believed to be associated with high potential, particularly slopes and ridge lines.

The survey was conducted over 4 transects:

- Transect 1: Focused on relocating AHIMS #52-5-0649 within a gently sloping landform containing sandy soils and dense coastal vegetation. The transect was focussed along the road due to the level of exposure in this corridor.
- Transect 2: Traversed a slope in the eastern portion of the study area. The transect was characterised by dense ground cover and sparse young scribbly gums.
- Transect 3: Transect began at the west most extent of a ridgeline, then traversed north through a slope and ended along the tidal flat spanning along the northern border of the study area.
- Transect 4: Traversed southwest along slope conducted as a sample of the landform. Dense ground coverage was observed due to high amounts of leaf litter and ground covering vegetation. Sparse young eucalypts were noted throughout this landform.

6.1.3. SURVEY METHODS

The archaeological survey consisted of pedestrian traverses completed by two team members. A key survey variable is ground visibility, which considers the amount of ground surface which is not covered by any vegetation; and exposure, which defines areas where dispersed surface soils and vegetative matter afford a clear assessment of the ground, were assessed across the study area and within each landform element. Overall survey coverage and calculated survey effectiveness was recorded. Note that the effectiveness of the field survey was largely dependent on the degree of ground surface visibility. Where surface visibility was restricted by dense vegetation cover, the potential for PADs was assessed, particularly in association with those landforms identified within the predictive model as more likely to contain Aboriginal archaeological sites. The potential of these areas and all landform elements within the study area was considered against available evidence of land disturbance.

Photographs were taken of all survey units and landforms as well as representative surface visibility, and where present, surface exposures, soil profiles and disturbances relevant to the interpretation of the stratigraphic conditions and archaeological potential within each survey unit.

6.2. TEST EXCAVATION METHODOLOGY

The test excavation was conducted between 7 August 2023 and 21 September 2023 by Taylor Foster (Senior Archaeologist, Austral), with assistance from Lindsay Costigan (Senior Archaeologist, Austral), Jake Allen (Archaeologist, Austral), and Zoe Bosevski (Graduate Archaeologist, Austral).

The test excavation was completed in accordance with the notification and sampling strategy that was submitted to Heritage NSW on 30 June 2023. A copy of this notification is included in Volume 2 of this ACHA.

6.2.1. TEST EXCAVATION OBJECTIVES

The objectives of the test excavation were to characterise the nature, extent and archaeological significance of Aboriginal objects associated with areas of high and moderate potential within the study area.

6.2.2. TEST EXCAVATION METHODOLOGY

The test excavation programme was undertaken according to the prescribed methodology of Requirement 14 to 20 and 23 to 26 of the Code of Practice (DECCW 2011) and proscribed methodology outlined in AHIP (#5076). Specifically, Requirement 15b of the Code of Practice stipulates that a sampling strategy must be developed for all test excavations which took place prior to work commencing (DECCW 2011, p. 25). In summary, test pits must be placed on a systematic grid designed to target both areas likely to contain PADs and the location of proposed impacts. Test pits must be located a minimum of 5 metres apart.

Each test pit was excavated following Requirement 16a of the Code of Practice using mattocks, shovels and trowels (DECCW 2011, p. 26). Sample units measured 500 millimetres^2, with the first test pit excavated in 50-millimetre spits to act as a geomorphologic example and the remaining test pits were excavated in 100-millimetre spits. Excavation was undertaken until the B-horizon was reached and then continued for another 100 millimetres to confirm that the following spit was culturally sterile. In general, the decision to stop excavating was made, when the top of the C horizon; when a higher percentage of clay was evident, or coffee rock was encountered.

In total, 189 sample units were planned (0.007% of total study area); as well as between 15 to 38 exploratory augers to test the extent of midden sites, and a minimum of 10 exploratory test pits to verify the nature of AHIMS #52-5-1077 (Figure 6.1).

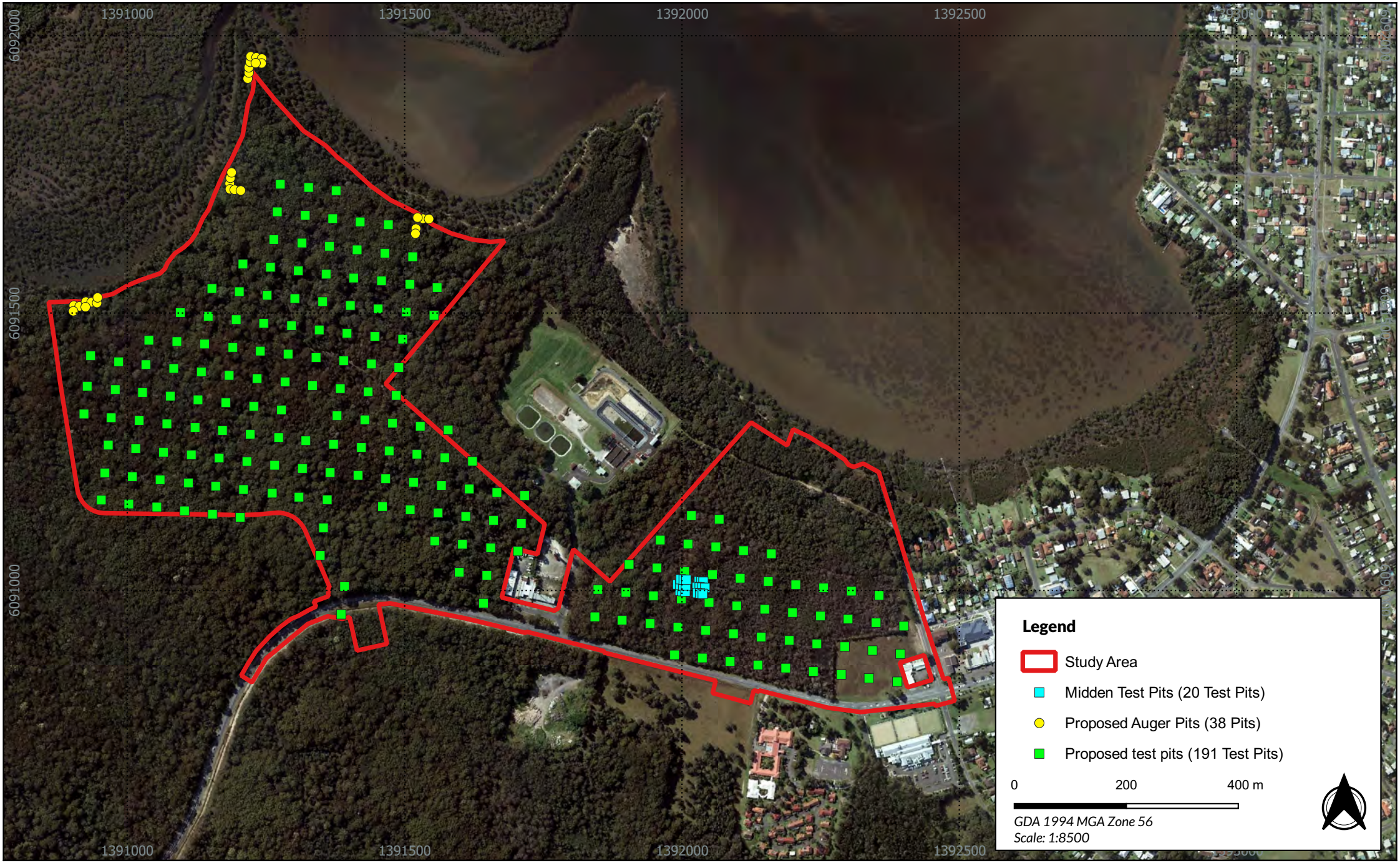

Figure 6.1 - Proposed test pit and auger locations

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

AUSTRAL ARCHAEOLOGY

6.2.3. SIEVING

On site processing of excavated soils and artefact retrieval was undertaken via a combination of dry sieving through both a 5-millimetre and 3-millimetre nested sieve or solely through a 3-millimetre sieve, dependent on the nature of the material. Artefacts were collected from the sieves and placed in bags according to test pit provenance. Buckets containing material from the same spit were kept together and separate from other spits. All test pits were backfilled with the available material retrieved from the sieving location upon completion of the recording.

6.2.4. RECORDING

Detailed recording of all pits was undertaken, requiring the completion of an excavation recording form for each spit excavated. The form necessitated detailed descriptions of the soil profile, any evidence of disturbance and/or features, as well as depth of excavation and the number of artefacts and inclusions present. For each artefact a separate plastic bag was annotated with the project name, transect number, test pits number, spit number, date and recorder's initials.

Photographic recording occurred at the completion of each pit or when an archaeological feature was uncovered. A photographic record was taken of at least one wall section in each test pit. Together with a section drawing and stratigraphic photogrammetry from each pit, the photographs allowed for a detailed record of the strata present at the site.

6.2.5. ANALYSIS OF EXCAVATED MATERIAL

A lithic analysis was conducted by Taylor Foster (Senior Archaeologist, Austral). The lithics analysis was aimed at primarily identifying the presence of culturally modified lithic material within the archaeological record, with a secondary goal of identifying material, tool types and any indicators of *in situ* reduction that informs depositional integrity. All the artefacts recovered were taken to temporary storage at the Austral Archaeology office in Albion Park (NSW) and are to be reburied within the study area. Aboriginal stakeholders are to be consulted as to an appropriate area to relocate these artefacts. A new AHIMS site card for the location where the artefacts are to be relocated is to be created and lodged with the AHIMS registrar.

7. ARCHAEOLOGICAL RESULTS

The following section outlines the results of the archaeological investigations conducted within the study area.

7.1. ARCHAEOLOGICAL SURVEY RESULTS

7.1.1. VISIBILITY

In most archaeological reports and guidelines visibility refers to GSV, and is usually a percentage estimate of the ground surface that is visible and allowing for the detection of (usually stone) artefacts that may be present on the ground surface (DECCW 2011). GSV within the study area was on average 7.5% but varied throughout the study area depending on location. A summary of GSV by transect can be found below:

- Transect 1 – 15%
- Transect 2 – 5%
- Transect 3 – 10%
- Transect 4 – 0%

7.1.2. EXPOSURE

Exposure refers to those parts of the surveyed landforms whose topsoil has visibly been removed due to naturally occurring erosion or man-made disturbances. Usually expressed as a percentage of the total land surface, it is a theory predicting the nature of geomorphological change (DECCW 2010c). The survey coverage and landform summaries are displayed in Table 7.1 and Table 7.2, respectively.

7.1.3. DISCUSSION OF RESULTS

Four landforms are present within the study area, these consist of gentle slopes and crests associated with undulating plains, an elevated ridge, and a coastal slope. The study area can be broadly defined as two portions, the eastern and western portion. The eastern position consists of gentle slopes directed towards Curley's Bay. The most significant disturbance in the study area is the presence of an unofficial roadway. A description of these results, as they relate to the survey units and observed landforms within the study area can be seen in Table 7.1 and Table 7.2.

Table 7.1 Survey coverage.

Unit	Landform	Survey unit area (m^2)	Visibility (%)	Exposure (%)	Effective coverage area (m^2)	Effective coverage (%)
1	Slope	1000 m^2	15%	0.5%	0.75 m^2	0.075%
1	Coastal Flat	3000 m^2	15%	0.5%	2.25 m^2	0.075%
2	Slope	2000 m^2	5%	0.5%	0.5 m^2	0.01%
3	Ridge	5000 m^2	10%	0.5%	2.5 m^2	0.05%
3	Slope	14000 m^2	10%	0.5%	7 m^2	0.05%
3	Coastal Flat	5500 m^2	10%	0.5%	2.75 m^2	0.05%
4	Slope	2500 m^2	0%	0%	0 m^2	0%
Total	-	33,000 m^2	-	-	15.75	-

Table 7.2 Landform summary.

Landform	Landform area (m^2)	Area effectively surveyed (m^2)	% of landform effectively surveyed	No. sites	No. artefacts / features
Slope	19,500 m^2	8.25 m^2	0.04%	1	1
Coastal Flat	8,500 m^2	5 m^2	0.05%	1	1
Ridge	5000 m^2	2.5 m^2	0.05%	0	0
Total	33,000 m^2	15.75	0.04=5%	1	1

Based on these results, the archaeological survey identified two new sites including a large potential midden site associated with a sloping landform and an isolated find within the exposures of a slope progressing to a coastal flat.

The survey located three previously identified AHIMS sites (include AHIMS #52-5-0651 and AHIMS #52-5-0650), partially located one site (AHIMS #52-5-0649) but was unable to locate the three other AHIMS sites (include AHIMS #2-5-0900 and AHIMS #52-5-0182).

The survey located 4 areas of high potential including two foreshore zones of Curley's Bay and the associated ridgeline, and two knoll summits in the south of the study area. The remainder of the study area has been assigned as moderate potential due to the overall proximity to the bay, and the presence of artefact scatters throughout. The shell midden site has been assigned moderate potential. While the shell identified conforms to characteristics of a shell midden, there is some evidence of shell material being used as an imported road base throughout the Shoalhaven region. Pers comm with a long-term local resident, indicated that the track on which the shell is located was used to service an oyster lease on the shores of Curley's Bay, and that there is the potential oyster shells were used to maintain the track. The likelihood of this could only be determined through further investigation.

Revised sensitivity mapping can be seen in outlining the archaeological survey results can be seen in Figure 7.12.

HALLORAN ISOLATED FIND 03 (AHIMS #52-5-0900)

Site Type	Artefact
Centroid	GDA 94 Zone 56 293790m E 6133075m N
Site Extent	1m × 1m
Survey Unit	1

Halloran Isolated Find 03 consists of a single pink-brown silcrete proximal flake fragment located on a slope landform (Figure 7.1 and Figure 7.2).

Figure 7.1 Quartz artefact associated with location of AHIMS #52-5-0900.

Figure 7.2 AHIMS #52-5-0900, landscape context.

CULBURRA 13; GREENWELL POINT (AHIMS #52-5-0182)

Site Type	Shell
Centroid	GDA 94 Zone 56 294004m E 6132990m N
Site Extent	100m × 20m
Survey Unit	3

Culburra 13 consists of two compact midden mounds approximately 20 metres apart, each 3 metres across and 0.8 metres to 1 metre thick. They are located on a slope that has been subject to trail bike damage. Species noted within the midden include oyster, cockle, and welk (Figure 7.3).

Figure 7.3 Landscape context at AHIMS #52-5-0182.

WEST CULBURRA 4/B (AHIMS #52-5-0651)

Site Type	Artefact
Centroid	GDA 94 Zone 56 294761m E 6132610m N
Site Extent	10m × 3m
Survey Unit	1

West Culburra 4/B is a low-density artefact scatter consisting of the following 4 artefacts:

- Brown rhyolite core (48 millimetres × 40 millimetres × 26 millimetres)
- Grey silcrete broken flake, medial portion (20 millimetres × 18 millimetres × 5 millimetres)
- Grey silcrete retouched utilised piece (34 millimetres × 25 millimetres × 6 millimetres)
- Grey silcrete flaked piece (12 millimetres × 7 millimetres × 4 millimetres)

The scatter is located on a sandy flat along a sewer main route 50 metres south of Curley's Bay (Figure 7.4 and Figure 7.5). There is a high potential the scatter is associated with subsurface Aboriginal objects.

Figure 7.4 View east of AHIMS #52-2-0651.

Figure 7.5 Grey silcrete flake associated with AHIMS #52-2-0651.

WEST CULBURRA 4/A (AHIMS #52-5-0650)

Site Type	Artefact
Centroid	GDA 94 Zone 56 294806m E 6132594m N
Site Extent	25m × 4m
Survey Unit	1

West Culburra 4/1 is a low-density artefact scatter consisting of the following 3 artefacts.

- Brown acidic volcanic hammerstone (112 millimetres × 54 millimetres × 25 millimetres).
- Grey silcrete microblade core (24 millimetres × 22 millimetres × 22 millimetres).
- White quartz flake (20 millimetres × 13 millimetres × 5 millimetres).

The scatter is located within a sandy flat along a sewer main route 50 metres south of Curley's Bay. There is a high potential the scatter is associated with subsurface Aboriginal objects (Figure 7.6).

Figure 7.6 West facing view of AHIMS #52-5-0650 context, image from site card.

WEST CULBURRA 3/A (AHIMS #52-5-0649)

Site Type	Artefact
Centroid	GDA 94 Zone 56 294918m E 6132494m N
Site Extent	1m × 1m
Survey Unit	1

West Culburra 3/A is the artefact is located on a mid-slope on a vehicle track with moderate disturbance from vehicles (Figure 7.7). While there is potential for a subsurface deposit to occur in association, research potential of the site was determined to be low.

Figure 7.7 East facing view of AHIMS #52-5-0649 context, image from site card.

WCB ISOLATED FIND (AHIMS #52-5-1068)

Site Type	Artefact
Centroid	GDA 94 Zone 56 294893m E 6132550m N
Site Extent	1m × 1m
Survey Unit	1

WCB Isolated Find is an isolated red silcrete fragment located on a vehicle track approximately 150 metres south of Curley's Bay. Figure 7.8 contains a representative image of WCB Isolated Find (AHIMS #52-5-1068).

Figure 7.8 WCB Isolated find (AHIMS #52-5-1068).

WCB MIDDEN SITE (AHIMS #52-5-1077)

Site Type	Shell
Centroid	GDA 94 Zone 56 294565m E 6132466m N
Site Extent	50m × 2m
Survey Unit	2

A potential shell midden site located on a south facing lower slope in the eastern contexts of the study area. The site spanned at least 50 square metres, based on exposures within the landform noted during the survey (A potential shell midden site is located on a south facing gentle slope. The site spanned at least 50 metres based on exposures within the landform noted during the survey (Figure 7.9 and Figure 7.10) and was comprised of oyster shells ranging from 50 millimetres to 100 millimetres.

Ground surface visibility either side of the track was noted to be 0%. Due to this, there is potential that this site could possibly extend into the adjacent contexts. Communications with residents in the area indicated that this track was used to service an oyster lease, and that oyster shell may have been used to repair the track; indicating the potential that the site is not of Aboriginal origin.

However, the site is consistent with the standard characteristics of Aboriginal shell middens (Bowdler 1983, Bonhomme 1999); that is, the presence of 'edible' shellfish species larger than 15 millimetres, a smaller portion of articulated shell, and proximity of the site to the high tide mark. Therefore, further assessment was required to determine the nature and extent of the site.

The testing of the landform identified no associated subsurface materials. The site is therefore considered to be an isolated lens restricted to the track.

Figure 7.9 Example of exposed shells associated with WCB Midden Site (AHIMS #52-5-1077).

Figure 7.10 Landscape context of WCB Midden Site (AHIMS #52-5-1077).

Results from the archaeological survey are shown on Figure 7.11.

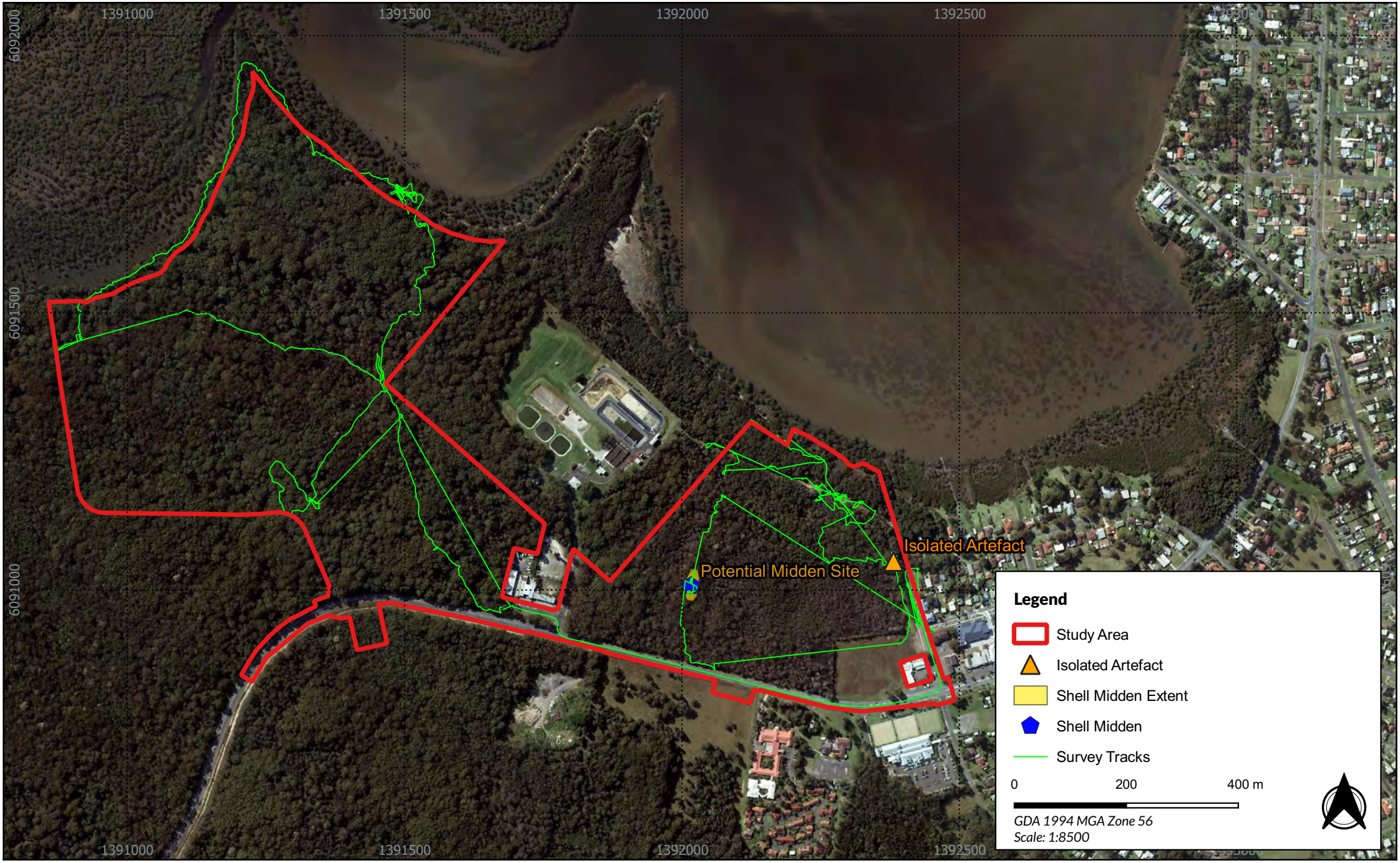

Figure 7.11 - Results of archaeological survey

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-05-30

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7.2. TEST EXCAVATION RESULTS

Based upon the results of the archaeological survey, Austral completed archaeological test excavations within the study area within the areas of moderate and high archaeological potential. This consisted of 3 landforms: a crest, slope, and ridgeline. The results from these areas are summarised within this section.

7.2.1. CREST

Testing within the crest consisted of 14 test pits distributed 50 metres apart across 3 transects.

LANDFORM

The landform crest is located in the southwestern corner of the study area. Testing units identified as being excavated within this unit include parts of Transects K, L, and M. No artefact materials were identified from the crest.

SOILS, DISTURBANCE AND FEATURES

Soils across the crest were generally comprised of a friable humic sandy silt layer with a significant amount of leaf litter. This then transitioned into a friable sandy silt layer with minor roots and charcoal inclusions that overlayed a silt layer that increased in clay content towards a sterile clay base.

A summary of soil characteristics across the crest is provided in Table 7.3.

Table 7.3 Summary of soil characteristics recorded from the landform crest.

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0–50mm Munsell: 7.5YR 2/1 – 7.5YR 3/2 PH: 6 Description: Dark grey-brown, loose, silt humic layer, with 20% leaf litter inclusions and 5% rootlet inclusions. A clear transition occurring between 30 to 50 mm into Horizon A2.
A2 Horizon	Depth: 50–200mm Munsell: 7.5YR 2/3 – 7.5YR 6/2 PH: 6 Description: Light grey, friable, sandy silt with 5% rootlet inclusions. Diffuse transition occurring around 200m into the B-Horizon.
B Horizon	Depth: 200 to 300mm onwards. Munsell: 7.5YR 5/8 PH: 6 Description: Compact clay with minimal charcoal and root inclusions.

7.2.2. SLOPE

Testing on the slope consisted of a total of 126 testing units distributed 50 metres apart. A comparison of total excavated pits and units excavated on slope landforms by transect is provided in Figure 7.12. It is noted that this visualization is restricted to the western area, as all eastern transects were exclusively within slope landforms.

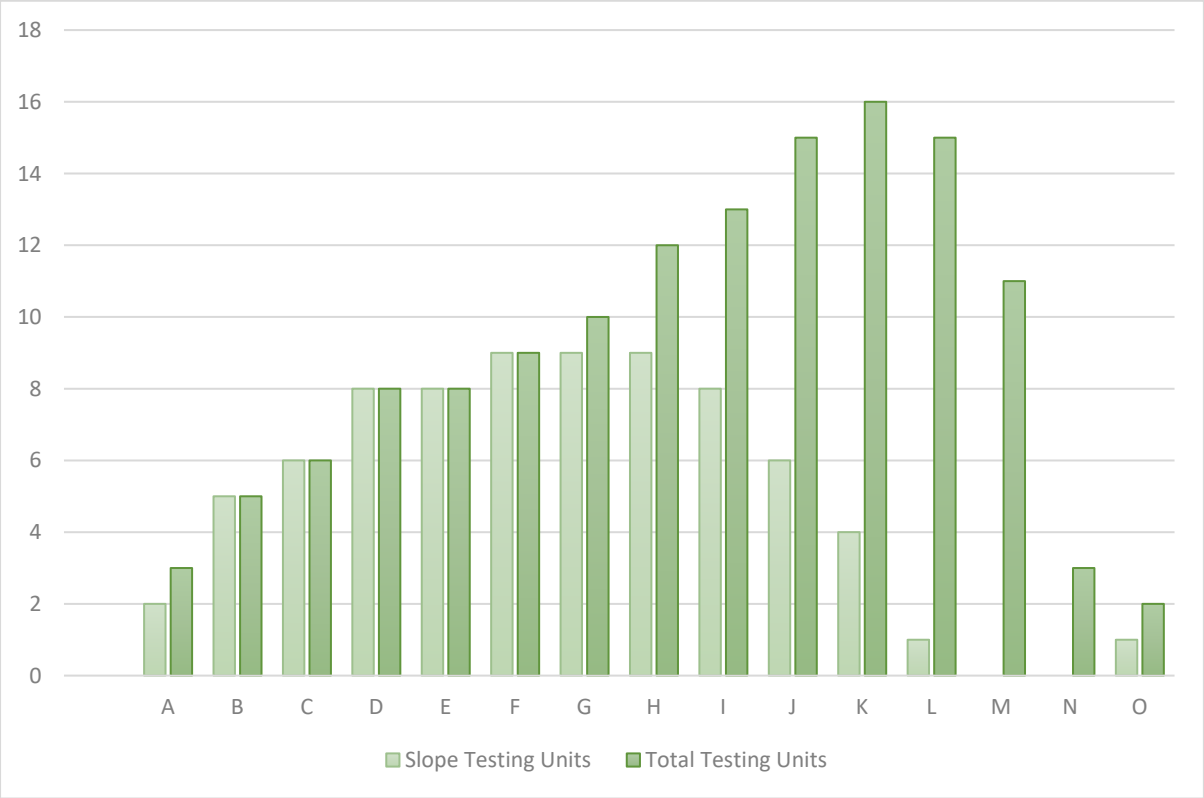

Figure 7.12 Comparison of western testing units on slopes against total excavated.

LANDFORM

Slope landform contexts were noted to be present in both eastern and western sites within the study area. Artefact materials were identified on slopes associated with Transects C, D, F, G, and H in the western area. No artefact materials were identified on slopes associated with the eastern area.

SOILS, DISTURBANCE AND FEATURES

Soils across the slope were generally comprised of a humic sandy silt layer, transitioning into a sandy clay silt layer that overlayed a sterile clay layer.

A summary of soil characteristics across the slope is provided in Table 7.4.

Table 7.4 Summary of soil characters within the slope.

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0–100mm-100 mm Munsell: 7.5YR 3/2 pH: 6 Description: Dark grey-brown, loose, silty humic layer, with 10% leaf litter inclusions and 5% rootlet inclusions. A clear transition occurring around 100 mm into Horizon A2.
A2 Horizon	Depth: 100–400mm Munsell: 7.5YR 6/2 pH: 6 Description: Light brown-grey, friable, sandy silt with 5% rootlet inclusions. Diffuse transition with B-Horizon.
B Horizon	400 to 450mm onwards. 400 - 450 mm Munsell: 7.5YR 6/4 pH: 6 Description: Compact clay.

7.2.3. RIDGELINE

Testing on the ridgeline consisted of 40 test pits distributed 50 metres apart across 9 transects.

LANDFORM

The ridgeline landform identified is within the southwestern corner of the study area, exclusively within the western testing area. An overview of testing unit distributions by transect is provided in Figure 7.13.

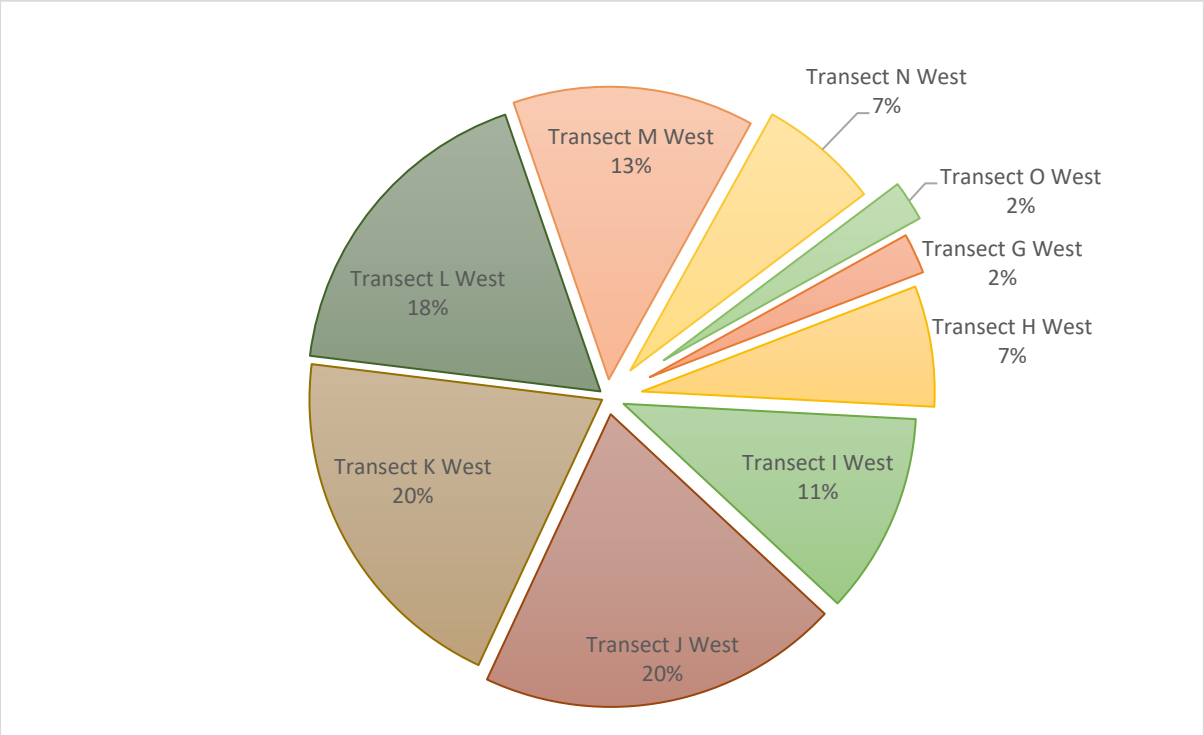

Figure 7.13 Distributions of testing units on the southwest ridgeline by transect.

Artefact materials from the ridgeline contexts of the study area were recovered from Transects H and O in the western testing area.

SOILS, DISTURBANCE AND FEATURES

Soils across the ridgeline landform were generally comprised of friable, humic silty sands, transitioning into a clay basal layer.

A summary of soil characteristics across the ridgeline is provided in Table 7.5.

Table 7.5 Summary of soil characteristics within the ridgeline

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0–150mm Munsell: 7.5YR 6/2 – 7.5YR 7/6 PH: 6 Description: Dark grey-brown, friable silty sand, with 5% subangular pebbles and rootlet inclusions. A clear transition was typically noted to occur between 40 to 150mm into Horizon A2.
A2 Horizon	Depth: 150–350 mm Munsell: 7.5YR5/2 – 7.5YR4/2 PH: 6 Description: Mid brown to light grey, friable, sandy clay with 5% rounded pebble and charcoal inclusions. Typically, a diffuse transition to the B-Horizon was noted.
B Horizon	350to 400mm onwards. Munsell: 7.5YR 6/6 PH: 6 Description: Compact clay.

7.3. LITHICS ANALYSIS

This lithic analysis aims to provide details of the stone material identified during the test excavation using standard terminology for artefact analysis taken from Holdaway & Stern (2013) and McCarthy (1976). Detailed artefact analysis entailed recording several characteristics for each artefact. Stone artefact raw materials were examined through a hand lens (x 10 magnification). Each artefact was recorded in database form, suitable for comparative analysis on a local and regional basis. The terminology used in the analysis is defined in Table 7.6.

Table 7.6 Terminology used in the identification of stone tools.

Analytical Terms	Definition
Angular fragment / Debitage	A piece of debris exhibiting evidence of knapping but lacking key diagnostic traits (e.g., platform, termination, bulb of percussion)
Backing	Abrupt retouch normally found on one lateral margin of a tool and opposite the working edge.
Bladelet	A small (generally 8-12mm in width) example of a blade; a cutting or scraping tool that is prepared through retouch of an initial flake (blade blank) at least twice as long as it is wide.
Core	A nodule or block of siliceous rock from which sharp-edged slivers of stone are struck (generally with a hammerstone).
Cortex	The weathered outer layer of rock, differing in chemical and optical properties to the unweathered interior.
Distal flake	The termination end of a partial (broken) flake.
Dorsal surface	Outer surface of a flake (former surface of the core) characterised by cortex and/or negative concavities (flake scars) and ridges denoting prior removal of flakes.
Flake	A sliver of stone struck from a core exhibiting characteristic traits of force fracture.
Knapping	The process of fracturing flakes of stone from a core
Lateral margin	Left and right edges of a flake (platform oriented upward when viewing the ventral surface and distal end oriented upward for the dorsal surface).
Platform	Planar surface marking the location from which the flake was struck from the core.
Primary flake	Initial flake struck from a weathered cobble with a dorsal surface covered in cortex and lacking prior flake scars.
Proximal flake	The platform end of a partial (broken) flake.
Retouch	Alteration of the cutting edges of a flake or tool to refine sharpness, shape, angle or strength.
Termination	End of a flake opposite the platform denoting the place the force applied by the hammerstone exited the core.
Tertiary flake	Flake lacking dorsal or platform cortex indicating a high degree of prior reduction of the core from which it was knapped.
Ventral surface	Inner surface of a flake originally attached to a core exhibiting one or more traits of conchoidal fracture including a bulb of percussion, bulbar scar and ripple marks.

7.3.1. RESULTS OF THE ANALYSIS

The artefacts recovered during the test excavation program within the study area underwent a detailed lithics analysis by Taylor Foster (Senior Archaeologist, Austral). The distribution of artefacts within the test pits is presented in Table 7.5.

Table 7.7 Distribution of artefacts within testing units.

Pit No.	Number of artefacts	Percentage of the total assemblage
Augers		
AH203	1	5.9%
Test Pits		
C2	1	5.9%
D1	4	23.5%
D2	2	11.7%
F9	1	5.9%
G2	1	5.9%
G10	2	11.7%
H5	1	5.9%
H9	1	5.9%
H11	1	5.9%
O1	2	11.7%
TOTAL	**17**	

A total of 17 artefacts were identified within the study area during the test excavation. Artefact types identified within the collection include flakes (n=15, 88.23%), a medial fragment (n=1, 5.9%), a core (n=1, 5.9%). These were composed of silcrete (n=9, 52.9%), quartzite (n=4, 23.5%), chert (n=3, 17.6%), and quartz (n=1, 5.9%). Analysis of the artefacts recovered during the subsurface testing program generally support the predictive statements as outlined in Section 5.2 above; as the majority of sites contained silcrete artefacts in the forms of flakes and debitage and were noted to be present within raised landforms.

7.3.2. RAW MATERIALS

The most common raw material type in the collection is silcrete, which aligns with the findings of previous archaeological studies in the area and the predictive statements formed for this project, which state that silcrete has been the most commonly identified material in nearby lithic sites, followed by chert, quartz, and volcanic stone. The second most common raw material identified during the testing was quartzite; this material is not known to be a common component of assemblages from the region. Moreover, three artefacts were made of chert, and one was identified as quartz, which are also relatively rare material types in previously identified sites. The frequency of raw material types identified within the assemblage is shown on Figure 7.14

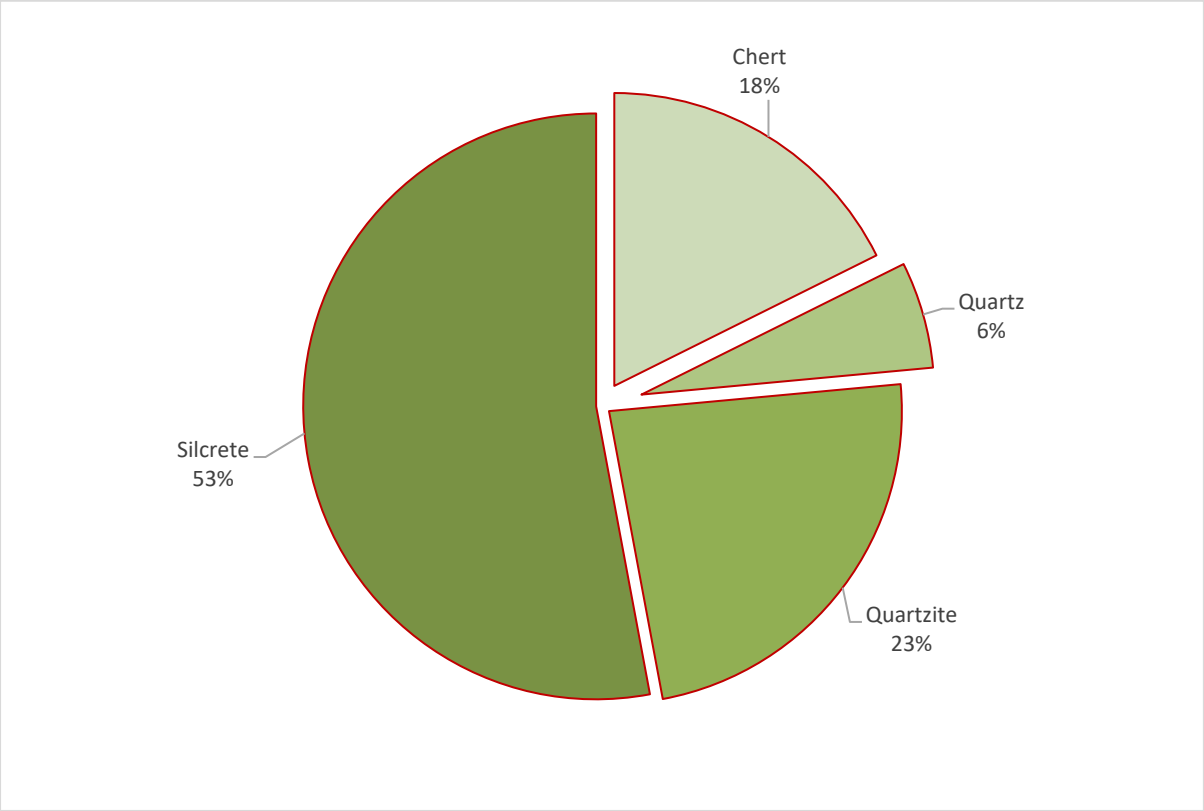

Figure 7.14 Frequency of raw material types within the assemblage.

Data supporting this analysis is shown on Table 8.2.

7.3.3. ARTEFACT TYPES

The artefact assemblage recovered during the test excavation program is generally consistent with data from previous archaeological assessments and the predictive statements made in Section 5.2, which predict that artefact scatters in the local area are typically comprised of flakes and debitage with the occasional formed tool or core.

Flakes and debitage comprise the majority of the collection. Most flakes exhibited feather terminations with dorsal ridges and dorsal scar counts ranging from 2 to 4; this data indicates these flakes were produced in a typical fashion by a skilled knapper using siliceous material. No flakes exhibited cortex, and one (5.9%) was identified as having been retouched. Two flake fragments were also identified, as was one core. Only two of artefacts in the collection were fragmented; fragmentation may have happened prior to or during testing, but the relative number of complete and/or intact artefacts indicates that archaeological deposits have largely remained undisturbed by potentially harmful impacts such as vehicular travel or animal trampling following their deposition. A selection of these artefacts and material types are shown in Figure 7.15.

The core was made of silcrete and exhibited seven negative flake scars and no cortex. The core's maximum measurement of approximately 25 millimetres indicates it was likely an exhausted core discarded when no more useful flakes could be produced.

This data indicates that the sites identified during the testing likely represent the discard of waste during the tool production process, which was likely done as individuals traversed elevated landforms across the study area. Data supporting this analysis is shown on Table 8.4.

Figure 7.15 **Selection of artefacts and material types. Flakes from WCB AS1 are shown .**

7.4. IDENTIFIED ABORIGINAL SITES

A total of 9 sites were identified as part of the archaeological survey and testing program. An archaeological survey of the study area was completed on 25 July 2022, and archaeological test excavations completed 7 August 2023 and 21 September 2023. The sites identified as part of this investigation are outlined in Table 7.6. Notably, new sites identified as a part of the survey works were exclusively within the eastern testing area; while subsurface finds associated with the testing program were exclusively within the western zone. However, the sites identified during the survey and test excavation are similar in that they were generally comprised of silcrete flakes in low-density scatters.

Table 7.8 **Testing/ survey data and identified sites.**

AHIMS No.	Site name	Feature(s)	Testing area / Survey Unit	Landform
52-5-1118	WCB Artefact Scatter 1	Artefact	Test Transect D West	Mid Slope
52-5-1117	WCB Artefact Scatter 2	Artefact	Test Transects F, G, H West	Mid Slope
52-5-1116	WCB Artefact Scatter 3	Artefact	Test Transect O West	Ridgeline
52-5-1068	WCB Isolated Find	Artefact	Survey Unit 1	Tidal Flat
52-5-1115	WCB Isolated Find 2	Artefact	Auger Cluster 2	Lower Slope
52-5-1114	WCB Isolated Find 3	Artefact	Test Transect C West	Lower Slope
52-5-1113	WCB Isolated Find 4	Artefact	Test Transect G West	Upper Slope
52-5-1112	WCB Isolated Find 5	Artefact	Test Transect H West	Ridgeline
52-5-1077	WCB Midden Site	Shell	Survey Unit 2	Lower Slope

WCB ARTEFACT SCATTER 1 (AHIMS #52-5-1118)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 294024.0m E and 6132884.0m N
Site Extent	47.26m × 123.4m

WCB Artefact Scatter 1 (AHIMS #52-5-1118) is situated in a mid-slope landform within the western contexts of the study area. Artefact materials were recovered from adjacent testing units at depths between 100 millimetres and 300 millimetres. This site is noted to be in proximity to sites WCB Isolated Find 3 (AHIMS #52-5-1114) and WCB Isolated Find 4 (AHIMS #52-5-1113).

The assemblage consists of 6 artefacts: 5 flakes and a medial fragment comprised of silcrete (n=4), quartzite (n=1), and chert (n=1). Figure 7.16 below shows a representative image of cultural material identified in WCB Artefact Scatter 1 (AHIMS #52-5-1118).

Figure 7.16 Selection of artefacts from WCB Artefact Scatter 1 (AHIMS #52-5-1118).

WCB ARTEFACT SCATTER 2 (AHIMS #52-5-1117)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 293569.3m E and 6132706.9m N
Site Extent	135.3m × 117.7m

WCB Artefact Scatter 2 (AHIMS #52-5-1117) is situated on the southwestern ridgeline landform in the vicinity of the southern boundary of the study area, near the intertidal contexts of Curley's Bay. Artefact materials were recovered from adjacent testing units within the top 400 millimetres of soil; with between 100 millimetres to 200 millimetres exhibiting the densest collection of materials. No additional sites were identified in proximity to WCB Artefact Scatter 2 (AHIMS #52-5-1117).

The assemblage consists of 5 artefacts: four complete flakes and one proximal flake. Materials include three silcrete flakes, one chert, flake, and one quartzite flake. Figure 7.17 shows a representative image of cultural material identified in WCB Artefact Scatter 2 (AHIMS #52-5-1117).

Figure 7.17 Selection of artefacts from WCB Artefact Scatter 2 (AHIMS #52-5-1117).

WCB ARTEFACT SCATTER 3 (AHIMS # 52-5-1116)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 294202.5m E and 6132331.5m N
Site Extent	1m × 1m

WCB Artefact Scatter 3 (AHIMS #52-5-1116) is situated in a mid-slope landform in the vicinity of the western boundary of the study area, in proximity to Culburra Road. Artefact materials were recovered from a single testing unit, at depths between 100 millimetres to 200 millimetres. No additional sites were identified in proximity to WCB Artefact Scatter 3 (AHIMS #52-5-1116).

The assemblage consists of two artefacts, a grey/red/white silcrete complete flake and a quartzite proximal flake shown in Figure 7.18.

Figure 7.18 Selection of artefacts from WCB Artefact Scatter 3 (AHIMS #52-5-1116).

WCB ISOLATED FIND (AHIMS #52-5-1068)

Site type	Isolated Find
Centroid	GDA 94 Zone 56 294893m E and 6132550m N
Site Extent	1m × 1m

WCB Isolated Find is an isolated red silcrete fragment located on a vehicle track approximately 150 metres south of Curley's Bay. It was identified within the tidal flat to the northeast of the study area. Figure 7.19 contains a representative image of WCB Isolated Find (AHIMS #52-5-1068).

Figure 7.19 WCB Isolated find (AHIMS #52-5-1068).

WCB ISOLATED FIND 2 (AHIMS # 52-5-1115)

Site type	Isolated Find
Centroid	GDA 94 Zone 56 293676.1m E and 6133009m N
Site Extent	1m × 1m

West Culburra Isolated Find 2 (AHIMS #52-5-1115) is situated on a lower slope within the study area and consists of Auger Hole AH203. The site reaches a sterile later at 330 millimetres in depth, with no shell material present. The site horizon layers begin with a humic topsoil layer consisting of significant leaf litter, consistent across the area. The A1 horizon consists of friable sandy silt that increases in sand and clay content towards a sterile clay base.

One artefact was found within the site, a grey silcrete core. Figure 7. 20 contains a representative image of cultural material identified within WCB Isolated Find 2 (AHIMS #52-5-1115).

Figure 7.20 WCB Isolated Find 2 (AHIMS #52-5-1115).

WCB ISOLATED FIND 3 (AHIMS # 52-5-1114)

Site type	Isolated Find
Centroid	GDA 94 Zone 56 293896.2m E and 6132930.7m N
Site Extent	1m × 1m

West Culburra Isolated Find 3 (AHIMS #52-5-1114) is situated on a lower slope within the northwestern contexts of the study area. Associated cultural materials were identified at depths between 100 millimetres and 200 millimetres, with a sterile horizon encountered between 200 to 300 millimetres in depth. The site reaches a sterile later at a consistent depth, reaching 300 millimetres with the only artefact found within Spit 2. Notable inclusions identified during subsurface testing in this area include rootlets, charcoal, and ironstone nodules.

One artefact was found within the site, a grey quartzite flake. Figure 7.22 contains a representative image of cultural material identified within WCB Isolated Find 3 (AHIMS #52-5-1114).

Figure 7.21 WCB Isolated Find 3 (AHIMS #52-5-1114).

WCB ISOLATED FIND 4 (AHIMS #52-5-1113)

Site type	Isolated Find
Centroid	GDA 94 Zone 56 293896.2m E and 6132930.7m N
Site Extent	1m × 1m

West Culburra Isolated Find 4 (AHIMS #52-5-1113) is situated on a mid-slope within the northwestern contexts of the study area. Associated cultural materials were identified at depths between 150 millimetres and 200 millimetres, with a sterile horizon encountered between at approximately 200 millimetres in depth.

One artefact was found within the site, a cream chert flake. Figure 7. 23 contains a representative image of cultural material identified within WCB Isolated Find 3 (AHIMS #52-5-1113).

Figure 7.22 WCB Isolated Find 4 (AHIMS #52-5-1113).

WCB ISOLATED FIND 5 (AHIMS #52-5-1112)

Site type	Isolated Find
Centroid	GDA 94 Zone 56 293765.9m E and 6132678.54m N
Site Extent	1m × 1m

West Culburra Isolated Find 5 (AHIMS #52-5-1112) is situated on the northernmost contexts of the southwestern ridgeline within the study area.

One artefact was found within the site, a white and rose vein quartz proximal fragment. Figure 7.25 contains a representative image of cultural material identified within WCB Isolated Find 5 (AHIMS #52-5-1112).

Figure 7.23 WCB Isolated Find 5 (AHIMS #52-5-1112).

WCB MIDDEN SITE (AHIMS #52-5-1077)

Site type	Shell
Centroid	GDA 94 Zone 56 294565m E and 6132466m N
Site Extent	50m × 2 m

A potential shell midden site located on a south facing lower slope in the eastern contexts of the study area and was comprised of oyster shells ranging from 50 millimetres to 100 millimetres (Figure 7.23).

Communications with residents in the area indicated that this track was used to service an oyster lease, and that oyster shell may have been used to repair the track; indicating the potential that the site is not of Aboriginal origin. However, the site is consistent with the standard characteristics of Aboriginal Shell middens (Bowdler 1983, Bonhomme 1999); that is, the presence of 'edible' shellfish species larger than 15 millimetres, a smaller portion of articulated shell, and proximity of the site to the high tide mark. Therefore, further assessment was required to determine the nature and extent of the site.

The testing of the landform identified no associated subsurface materials. The site is therefore considered to be an isolated lens restricted to the track (Figure 7.28).

Figure 7.24 Example of exposed shells associated with WCB Midden Site (AHIMS #52-5-1077).

Figure 7.25 Landscape context of WCB Midden Site (AHIMS #52-5-1077).

8. ANALYSIS AND DISCUSSION

The following section presents an analysis and discussion of the results of the archaeological investigation, with an emphasis on the archaeological testing program.

8.1. SITE INTEGRITY AND EXTENT

Those sites recorded within the study area generally exhibited moderate stratigraphic integrity. This is evident based on the comparative depth of artefact materials identified within the testing units (Table 8.1 and Table 8.2). It can be inferred that some stratigraphic integrity remains, as atypical materials would likely have been lost in post-depositional movement of materials. Stratigraphic integrity in auger pits was more difficult to assess based on the excavation method, but generally appeared to maintain moderate stratigraphic integrity and similar soil profiles to those recorded in the nearest square test pits.

It can also be inferred that there is greater stratigraphic integrity in the western area, where sites were typically subsurface and encountered in similar volumes at similar depths, when compared to the eastern area where sites were more common at surface level and subsurface testing identified no buried cultural materials.

Moreover, the prevalence of debitage and complete and partial flakes within the assemblage, accounting for site densities, suggests that these sites represent a series of isolated knapping events (Table 8.4). This aligns with conclusions drawn in the ethnographic analysis of the site that suggest that occupation of these landforms was largely transitory, with the identified sites forming low-density artefact concentrations formed as part of this activity (Dale Donaldson, 2023).

Identified site extents were determined based on proximity (i.e. 2 units with artefacts within 100 metres of one another), and landform. An overview of site extents is provided in Figure 11.1 below.

Table 8.1 Analysis of artefacts per site by spit.

Site / AHIMS No.	Spit Number				Total
	1	2	3	4	
WCB IF2 (AHIMS #52-5-1115)	-	-	-	-	1
WCB IF3 (AHIMS #52-5-1114)	-	1	-	-	1
WCB IF4 (AHIMS #52-5-1113)	-	-	-	1	1
WCB IF5 (AHIMS #52-5-1112)	-	1	-	-	1
WCB AS1 (AHIMS #52-5-1118)	-	3	3	-	6
WCB AS2 (AHIMS #52-5-1117)	1	3	-	1	5
WCB AS3 (AHIMS #52-5-1116)	-	2	-	-	2
Total	1	10	3	2	17

8.2. THE ARTEFACT ASSEMBLAGE

The majority of raw material types identified during the excavation were silcrete, while less common types included quartzite, chert, and quartz. Similar studies in the area have also identified silcrete-heavy assemblages, with lesser quantities of chert, quartz and quartzite, and volcanic materials. Very few artefacts were recovered from the study area when compared to the volume typically recovered from archaeological excavations in the region. As such, the small dataset imparts difficulty when attempting to form interpretations and conclusions about the larger area. Table 8.2 provides data on raw material distribution across the sites identified during this assessment.

Table 8.2 Analysis of raw material types per site.

Site / AHIMS No.	Raw Materials				Total
	Silcrete	Quartzite	Chert	Quartz	
WCB IF2 (AHIMS #52-5-1115)	1	-	-	-	1
WCB IF3 (AHIMS #52-5-1114)	-	1	-	-	1
WCB IF4 (AHIMS #52-5-1113)	-	-	1	-	1
WCB IF5 (AHIMS #52-5-1112)	-	-	-	1	1
WCB AS1 (AHIMS #52-5-1118)	4	1	1	-	6
WCB AS2 (AHIMS #52-5-1117)	3	1	1	-	5
WCB AS3 (AHIMS #52-5-1116)	1	1	-	-	2
Total	9	4	3	1	17

Similarly, previous archaeological work in the region has identified dense concentrations of artefacts, whereas densities identified during this assessment have been much more dispersed. While identification of artefacts in test pits may trigger pit expansion for further investigation in some cases, finds during excavation for this project typically involved a single artefact in a test pit with no other features or stratigraphic information that would indicate further deposits, so no expansions were initiated.

Table 8.3 provides data on artefact densities by site, including highest number of artefacts per square metre and artefact density per square metre.

Table 8.3 Artefact density per site.

Site / AHIMS No.	Total artefacts	Total area (m^2)	Highest No. artefacts per pit	Highest No. artefacts per m^2	Artefact density (per m^2)
WCB IF2 (AHIMS #52-5-1115)	1	0.25	1	4	4
WCB IF3 (AHIMS #52-5-1114)	1	0.25	1	4	4

Site / AHIMS No.	Total artefacts	Total area (m^2)	Highest No. artefacts per pit	Highest No. artefacts per m^2	Artefact density (per m^2)
WCB IF4 (AHIMS #52-5-1113)	1	0.25	1	4	4
WCB IF5 (AHIMS #52-5-1112)	1	0.25	1	4	4
WCB AS1 (AHIMS #52-5-1118)	6	5,831.88	4	16	.0001
WCB AS2 (AHIMS #52-5-1117)	2	15,923.63	1	8	.0001
WCB AS3 (AHIMS #52-5-1116)	2	0.25	1	8	8
Total	17	21,756.76	-	-	-

The artefact types identified within the assemblage are also similar to those included in the predictive statements, which identify flakes and debitage as the predominant artefact types, followed by formed tools and cores. This assessment identified 14 flakes (82.4%), two flake fragments (11.8%), and one core (5.9%). Approximately half of the flakes were silcrete, while chert and quartzite comprised the other half. Most flakes exhibited feathered terminations with a dorsal ridge and no cortex, and one, within WCB AS2 (AHIMS #52-5-1117), showed evidence of retouching.

Table 8.4 Analysis of artefact type by site.

Site / AHIMS No.	Artefact Type			Total
	Flake	Fragment	Core	
WCB IF2 (AHIMS #52-5-1115)	-	-	1	1
WCB IF3 (AHIMS #52-5-1114)	1	-	-	1
WCB IF4 (AHIMS #52-5-1113)	1	-	-	1
WCB IF5 (AHIMS #52-5-1112)	-	1	-	1
WCB AS1 (AHIMS #52-5-1118)	5	1	-	6
WCB AS2 (AHIMS #52-5-1117)	5	-	-	5
WCB AS3 (AHIMS #52-5-1116)	2	-	-	2
Total	14	2	1	17

8.3. ARCHAEOLOGICAL ANALYSIS

The results of the archaeological testing within the study area generally correlate with the predictive statements made in Section 5.2. The predictive model noted that artefact and/or shell are the most common site types found within the area, and that sites were most often associated with watercourses. The predictive model also indicated that archaeological sites are present along elevated landforms used to traverse the area, and surface conditions may not be indicative of subsurface archaeological potential.

The majority of the assemblage was comprised of silcrete artefacts (n=9) followed by quartzite (n=4), chert (n=3), and quartz (n=1). The presence of these materials generally aligns with the findings of previous archaeological assessments, which have found that silcrete and fine-grained siliceous materials are the most commonly present within the broader regional context. All raw materials identified during testing have been identified as a component of previously recorded assemblages within the region. It should be noted that previous archaeological work in the region has resulted in significant numbers of quartz and volcanic materials having been identified, however relatively few are present in the assemblage for this project.

Per the predictive model, artefact density among the sites identified during the subsurface testing appeared to be highest on elevated landforms as well as near watercourses, including ephemeral drainages, mangrove swamps, and near the shores of Curley's Bay. Artefact density data is shown on Table 8.3.

Fourteen of the artefacts were identified as flakes, while two were identified as flake fragments, and one was identified as a core. The predictive model for this project identified nearly 40,000 artefacts identified during archaeological work in the region, and flakes accounted for 72 percent. Similarly, 82% (n=14) of the assemblage from this assessment were classified as flakes. No formal tools were identified during the testing, but four of the flakes exhibited evidence of retouching.

Notably, the only artefact recovered from an auger pit proximal to a midden site was a silcrete core, which was the only core identified during the assessment. No other artefacts or shell material were recovered from these auger pits.

The current testing program recovered significantly fewer artefacts than similar projects in the area; while most archaeological deposits appeared to remain relatively untouched by anthropogenic impacts, some have been subject to disturbances from the use of two-track roads and other recreational endeavors within the study area. Both the archaeological findings and anthropological assessment by Donaldson (2023) indicate that the study area has historically been used for transportation rather than more permanent settlement, and it is assumed that tidal and other alluvial processes have removed archaeological sites from their original deposition; both factors may justify the low concentration of artefacts identified within the study area.

The results of this study indicate a low research potential. However, the value of these sites lies in their ability to add to a growing body of research, which builds a larger picture of the occupation, exploitation, and movement of past Aboriginal people throughout the study area and surrounding landscape.

8.4. DISCUSSION

Based on the results of the test excavation, the following statements can be made about the areas of archaeological sensitivity identified during the archaeological survey:

- A total of 180 test pits were excavated across the study area in areas of high potential where development is proposed; as well as an additional 15 exploratory auger holes, and 10 exploratory auger pits focused on identifying subsurface midden extents.
- A total of 17 Aboriginal stone artefacts were recovered from 10 of the 180 test pits. The majority of test pits (94.4%) contained no Aboriginal cultural material.
- The exploratory excavations and auguring failed to identify any shell material; however, one grey silcrete core was identified within an auger. 93.3% of augers did not return any cultural materials.
- Most artefacts were identified in Spit 2, between 100 and 200 millimetres below the surface. Artefacts were identified in, in descending order, Spit 3, Spit 4, and Spit 1. The largest number of artefacts recovered for a single test pit was 4 from Test Pit D1 West.
- Silcrete was the dominant material making up 52.94% (n=9) of the total assemblage, with quartzite accounting for 23.53% (n=4), chert for 17.65% (n=3), and quartz for 5.88% (n=1).
- The assemblage was dominated by flakes (58.82%, n=10) and debitage (23.53%, n=4). Four were retouched (40%), and none contained cortex. A small silcrete core with seven negative flake scars and no cortex was recovered.
- Fewer artefacts were identified during this assessment than during other studies. Stratigraphy appeared to maintain moderate integrity, so this lack of artefacts is likely attributable to deposition during knapping on upland landforms and alluvial processes affecting artefacts originally deposited on lower, flatter landforms.
- The patterning within the assemblage indicates the artefacts were likely dropped or discarded during movement across the landscape, which aligns with ethnographic accounts from the anthropological assessment (Dale Donaldson 2023).

The location of the excavated test pits is shown in Figure 8.1. The study area has been reassessed as having generally low archaeological sensitivity. A reassessment of archaeological sensitivity is outlined in Figure 10.2.

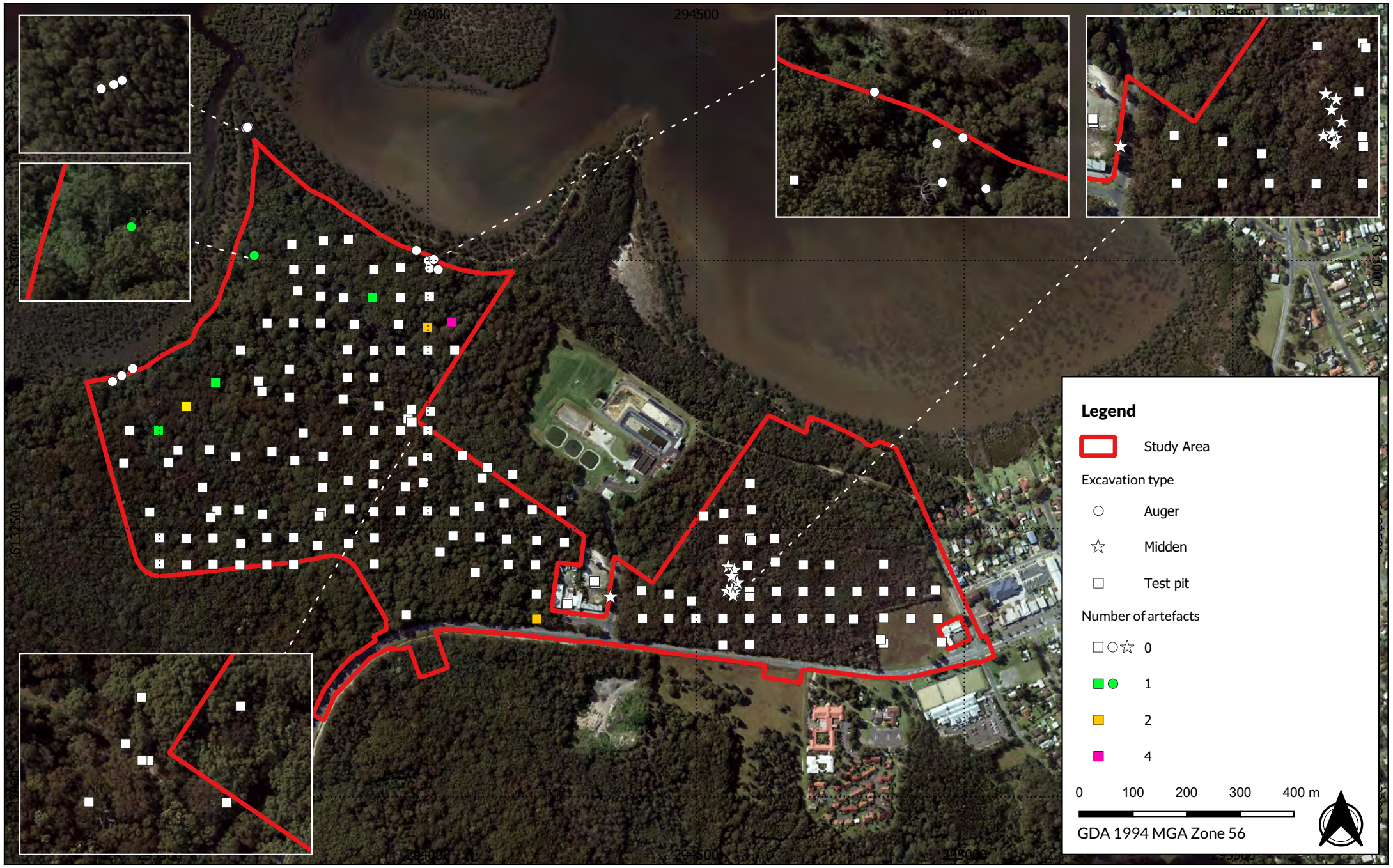

Figure 8.1 - Location of test pits and augers within the study area

22054 - 453 Culburra Road, Culburra Beach, NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-06-04

AUSTRAL ARCHAEOLOGY

9. CULTURAL HERITAGE VALUES

An assessment of significance seeks to determine and establish the importance or value that a place, site or item may have to the community at large. The concept of cultural significance is intrinsically connected to the physical fabric of the item or place, its location, setting and relationship with other items in its surrounds. The assessment of cultural significance is ideally a holistic approach that draws upon the response these factors evoke from the community.

9.1. BASIS FOR THE ASSESSMENT

The significance values provided in the Australia ICOMOS *Charter for the Conservation of Places of Cultural Significance* (the Burra Charter) are considered to be the best practice heritage management guidelines in Australia (Australia ICOMOS 2013a). The Burra Charter defines cultural significance as:

> *…aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups* (Australia ICOMOS 2013a, p. 2).

The Burra Charter significance values outlined in Table 9.1; these are frequently adopted by cultural heritage managers and government agencies as a framework for a more holistic assessment of significance.

Table 9.1 Definitions of Burra Charter significance values (Australia ICOMOS 2013b)

Value	Definition
Aesthetic	Refers to the sensory and perceptual experience of a place. That is how a person responds to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.
Historic	Refers to all aspects of history. For example, the history of aesthetics, art and architecture, science, spirituality and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence.
Scientific	Refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions.
Social	Refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them.

Value	Definition
Spiritual	Refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related places. The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm. The term spiritual value was recognised as a separate value in the Burra Charter, 1999. It is still included in the definition of social value in the Commonwealth and most state jurisdictions. Spiritual values may be interdependent on the social values and physical properties of a place.

In addition to the Burra Charter significance values, other criteria's and guidelines have been formulated by other government agencies and bodies in NSW to assess the significance of heritage places in NSW. Of particular relevance to this assessment are the guidelines prepared by the Australian Heritage Council and the Department of the Environment, Water, Heritage and the Arts (DEWHA), and Heritage NSW (NSW Heritage Office 2001, Australian Heritage Council and DEWHA 2009, DECCW 2011, OEH 2011).

The Guide (OEH 2011, p. 10) states that the following criteria from the NSW Heritage Office (2001, p. 9) should be considered:

- **Social value:** Does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?
- **Historic value:** Is the subject area important to the cultural or natural history of the local area and/or region and/or state?
- **Scientific value:** Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?
- **Aesthetic value:** Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?

OEH (2011, p. 10) states that when considering the Burra Charter criteria, a grading system must be employed. Austral will use the following grading system to assess the cultural values of the study area and its constituent features. These are outlined in Table 9.2.

Table 9.2 Gradings used to assess the cultural values of the study area.

Grading	Definition
Exceptional	The study area is considered to have rare or outstanding significance values against this criterion. The significance values are likely to be relevant at a state or national level.
High	The study area is considered to possess considerable significant values against this criterion. The significance values are likely to be very important at a local or state level.
Moderate	The study area is considered to have significance values against this criterion; these are likely to have limited heritage value but may contribute to broader significance values at a local or State level.
Little	The study area is considered to have little or no significance values against this criterion.

9.2. ASSESSMENT OF SIGNIFICANCE

The following section addresses the Burra Charter significance values with reference to the overall study area.

9.2.1. AESTHETIC SIGNIFICANCE VALUES

Aesthetic values refer to the sensory, scenic, architectural and creative aspects of the place. These values may be related to the landscape and are often closely associated with social and cultural values.

Much of the study area contains dense, and in some places impenetrable, vegetation comprised of both native and invasive floral species. This forested area is inhabited by a variety of animal species that have sought and utilised the forest for protection and habitat. As such, the aesthetic significance of the study lies not in architectural or artistic elements but rather the ambience of the study area. The anthropological assessment prepared by Donaldson (2023) shares verbiage from local Aboriginal community members who indicate the community has a strong connection to the study area and other similar locales where dense, undeveloped areas with familiar flora, fauna, sights, and sounds that help them reconnect with their ancestors and shared history.

Based on this assessment, the study area is considered to have moderate aesthetic significance values.

9.2.2. HISTORIC SIGNIFICANCE VALUES

The assessment of historic values refers to associations with particular places associated with Aboriginal history. Historic values may not be limited to physical values but may relate to intangible elements that relate to memories, stories, or experiences.

The anthropological assessment prepared by Donaldson (2023, p. 32) indicates that no permanent Aboriginal campsites were known to have been located in the study area, although:

> *…there is no doubt that the study area was transiently accessed by Aboriginal people in the pre- and early contact period… Historically the study area was also likely used for the same purpose prior to the construction of fences demarcating private property boundaries* (Dale Donaldson 2023, p. 32).

Additionally, though the study area may contain totemic animals, no specific stories or experiences identified in conjunction with the study area were identified in the anthropological assessment (Dale Donaldson 2023).

The land containing the study area was first allotted to Alexander Berry in the 1820's, along with a considerable portion of the Culburra Beach area. Berry, with his brother David Berry, cleared the land for agriculture and pastoral purposes. This land continued to be used for farming. In the mid-20th century, a waste treatment facility and formal road into the Culburra Beach settlement were constructed through this area. A small industrial estate was also constructed in this area, along with services through the land. The rest of the study area, and therefore potential evidence of Aboriginal occupation, has been left largely undisturbed (Austral 2023).

Based on this assessment, the study area is considered to have little historic significance values.

9.2.3. SCIENTIFIC SIGNIFICANCE VALUES

Scientific significance generally relates to the ability of archaeological objects or sites to answer research questions that are important to the understanding of the past lifeways of Aboriginal people. Australia ICOMOS (2013b, p. 5) suggests that to appreciate scientific value, that the following question is asked: "*Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?*". (2013b, p. 5) suggests that to appreciate scientific value, that the following question is asked:

> *Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?*

In addition to the above criteria, The Guide (OEH 2011, p. 10) also suggests that consideration is given to the Australian Heritage Council and DEWHA (2009) criteria, which are particularly useful when considering scientific potential:

- **Research potential:** does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- **Representativeness:** how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- **Rarity:** is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- **Education potential:** does the subject area contain teaching sites or sites that might have teaching potential?

An assessment of the scientific significance of the Aboriginal sites located within the study area is outlined in Table 9.3

Table 9.3 Scientific significance of newly identified Aboriginal sites identified in the study area.

Site name	AHIMS No.	Assessment of significance	Grading
WCB Artefact Scatter 1	52-5-1118	WCB Artefact Scatter 1 is of low significance. The site is comprised of six flakes identified across two test pits, and materials include silcrete and quartzite. Silcrete and quartzite are common material types, and the low density of artefacts at this site indicates wide scattering of artefacts. While the site does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Artefact Scatter 2	52-5-1117	WCB Artefact Scatter 2 is of low significance. The site is comprised of five flakes identified across four test pits, and materials include chert, silcrete and quartzite. Silcrete and quartzite are common material types, and the low density of artefacts at this site indicates wide scattering of artefacts.. As such, the site has low scientific significance.	Little

Site name	AHIMS No.	Assessment of significance	Grading
WCB Artefact Scatter 3	52-5-1116	WCB Artefact Scatter 3 is of low significance. The site is comprised of two flakes identified in one test pit, and materials include quartzite and silcrete. Silcrete and quartzite are common material types, and the low density of artefacts at this site indicates wide scattering of artefacts. While the site does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find	52-5-1068	WCB Isolated Find is of low significance. It is a red silcrete fragment identified within surface contexts in the northeast of the study area during the visual inspection survey. Silcrete is a common material type, and the presence of an isolated find at this location indicates the wide scattering of artefacts. While such a find does not possess research significance independently, it may contribute to knowledge of similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find 2	52-5-1115	WCB Isolated Find 2 is of low significance. It is a grey silcrete core, identified within an auger hole excavated to identify the horizontal extent of a surface midden. Silcrete is a common material type, and the presence of an isolated find at this location indicates wide scattering of artefacts. While the isolate does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find 3	52-5-1114	WCB Isolated Find 3 is of low significance. It is a quartzite flake identified within a test pit. Quartzite is a common material type, and the presence of an isolate at this location indicates wide scattering of artefacts. While the isolate does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Isolated Find 4	52-5-1113	WCB Isolated Find 4 is of low significance. It is a chert flake identified within a test pit. Chert is a common material type, and the presence of an isolate at this location indicates wide scattering of artefacts. While the isolate does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little

Site name	AHIMS No.	Assessment of significance	Grading
WCB Isolated Find 5	52-5-1112	WCB Isolated Find 5 is of low significance. It is an isolated find; a quartzite rose vein proximal fragment identified within a test pit. Quartzite is a common material type, and the presence of an isolate at this location indicates wide scattering of artefacts. While the isolate does not possess significance independently, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little
WCB Midden Site	52-5-1077	Midden sites typically contain a wealth of information around lifeways, resource use, and subsistence. As such, these are an invaluable resource from a research perspective. However, testing in the vicinity of the site yielded no further information or evidence of site extents; moreover, communications with the local community yielded some evidence of shell material being used as an imported road base throughout the Shoalhaven region. The scientific significance of the site is therefore considered to be an isolated lens restricted to the track. If site origin is verified, it may contribute to knowledge about similar artefacts and Aboriginal lifeways in the broader landscape, which does hold significance to the local Aboriginal community.	Little

9.2.4. SOCIAL AND SPIRITUAL SIGNIFICANCE VALUES

As social and spiritual significance are interdependent, Austral has undertaken a combined assessment of these values. The Consultation Requirements specify that the social or cultural values of a place can only be identified through consultation with Aboriginal people.

No submissions received during the Stage 4 report review discussed the significance of the identified artefact materials. However, some wider aspects of the study area were referenced as being socially or spiritually significant in Jerrinja Tribe's response (*pers. comms*, Ronald Carberry 2024).

Conclusions drawn by Donaldson (2023) in the anthropological assessment for the project indicate the study area holds value to the local Aboriginal community as a place for travel between, and collection of, natural resources. The study area is also valued as a possible habitat for totemic species and supernatural figures. However, the assessment did not identify a significant value placed on the study area in particular (Dale Donaldson 2023).

Based on this assessment, the study area is considered to have moderate social and spiritual significance values.

9.3. STATEMENT OF SIGNIFICANCE

Statements of significance for identified Aboriginal sites within the study area are presented in Table 9.4. The statements of significance have been formulated using the Burra Charter significance values and relevant NSW guidelines (DECCW 2011, OEH 2011, Australia ICOMOS 2013a).

Table 9.4 Statements of significance for Aboriginal sites in the study area.

Site name	Statement of significance
WCB Artefact Scatter 1 (AHIMS #52-5-1118)	WCB Artefact Scatter 1 (AHIMS #52-5-1118) is a low-density, subsurface artefact scatter containing silcrete, quartzite, and chert. The assemblage is reflective of transitory occupations of the study area and is likely the product of isolated knapping events. Given the low volume of materials identified and the common nature of those materials therein, WCB Artefact Scatter 1 (AHIMS #52-5-118) has been assessed as possessing **little** archaeological significance.
WCB Artefact Scatter 2 (AHIMS #52-5-1117)	WCB Artefact Scatter 2 (AHIMS #52-5-1117) is a low-density scatter of flakes and debitage containing silcrete, quartzite, and chert. Quartzite artefacts are known to occur in assemblages in the area, albeit rarely. Given the low volume of materials identified and the common nature of those materials therein, WCB Artefact Scatter 2 (AHIMS #52-5-117) has been assessed as possessing **little** archaeological significance.
WCB Artefact Scatter 3 (AHIMS #52-5-1116)	WCB Artefact Scatter 3 (AHIMS #52-5-1116) is a low-density scatter comprised of a silcrete complete flake and a quartzite complete flake. This site was identified in subsurface contexts on the ridgeline overlooking tidal flats associated with Curleys Bay. Generally, the artefact materials and types associated with this site are typical for the region. Given the low volume of materials found, the site has been assessed as possessing **little** archaeological significance.
WCB Isolated Find (AHIMS #52-5-1068)	WCB Isolated Find (AHIMS #52-5-1068) is a red silcrete fragment identified in the surface contexts of the study area. There was no indication that this site extended into subsurface contexts. As a common artefact and raw material type, and given the lack of identified materials in proximity to WCB Isolated Find (AHIMS #52-5-1068), the site has been assessed as possessing **little** archaeological significance.
WCB Isolated Find 2 (AHIMS #52-5-1115)	WCB Isolated Find 2 (AHIMS #52-5-1115) is a grey silcrete core identified in subsurface contexts during the exploratory augering of the study area. As testing in this zone was limited and the site is noted to be in proximity to WCB Isolated Find (AHIMS #52-5-0180), WCB Isolated Find 2 (AHIMS #52-5-1115) is considered to have **indeterminate** significance. It is noted that this artefact was recovered from a single auger location, outside the current proposed area of impact. If future plans are made to develop the Crown Land areas, further investigations in the form of test excavations should be undertaken prior to any development that may impact the site.
WCB Isolated Find 3 (AHIMS #52-5-1114)	WCB Isolated Find 3 (AHIMS #52-5-1114) is a grey quartzite flake. The site is a typical artefact type evidencing secondary reduction knapping; moreover, quartzite is known to be a component of similar assemblages in the area. Given these factors, WCB Isolated Find 3 (AHIMS #52-5-1114) is considered to have **little** archaeological significance.

Site name	Statement of significance
WCB Isolated Find 4 (AHIMS #52-5-1113)	WCB Isolated Find 4 (AHIMS #52-5-1113) is a cream-coloured chert flake. This is a common artefact material for the region, and a common artefact type in local assemblages. The site is therefore considered to possess **little** archaeological significance.
WCB Isolated Find 5 (AHIMS #52-5-1112)	WCB Isolated Find 5 (AHIMS #52-5-1112) is a white and rose vein quartz proximal fragment. This is a common artefact material for the region, and a common artefact type in local assemblages. The site is therefore considered to possess **little** archaeological significance.
WCB Midden Site (AHIMS #52-5-1077)	The archaeological testing of the study area did not locate any shell materials associated with WCB Midden Site (AHIMS #52-5-1077). As the site is confined to a vehicle track and the origin of the shell could not be verified, WCB Midden Site (AHIMS (52-5-1077) has **indeterminate** significance.

Heritage NSW specifies the importance of considering cultural landscapes when determining and assessing Aboriginal cultural values. The principle behind this is that "*For Aboriginal people, the significance of individual features is derived from their inter-relatedness within the cultural landscape. This means features cannot be assessed in isolation and any assessment must consider the feature and its associations in a holistic manner"* (DECCW 2010c).

While the study area and surrounds have been identified as being culturally significant to the local Aboriginal community, the archaeological sites identified therein generally represent a diffuse scattering of lithic flakes throughout small portions of the study area.

To assess the preliminary cultural values of the study area, Sealark Pty Ltd engaged Anthropologist Susan Dale Donaldson to conduct a cultural values assessment based on interviews with the Aboriginal community to assess the intangible cultural values of the study area. The assessment is included as Volume 4 of this report.

10. IMPACT ASSESSMENT

This section outlines, according to Heritage NSW guidelines, the potential harm that the proposed activity may have on identified Aboriginal objects and places within the study area (DECCW 2011, OEH 2011).

10.1. LAND USE HISTORY

The study area is found within an area under constant artificial change. The broader landscape was cleared for agricultural and pastoral purposes in the early 1800s, and these practices continued until much of the area was included as part of the Jervis Bay National Park. In the mid-20th century, a waste treatment facility and formal road into the Culburra Beach settlement were constructed through this area. A small industrial estate was also constructed adjacent to the study area during this time, though the study area has largely remained undisturbed.

While large-scale land clearance in the 1800s would have harmed Aboriginal archaeological sites, the study area was not subject to such work, and sites therein would have not been subject to the disturbance. Additionally, while construction of the waste treatment facility, industrial estate, and associated access roads would have caused disruption to potential Aboriginal archaeological sites, these items are outside the formal study area. It should also be noted that both tidal and historical changes in water levels and water impacts upon the landscape have also likely had effects on the presence, context, and preservation of Aboriginal archaeological sites within the study area, especially near Curley's Bay and associated mangrove swamps.

A summary of the past land use within the study area is provided in past land uses is provided in Table 10.1.

Table 10.1 Summary of past land use within the study area.

Past land uses	Potential impacts on archaeological resources
Agriculture and pastoral grazing	Areas that have been subject to agricultural and pastoral activities may have resulted in the displacement of Aboriginal cultural materials, however, this is highly unlikely to have completely harmed sited that are present.
Waste treatment facility and other construction	Previous building may be associated with some excavation and disturbances at the locations of these buildings. While cultural values within these impact footprints may be damaged, this in unlikely to extend to identified cultural values within the study area.

10.2. PROPOSED ACTIVITY

The proposed activity at this stage consists of development of the study area to include a combination of residential, commercial, and industrial areas as well as services and infrastructure in the development area. Construction of these items will include vegetation clearance, ground leveling, large-scale excavation, and installation of structures and amenities. It is also understood that this will involve underboring of existing vegetation to extend main lines of water and power, including associated excavation and trenching works and the subsequent installation of a service manhole at Regmoore Close and within the south-east of the study area.

Figure 10.1 and Figure 10.2 outline the proposed works in relation to identified AHIMS sites and archaeological potential within the study area.

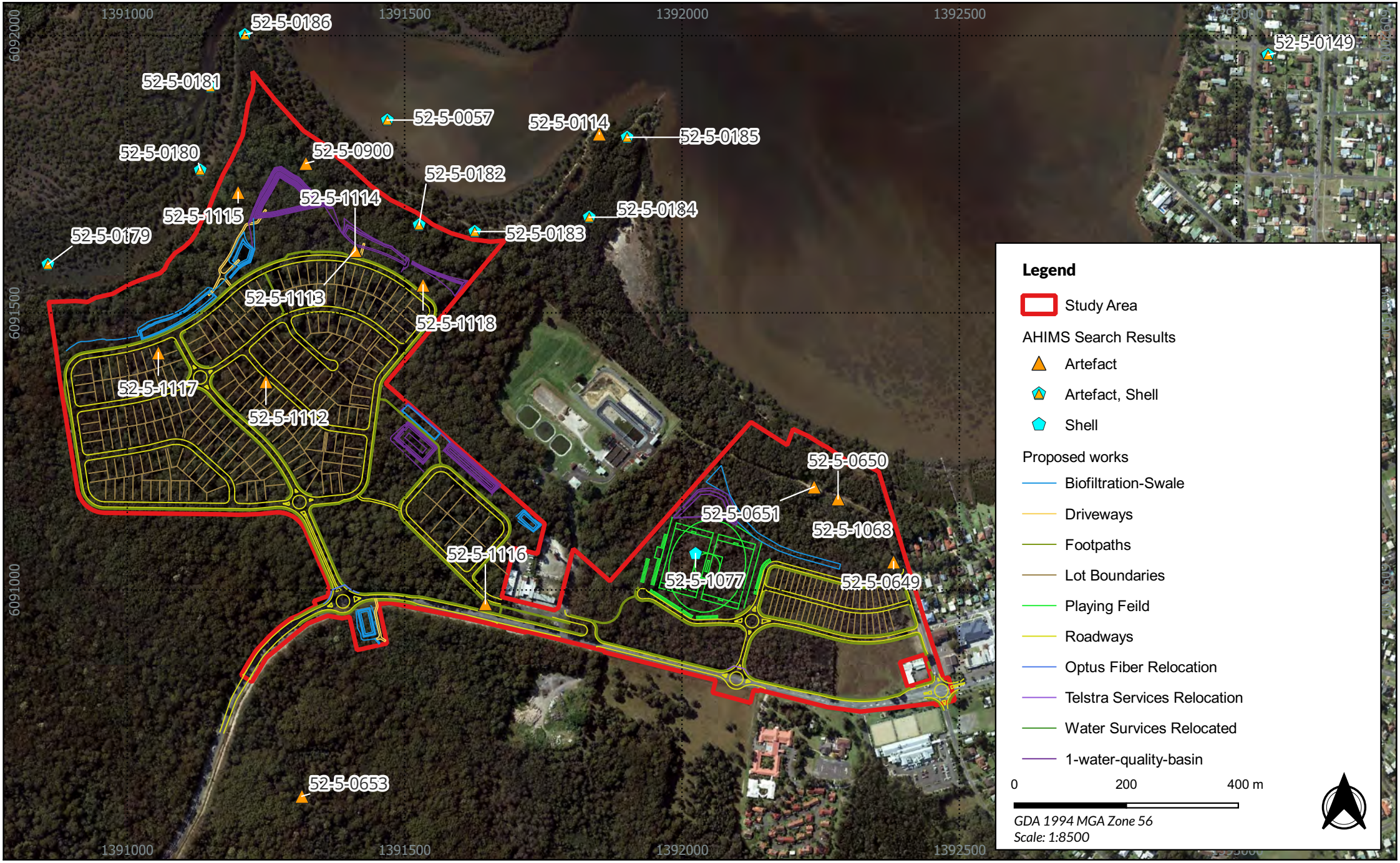

Figure 10.1 - Proposed works in relation to AHIMS sites

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-06-07

AUSTRAL ARCHAEOLOGY

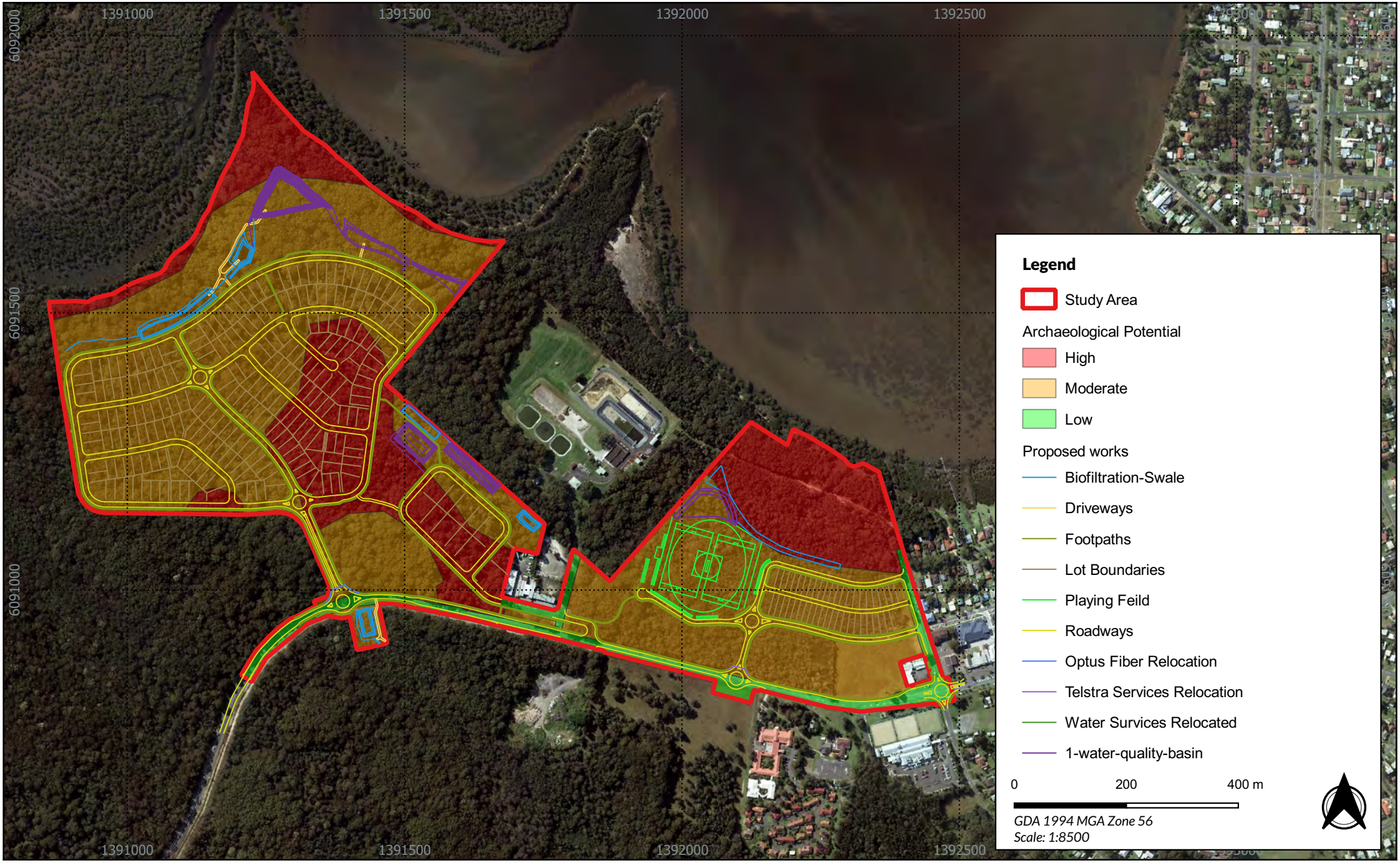

Figure 10.2 - Proposed works in relation to archaeological potential

22054 - Culburra Road, Culburra Beach NSW - ACHA

Source: NSW LPI Aerial

Drawn by: ARH Date: 2024-06-07

AUSTRAL ARCHAEOLOGY

10.3. ASSESSING HARM

This section outlines the assessment process for addressing potential harm to Aboriginal objects and/or places within the study area, as outlined by Heritage NSW (OEH 2011, p. 12).

10.3.1. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

An objective of the NPW Act, under Section 2A(1)(b)(i) is to conserve "*places, objects and features of significance to Aboriginal people*" through applying the principles of ecologically sustainable development (ESD) (Section 2A(2)). ESD is defined in Section 6(2) of the *Protection of the Environment Administration Act 1991* (NSW) as "*…the effective integration of social, economic and environmental considerations in decision-making processes".* ESD can be achieved with regards to Aboriginal cultural heritage, by applying principle of inter-generational equity, and the precautionary principle to the nature of the proposed activity, with the aim of achieving beneficial outcomes for both the development, and Aboriginal cultural heritage.

INTERGENERATIONAL EQUITY

The principle of intergenerational equity is that the present generation has a responsibility to ensure the health, diversity and productivity of the environment for the benefit of future generations. The Department of Environment and Climate Change (DECC), now Heritage NSW, states that in terms of Aboriginal cultural heritage "*intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.*" (DECC 2009, p. 26).

The assessment of intergenerational equity and understanding of cumulative impacts should consider information about the integrity, rarity or representativeness of the Aboriginal objects and/or places that may be harmed and how they illustrate the occupation and use of the land by Aboriginal people across the locality (DECC 2009, p. 26).

Where there is uncertainty over whether the principle of intergenerational equity can be followed, the precautionary principle should be applied.

PRECAUTIONARY PRINCIPLE

Heritage NSW defines the Precautionary Principle as "*if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation*" (DECC 2009, p. 26).

The application of the precautionary principle should be guided through:

- A careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment.
- An assessment of the risk—weighted consequences of various options.

DECC (2009, p. 26) states that the precautionary principle is relevant to the consideration of potential impacts to Aboriginal cultural heritage, where:

- The proposal involves a risk of serious or irreversible damage to Aboriginal objects and/or places or to the value of those objects and/or places.
- There is uncertainty about the Aboriginal cultural heritage values, scientific, or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted.

Where either of the above is likely, a precautionary approach should be taken, and all effective measures implemented to prevent or reduce harm to Aboriginal cultural heritage values.

10.3.2. TYPES OF HARM

When considering the nature of harm to Aboriginal objects and/or places, it is necessary to quantify direct and indirect harm. The types of harm, as defined in the Guide (OEH 2011, p. 12), and are summarised in Table 10.2. These definitions will be used to quantify the nature of harm to identified Aboriginal objects and/or places that have been identified as part of this assessment. The Code states that the degree of harm can be either total or partial (DECCW 2010d, p. 21).

Table 10.2 Definition of types of harm.

Type of harm	Definition
Direct harm	May occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, installation of services and infrastructure, roadworks, excavating detention ponds and other drainage or flood mitigation measures, and changes in water flows affecting the value of a cultural site.
Indirect harm	May affect sites or features located immediately beyond, or within, the area of the proposed activity. Examples of indirect impacts include, but are not limited to, increased impact on art in a shelter site from increased visitation, destruction from increased erosion and changes in access to wild food resources.

11. IMPACT ASSESSMENT

This ACHA has included a programme of investigations that have characterised the nature, extent and significance of Aboriginal sites within the study area.

The proposed works will impact on the following sites located within the study area:

- WCB Artefact Scatter 1 (AHIMS #52-5-1118)
- WCB Artefact Scatter 2 (AHIMS #52-5-1117)
- WCB Artefact Scatter 3 (AHIMS #52-5-1116)
- WCB Isolated Find 3 (AHIMS #52-5-1114)
- WCB Isolated Find 4 (AHIMS #52-5-1113)
- WCB Isolated Find 5 (AHIMS #52-5-1112)
- WCB Midden Site (AHIMS #52-5-1077).

The impacts to these site sites are likely to be associated with bulk earthworks to prepare the site, as well as direct impacts associated with construction of structures and installation of utilities to service the development. It is noted that several of the sites identified are within the environmental conservation zones.

An evaluation of harm to the Aboriginal sites identified as part of the ACHA is summarised in Table 11.1. Details of the proposed activity and their relationship to identified Aboriginal sites are outlined in Figure 10.1.

Table 11.1 Assessment of harm to identified Aboriginal sites.

Site name / AHIMS No.	Type of harm	Degree of harm	Consequence of harm
Culburra 13 (AHIMS #52-5-0182)	None	None	No loss of value
Halloran Isolated Find 03 (AHIMS #52-5-0900)	None	None	No loss of value
WCB Artefact Scatter 1 (AHIMS #52-5-1118)	Direct	Total	Total loss of value
WCB Artefact Scatter 2 (AHIMS #52-5-1117)	Direct	Total	Total loss of value
WCB Artefact Scatter 3 (AHIMS #52-5-1116)	Direct	Total	Total loss of value
WCB Isolated Find 1 (AHIMS #52-5-1068)	None	None	No loss of value
WCB Isolated Find 2 (AHIMS #52-5-1115)	None	None	No loss of value
WCB Isolated Find 3 (AHIMS #52-5-1114)	Direct	Total	Total loss of value
WCB Isolated Find 4 (AHIMS #52-5-1113)	Direct	Total	Total loss of value

12. AVOIDING AND MINIMISING HARM

The Burra Charter, advocates a cautious approach to change: "*do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained*" (Australia ICOMOS 2013a, p. 1). Based on this principle, this section identifies the measures that have been taken to avoid harm and what conservation outcomes have been achieved through the preparation of this ACHA.

12.1. DEVELOPMENT OF PRACTICAL MEASURES TO AVOID HARM

The study area is within an area of pastoral grazing and dense vegetation, with development confined to the waste treatment facility. As such, most impacts to the area have been caused by human development, with previous agricultural processes having limited effects on the Aboriginal cultural material that was likely to be present in the area.

It is not only development itself that is likely to affect sensitive cultural sites in the area. Recreational activities in the area can lead to the unintentional disturbance of Aboriginal cultural heritage sites. The proposed works will involve excavation and the installation of residential areas and amenities. This will result in harm to cultural material within the study area, including potential midden material.

The subsurface testing program has resulted in the collection of a representative sample of material associated with the sites, and the broader study area. This ACHA report includes a data catalogue of the material that would be produced from the analysis of this material, and therefore available for future reference and use. The data produced by the analysis of midden material is important for contributing to understanding the past Aboriginal resource and land use practices in the local region and provides support for predictive modelling.

12.2. PRINCIPLES OF ESD AND CUMULATIVE IMPACTS

The Guide to Reporting requires this ACHA to consider the effects of cumulative impacts under the principles of ESD. In essence, this requires the acknowledgement that while a single development might have a minimal impact, it forms part of a slow urbanisation process which results in the widespread loss of environmental and cultural resources.

The Shoalhaven is a region subject to progressive urbanisation and industrialisation, and this will place pressure on the archaeological resources within the region. To assess whether the proposed impacts from the project will have a broader impact on the cultural resources of the region, Austral has undertaken an analysis of AHIMS sites associated with a current or previous AHIP based on the results of the supplementary 8-kilometre extensive AHIMS search completed for this project.

The results demonstrate the 98.2% of sites within the designated search area have not been subject to an AHIP. Within the subsets of site types, 5% of the artefact sites in the designated search area have one or more AHIP listed against them. No AHIPs have been listed against other site types present within the designated search radius, indicating most site types, excluding artefact sites, have not been subject to cumulative impacts from successive approvals. However, this analysis does appear to indicate that locally, a higher proportion of AHIMS sites, specifically artefact and artefact, shell sites (83%) are being conserved rather than destroyed. Moreover, as most sites identified are within crown land or environmental conservation areas, these are unlikely to be impacted by the ongoing development of the Culburra surrounds. This data can be viewed in Table 12.1.

Table 12.1 Analysis of AHIMS sites with AHIPs issued.

Site types	No. Sites	No. sites with AHIPs	% Sites with AHIPS
Artefact	40	2	5
Artefact, Shell	41	0	0
Shell	6	0	0
Water hole	5	0	0
Burial	2	0	0
Total	**94**	**2**	

AHIMS sites were additionally analysed in relation to their current or future zoned use. The purpose behind this analysis is to determine the volume of AHIMS sites that are located within zonings that have or are likely to be subject to progressive development. This assumes that sites that are located within land zoned for residential (R1 - R5), business (B1 – B5) and industrial (IN1 – IN4) purposes are more likely to have been harmed or may be under threat of harm. Conversely, sites that are zoned for environmental conservation (C1 – C5), recreational (RE1 – RE2) and rural (RU1 – RU6) purposes are more likely to be subject to conservation. This analysis is presented in Table 12.2.

It should be noted that 35.7% of local AHIMS sites are listed under deferred matter. This is land that will continue to be controlled and guided by the relevant LEP and DCP that applied to the land prior to the implementation of the current plans or, land that is yet to be zoned. Deferred sites generally include land zoned conservation or land that requires mapping changes or further review. For the purpose of the current analysis, sites that fall within this category have been removed.

Table 12.2 Analysis of AHIMS sites in relation to land zonings.

Land Zone Classification	No. Sites by Zone	Frequency (%)
Natural Waterways	13	18.1
Environmental Conservation	11	15.2
Private Recreation	9	12.5
Primary Production	8	11.1
Rural Landscape	7	9.7
Infrastructure	6	8.3
Forestry	5	6.9
National Parks and Nature Reserves	4	5.6
Public Recreation	3	4.2
Environmental Management	2	2.8
Low Density Residential	2	2.8
Medium Density Residential	1	1.4
Special Activities	1	1.4
Total	72	100

12.3. STRATEGIES TO MINIMISE HARM

By undertaking this ACHA and completing archaeological test excavations, Austral has been able to confirm that the presence of tangible Aboriginal heritage within the study area is low. However, the study area is culturally significant by virtue of its association with the surrounding cultural landscape (Dale Donaldson 2023) [Appendix A].

It has been concluded that the proposed development will have a low cumulative impact on archaeological material due to low artefact densities identified within the site. To further minimise harm on known and unknown sites within the study area, Austral will be recommending an unexpected finds protocol that must be implemented if any Aboriginal heritage is encountered during the course of the proposed works.

ANTHROPOLOGICAL REPORT

A series of recommendations taken from consultation with the local Aboriginal community are provided within the anthropological report prepared by Susan Dale Donaldson (2023). These have been incorporated into the overall project recommendations, and are outlined in Section 13 below.

RECOMMENDATIONS FOR THE MANAGEMENT PLAN

During a project information meeting held on the 19 February 2023 at the project site, registered stakeholders were invited to share feedback and recommendations for the proposed methodology and future Cultural Heritage Management Plan.

- It was requested that runoff and sediment control of sites be considered going forward. To assist with this the implementation of maintenance tracks to sites was recommended, with members of the Aboriginal community allowed access to these sites for monitoring and preservation purposes. These could also be utilised for educational purposes.
- It was suggested that the future management plan specified the installation of tracks, who has access and how the sites will be maintained. Interpretative signage and potentially incorporating local place/flora/fauna names into street signs was also suggested.
- It was requested that the client considers co-management of crown land between both the council and the Aboriginal community.
- It was recommended that a nature walk should be created away from the sites, to act as a deterrent to those moving into the residential areas who might otherwise explore in unmarked areas of significance.

13. RECOMMENDATIONS

The following recommendations are derived from the findings described in this ACHA. The recommendations have been developed after considering the archaeological context, environmental information, consultation with the local Aboriginal community, the findings of the test excavations, and the predicted impact of the planning proposal on archaeological resources.

It is recommended that:

A1. Before any works can occur, the Proponent is to apply to Heritage NSW for an Aboriginal Heritage Impact Permit (AHIP) to destroy the following sites.

- WCB Artefact Scatter 1 (AHIMS #52-5-1118);
- WCB Artefact Scatter 2 (AHIMS #52-5-1117);
- WCB Artefact Scatter 3 (AHIMS #52-5-1116);
- WCB Isolated Find 3 (AHIMS #52-5-1114);
- WCB Isolated Find 4 (AHIMS #52-5-1113);
- WCB Isolated Find 5 (AHIMS #52-5-1112); and
- WCB Midden Site (AHIMS #52-5-1077).

These sites are protected under the Section 90 of the *NSW National Parks and Wildlife Act 1974*. It is recommended that the following mitigation measures are implemented as part of the AHIP:

a. The 17 Aboriginal objects collected during the archaeological testing program (under the approved AHIP) will be reburied onsite at a nominated location chosen from consultation with the local Aboriginal community.

A2. If unexpected finds occur during any activity within the study area, all works in the vicinity must cease immediately. The find must be left in place and protected from any further harm. Depending on the nature of the find, the following processes must be followed:

a. If, while undertaking an activity, an Aboriginal object is identified, it is a legal requirement under Section 89A of the *NSW National Parks and Wildlife Act 1974* to notify Heritage NSW as soon as possible. Further investigations and an AHIP may be required prior to certain activities recommencing.

b. If human skeletal remains are encountered all work must cease immediately and NSW Police must be contacted; they will then notify the Coroner's Office. Following this, if the remains are believed to be of Aboriginal origin then the registered Aboriginal stakeholders and Heritage NSW must be notified.

A3. It is recommended that Sealark Pty Ltd continues to inform the Aboriginal stakeholders about the management of Aboriginal cultural heritage within the study area throughout the completion of the project. The consultation outlined as part of this ACHA is valid for a period of 6 months and must be maintained after this by the proponent for it to remain continuous. If a gap of more than 6 months occurs, then the consultation will not be suitable to support an AHIP for the project.

A4. A copy of this report should be forwarded to all Aboriginal stakeholder groups who have registered an interest in the project.

Within the anthropological report prepared by Susan Dale Donaldson (Dale Donaldson 2023) [Volume 4 Appendix], the following management actions have also been recommended by the local Aboriginal community:

B1. Develop a regional cultural heritage management strategy (including a cultural landscape map) to enable better decision making aimed at safeguarding Aboriginal values and practices across the cultural landscape;

B2. Favour impact to land that is already disturbed;

B3. Continue to foster good relationships with the local Aboriginal community;

B4. Ensure development plans protect nearby waters and minimise public access to the foreshore;

B5. Consider ways to ensure Aboriginal people can access foreshore middens to enable site monitoring and cultural teaching;

B6. Involve Aboriginal people in the development of the Management Plan for Crown Land (in the foreshore buffer zone);

B7. Support Aboriginal people to revisit middens across the local area, recorded by AIATSIS in 1979, to check their condition;

B8. Develop and install cultural interpretive signage in public spaces within the development footprint to foster respect between residents and local Aboriginal people;

B9. Ensure built infrastructure (streets/ footpaths/ parks/ pathways/ seats, etc.) are allocated names reflecting local Aboriginal cultural concepts;

B10. Employ the local Aboriginal community members with experience in land management to assist in the management of Sealark properties across the region (including at Culburra West and any Biodiversity Stewardship Sites);

B11. As part of the Cultural Heritage Management Plan, understand and follow local Aboriginal cultural protocols in relation to any unexpected finds (the community wish to discuss options and return items/ remains as close as possible to where they were found);

B12. Enable local Aboriginal community members to collect and propagate seeds as part of a broader long-term environmental program to rehabilitate cleared blocks with local flora species of cultural relevance; and,

B13. Consider rezoning the bushland to the west of the study area as a reserve for public enjoyment and use (which would also enable Aboriginal people to undertake cultural practises).

In addition to these, further recommendations have been devised based on the outcomes of the Stage 4 consultation stakeholder review.

C1. A reasonable attempt must be made to engage members of the Aboriginal Community for a smoking ceremony prior to the start of vegetation clearance activities in any area associated with the West Culburra Concept approval.

    a. All associated activities must be undertaken in compliance with local ordinance.

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South East Archaeology Pty Ltd 2012 Proposed Mixed Use Subdivision at West Culburra, Shoalhaven City, South Coast of New South Wales: Aboriginal Cultural Heritage Assessment. A report to Realty Realizations Pty Limited.

Speight, J.G. 2009 *Landform in Australian Soil and Land Survey Field Handbook*. Collingwood, National Committee on Soil and Terrain, CSIRO.

Stepinski, T. and J. Jasiewicz 2011 Geomorphons - a new approach to classification of landform. pp.109–112. *Proceedings of Geomorphometry 2011*. Redlands.

Tindale, N. 1974 *Aboriginal Tribes of Australia*. Canberra, Australian National University.

APPENDICES

APPENDIX A: AHIMS DATA

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 22054

Client Service ID : 689664

Austral Archaeology Pty Ltd - Liverpool

Suite 1 159-165 Northumberland Street
Liverpool New South Wales 2170

Attention: Kayley Elliott

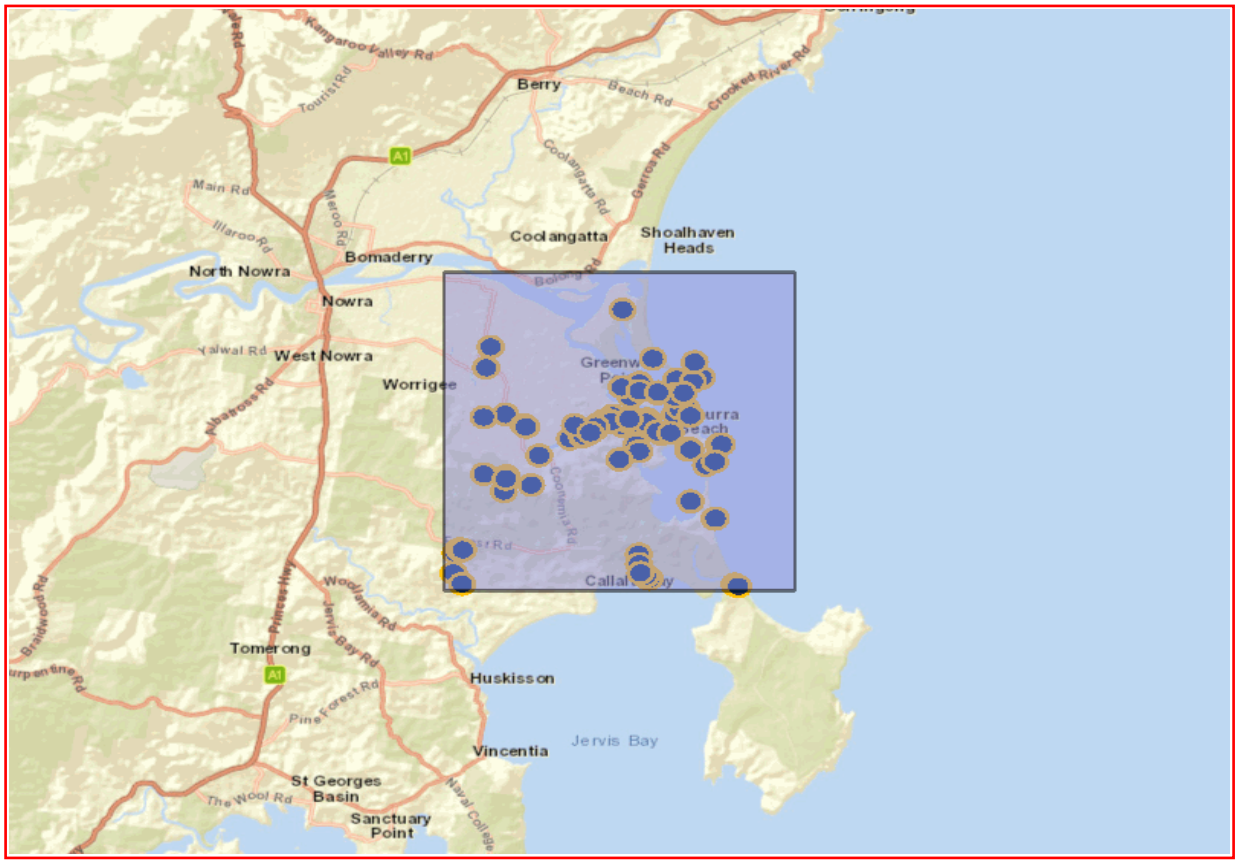
Email: kayleye@australarch.com.au

Date: 08 June 2022

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 286178.0 - 300255.0, Northings : 6125087.0 - 6140072.0 with a Buffer of 0 meters, conducted by Kayley Elliott on 08 June 2022.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

113	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 22054

Client Service ID : 786053

Austral Archaeology

148 Tongarra Road
Albion Park New South Wales 2527

Attention: Peta Rice

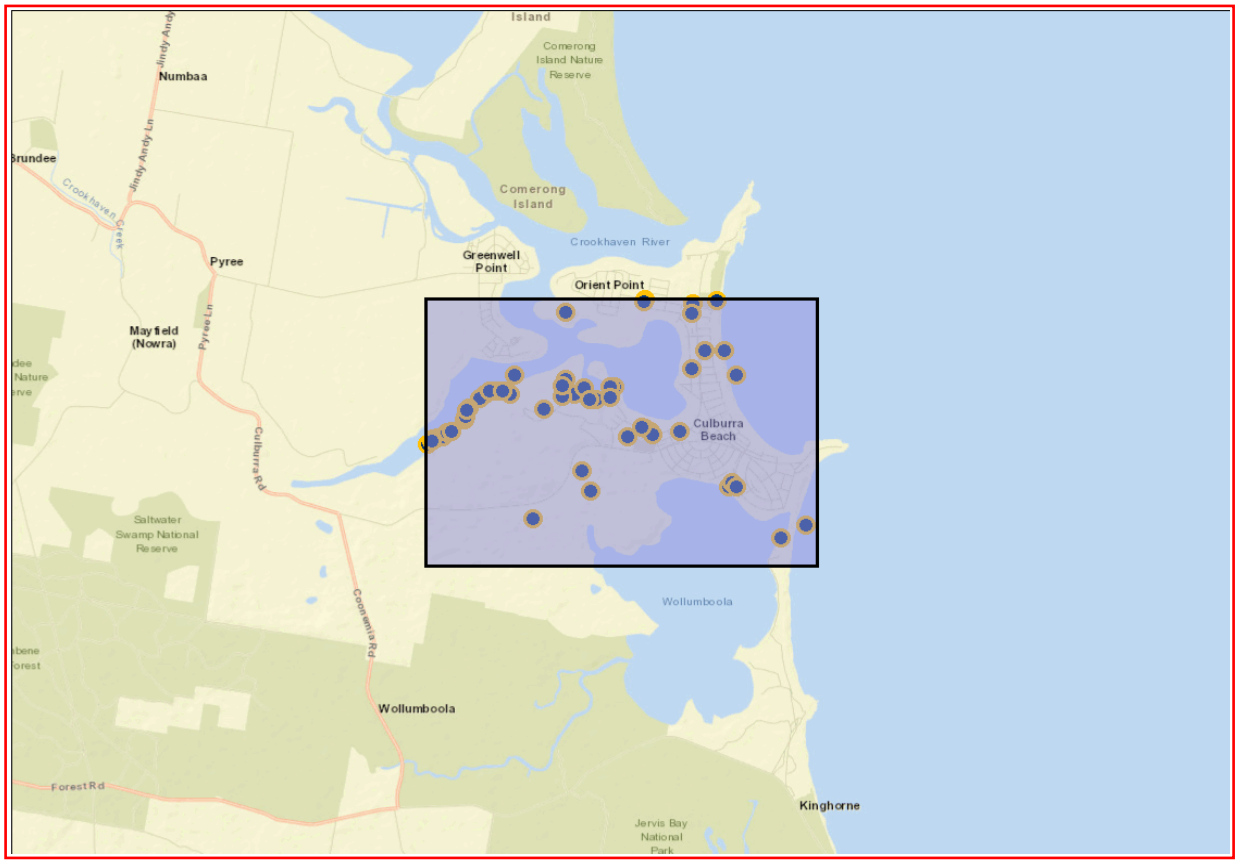
Email: petar@australarch.com.au

Date: 29 May 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807, conducted by Peta Rice on 29 May 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

59	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
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Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 22054

Client Service ID : 786056

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0186	Culburra 12;Greenwell Point;	AGD	56	293550	6133100	Open site	Valid	Shell : -, Artefact : -	Midden	647,102810
	Contact	**Recorders**	Phil Hughes					**Permits**		
52-5-0185	Culburra 16;Greenwell Point;	AGD	56	294250	6133000	Open site	Valid	Shell : -, Artefact : -	Midden	647,102810
	Contact	**Recorders**	ASRSYS					**Permits**	5076	
52-5-0897	Halloran Artefact Scatter 03	GDA	56	291767	6132368	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0114	Shelly Point Campsite	AGD	56	294200	6133000	Open site	Valid	Artefact : -	Open Camp Site	102810
	Contact	**Recorders**	Jack Campbell					**Permits**		
52-5-0900	Halloran Isolated Find 03	GDA	56	293790	6133075	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**	5076	
52-5-0899	Halloran Artefact Scatter 02	GDA	56	291818	6132390	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0890	Halloran Isolated Find 01	GDA	56	291894	6132402	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0968	Culburra Beach Midden 1	GDA	56	296042	6131765	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	Mr.William (austra arch) Andrews,Austral Archaeology					**Permits**	4633	
52-5-0127	Orient Point;Pelican Rocks;	AGD	56	293524	6134071	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-1068	WCB Isolated Find	GDA	56	294893	6132550	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Miss.Taylor (austral arch) Foster					**Permits**		
52-5-0149	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	295369	6133284	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0895	Halloran Midden Complex 01	GDA	56	291968	6132473	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0562	Culburra SU2/L1	GDA	56	296083	6131822	Open site	Partially Destroyed	Artefact : 44		101848,101985,102087,104259
	Contact	**Recorders**	Doctor.Julie Dibden,NSW Archaeology Pty Ltd					**Permits**	3333,4633	
52-5-0894	Halloran Midden 03	GDA	56	292211	6132663	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0053	Greenwell Point;	AGD	56	292811	6133142	Open site	Valid	Artefact : -	Open Camp Site	102562
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0057	Curleys Bay;	AGD	56	293821	6132979	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0183	Culburra 14;Greenwell Point;	AGD	56	294000	6132800	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes					**Permits**		
52-5-0650	West Culburra 4/A	GDA	56	294806	6132594	Open site	Valid	Artefact : 3		102810

Report generated by AHIMS Web Service on 29/05/2023 for Peta Rice for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807. Number of Aboriginal sites and Aboriginal objects found is 59

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 22054

Client Service ID : 786056

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0061	Greenwell Point;Culbuna Beach;	AGD	56	295821	6133568	Open site	Valid	Artefact : -	Open Camp Site	102562
	Contact	**Recorders**	R.L Black					**Permits**		
52-5-0621	Culburra SU3/L1-a	GDA	56	296147	6131770	Open site	Valid	Artefact : 1		102562,104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	4633	
52-5-0171	Culburra 1;Greenwell Point;	GDA	56	292504	6133040	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0893	Halloran Midden 02	GDA	56	292222	6132711	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0067	Lake Wollomboola;Wheelers Point;	AGD	56	296699	6130841	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	Connolly					**Permits**		
52-5-0173	Culburra 3;Greenwell point;	GDA	56	292604	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0174	Culburra 4;Greenwell Point;	GDA	56	292654	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0179	Culburra 9;Greenwell Point;	AGD	56	293250	6132650	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0180	Culburra 10;Greenwell Point;	AGD	56	293500	6132850	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**	5076	
52-5-0156	Crookhaven Lighthouse;Orient Point;	AGD	56	294660	6134290	Open site	Valid	Water Hole : -	Water Hole/Well	702,102562
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		
52-5-0109	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			486,2048,102562
	Contact	**Recorders**	Harry Creamer					**Permits**		
52-5-0898	Halloran Artefact Scatter 01	GDA	56	291681	6132292	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0891	Halloran Isolated Find 02	GDA	56	291746	6132339	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0060	Greenwell Point;Crookhaven Beach;	AGD	56	295547	6133562	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0620	Culburra SU2/L1-a	GDA	56	296083	6131822	Open site	Valid	Artefact : 44		104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	4633	
52-5-0184	Culburra 15;Greenwell Point;	AGD	56	294200	6132850	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS					**Permits**		

Report generated by AHIMS Web Service on 29/05/2023 for Peta Rice for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807. Number of Aboriginal sites and Aboriginal objects found is 59

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 22054

Client Service ID : 786056

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0182	Culburra 13;Greenwell point;	GDA	56	294004	6132990	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**	5076	
52-5-0176	Culburra 6;Greenwell Point;	GDA	56	292804	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-4-0686	Halloran Midden Complex 03	GDA	56	292417	6132969	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0172	Culburra 2;Greenwell Point;	GDA	56	292554	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0177	Culburra 7;Greenwell Point;	GDA	56	292854	6133040	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0653	West Culburra 23/B	GDA	56	293919	6131951	Open site	Valid	Artefact : 1		102562
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0157	Orient Point;Crookhaven Point;Crookhaven;	AGD	56	294650	6134260	Open site	Valid	Shell : -, Artefact : -	Midden	702
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		
52-5-0108	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial	486,2048,102562
	Contact	**Recorders**	Ray Kelly					**Permits**		
52-5-0148	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	296011	6133206	Open site	Valid	Shell : -, Artefact : -	Midden	102562
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		
52-5-0652	West Culburra 23/A	GDA	56	294046	6131652	Open site	Valid	Artefact : 2		102562
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0175	Culburra 5;Greenwell Point;	GDA	56	292754	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0896	Halloran Midden Complex 04	GDA	56	292268	6132837	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0068	Lake Wollombulla	AGD	56	297061	6131032	Open site	Valid	Burial : -, Shell : -, Artefact : -	Burial/s,Midden	531
	Contact	**Recorders**	P Wooley					**Permits**		
52-5-1077	WCB Midden Site	GDA	56	294565	6132466	Open site	Valid	Shell : -		
	Contact	**Recorders**	Austral Archaeology,Miss.Taylor (austral arch) Foster					**Permits**	5076	
52-5-0106	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial	486,2048,102562
	Contact	**Recorders**	Ray Kelly					**Permits**		
52-5-0107	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -, Artefact : -	Bora/Ceremonial,Open Camp Site	486,2048
	Contact	**Recorders**	ASRSYS					**Permits**		

Report generated by AHIMS Web Service on 29/05/2023 for Peta Rice for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807. Number of Aboriginal sites and Aboriginal objects found is 59

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 22054

Client Service ID : 786056

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0563	Culburra SU3/L1	GDA	56	296147	6131770	Open site	Partially Destroyed	Artefact : 1		101848,101985,104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	3266,3267,3333,4633	
52-5-0649	West Culburra 3/A	GDA	56	294918	6132494	Open site	Valid	Artefact : 1		102810
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0892	Halloran Midden 01	GDA	56	292234	6132797	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0178	Culburra 8;Greenwell Point;	AGD	56	293128	6131044	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0181	Culburra 11;Greenwell Point;	AGD	56	293500	6133000	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**	5076	
52-5-0651	West Culburra 4/B	GDA	56	294761	6132610	Open site	Valid	Artefact : 4		102810
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology,RPS AAP Consulting Pty Ltd - York Street S					**Permits**		
52-5-0150	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	295205	6132366	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0202	Site A;Crookburen;	AGD	56	295700	6134300	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	Robert Paton					**Permits**		
52-5-0901	Halloran Midden Complex 02	GDA	56	292018	6132490	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 29/05/2023 for Peta Rice for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807. Number of Aboriginal sites and Aboriginal objects found is 59

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 22054

Client Service ID : 896150

Austral Archaeology

148 Tongarra Road

Albion Park New South Wales 2527

Attention: Jake Allen

Email: jakea@australarch.com.au

Date: 28 May 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.9465, 150.7189 - Lat, Long To : -34.9113, 150.7807, conducted by Jake Allen on 28 May 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

66	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
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- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

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Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 22054

Client Service ID : 896151

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0171	Culburra 1;Greenwell Point;	GDA	56	292504	6133040	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0172	Culburra 2;Greenwell Point;	GDA	56	292554	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0173	Culburra 3;Greenwell point;	GDA	56	292604	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0174	Culburra 4;Greenwell Point;	GDA	56	292654	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0175	Culburra 5;Greenwell Point;	GDA	56	292754	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0176	Culburra 6;Greenwell Point;	GDA	56	292804	6133090	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0177	Culburra 7;Greenwell Point;	GDA	56	292854	6133040	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0178	Culburra 8;Greenwell Point;	AGD	56	293128	6131044	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0179	Culburra 9;Greenwell Point;	AGD	56	293250	6132650	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0180	Culburra 10;Greenwell Point;	AGD	56	293500	6132850	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0181	Culburra 11;Greenwell Point;	AGD	56	293500	6133000	Open site	Valid	Shell : -, Artefact : -	Midden	102562,102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0182	Culburra 13;Greenwell point;	GDA	56	294004	6132990	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes,RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**	5076	
52-5-0183	Culburra 14;Greenwell Point;	AGD	56	294000	6132800	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Phil Hughes					**Permits**	5076	
52-5-0184	Culburra 15;Greenwell Point;	AGD	56	294200	6132850	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0185	Culburra 16;Greenwell Point;	AGD	56	294250	6133000	Open site	Valid	Shell : -, Artefact : -	Midden	647,102810
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0186	Culburra 12;Greenwell Point;	AGD	56	293550	6133100	Open site	Valid	Shell : -, Artefact : -	Midden	647,102810
	Contact	**Recorders**	Phil Hughes					**Permits**	5076	

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Client Service ID : 896151

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0106	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial	486,2048,10256
	Contact	**Recorders**	Ray Kelly					**Permits**		
52-5-0107	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -, Artefact : -	Bora/Ceremonial,Open Camp Site	486,2048
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0108	Orient Point;Greenwell Point;	AGD	56	295353	6134107	Open site	Valid	Ceremonial Ring (Stone or Earth) : -	Bora/Ceremonial	486,2048,10256
	Contact	**Recorders**	Ray Kelly					**Permits**		
52-5-0109	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			486,2048,10256
	Contact	**Recorders**	Harry Creamer					**Permits**		
52-5-0114	Shelly Point Campsite	AGD	56	294200	6133000	Open site	Valid	Artefact : -	Open Camp Site	102810
	Contact	**Recorders**	Jack Campbell					**Permits**		
52-5-0127	Orient Point;Pelican Rocks;	AGD	56	293524	6134071	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0053	Greenwell Point;	AGD	56	292811	6133142	Open site	Valid	Artefact : -	Open Camp Site	102562
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0057	Curleys Bay;	AGD	56	293821	6132979	Open site	Valid	Shell : -, Artefact : -	Midden	102810
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0060	Greenwell Point;Crookhaven Beach;	AGD	56	295547	6133562	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Shoalhaven Antiquities Committee					**Permits**		
52-5-0061	Greenwell Point;Culbuna Beach;	AGD	56	295821	6133568	Open site	Valid	Artefact : -	Open Camp Site	102562
	Contact	**Recorders**	R.L Black					**Permits**		
52-5-0067	Lake Wollomboola;Wheelers Point;	AGD	56	296699	6130841	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	Connolly					**Permits**		
52-5-0068	Lake Wollombulla	AGD	56	297061	6131032	Open site	Valid	Burial : -, Shell : -, Artefact : -	Burial/s,Midden	531
	Contact	**Recorders**	P Wooley					**Permits**		
52-5-0148	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	296011	6133206	Open site	Valid	Shell : -, Artefact : -	Midden	102562
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		
52-5-0149	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	295369	6133284	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0150	Crookhaven Lighthouse;Crookhaven;Orient Point;	AGD	56	295205	6132366	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	ASRSYS					**Permits**		
52-5-0156	Crookhaven Lighthouse;Orient Point;	AGD	56	294660	6134290	Open site	Valid	Water Hole : -	Water Hole/Well	702,102562
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		

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Client Service ID : 896151

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0157	Orient Point;Crookhaven Point;Crookhaven;	AGD	56	294650	6134260	Open site	Valid	Shell : -, Artefact : -	Midden	702
	Contact	**Recorders**	Miss.Marjorie Sullivan					**Permits**		
52-5-0202	Site A;Crookburen;	AGD	56	295700	6134300	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	**Recorders**	Robert Paton					**Permits**		
52-5-0562	Culburra SU2/L1	GDA	56	296083	6131822	Open site	Partially Destroyed	Artefact : 44		101848,101985,102087,104259
	Contact	**Recorders**	Doctor.Julie Dibden,NSW Archaeology Pty Ltd					**Permits**	3333,4633	
52-5-0563	Culburra SU3/L1	GDA	56	296147	6131770	Open site	Partially Destroyed	Artefact : 1		101848,101985,104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	3266,3267,3333,4633	
52-5-0620	Culburra SU2/L1-a	GDA	56	296083	6131822	Open site	Valid	Artefact : 44		104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	4633	
52-5-0621	Culburra SU3/L1-a	GDA	56	296147	6131770	Open site	Valid	Artefact : 1		102562,104259
	Contact	**Recorders**	Doctor.Julie Dibden					**Permits**	4633	
52-5-0652	West Culburra 23/A	GDA	56	294046	6131652	Open site	Valid	Artefact : 2		102562
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0653	West Culburra 23/B	GDA	56	293919	6131951	Open site	Valid	Artefact : 1		102562
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0649	West Culburra 3/A	GDA	56	294918	6132494	Open site	Valid	Artefact : 1		102810
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0650	West Culburra 4/A	GDA	56	294806	6132594	Open site	Valid	Artefact : 3		102810
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology					**Permits**		
52-5-0651	West Culburra 4/B	GDA	56	294761	6132610	Open site	Valid	Artefact : 4		102810
	Contact	**Recorders**	Mr.Peter Kuskie,South East Archaeology,RPS AAP Consulting Pty Ltd - York Street S					**Permits**		
52-5-0890	Halloran Isolated Find 01	GDA	56	291894	6132402	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0891	Halloran Isolated Find 02	GDA	56	291746	6132339	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0892	Halloran Midden 01	GDA	56	292234	6132797	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0893	Halloran Midden 02	GDA	56	292222	6132711	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0894	Halloran Midden 03	GDA	56	292211	6132663	Open site	Valid	Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0895	Halloran Midden Complex 01	GDA	56	291968	6132473	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
52-5-0896	Halloran Midden Complex 04	GDA	56	292268	6132837	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-4-0686	Halloran Midden Complex 03	GDA	56	292417	6132969	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0897	Halloran Artefact Scatter 03	GDA	56	291767	6132368	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0898	Halloran Artefact Scatter 01	GDA	56	291681	6132292	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0899	Halloran Artefact Scatter 02	GDA	56	291818	6132390	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0900	Halloran Isolated Find 03	GDA	56	293790	6133075	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**	5076	
52-5-0901	Halloran Midden Complex 02	GDA	56	292018	6132490	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	RPS AAP Consulting Pty Ltd - York Street Sydney ,Ms.Lucy Irwin					**Permits**		
52-5-0968	Culburra Beach Midden 1	GDA	56	296042	6131765	Open site	Valid	Artefact : -, Shell : -		
	Contact	**Recorders**	Mr.William (austra arch) Andrews,Austral Archaeology					**Permits**	4633	
52-5-1077	WCB Midden Site	GDA	56	294565	6132466	Open site	Valid	Shell : -		
	Contact	**Recorders**	Austral Archaeology,Miss.Taylor (austral arch) Foster					**Permits**	5076	
52-5-1068	WCB Isolated Find	GDA	56	294893	6132550	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Miss.Taylor (austral arch) Foster					**Permits**		
52-5-1112	WCB Isolated Find 5	GDA	56	293766	6132679	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1113	WCB Isolated Find 4	GDA	56	293896	6132931	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1114	WCB Isolated Find 3	GDA	56	293896	6132931	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1115	WCB Isolated Find 2	GDA	56	293676	6133009	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1116	WCB Artefact Scatter 3	GDA	56	294203	6132332	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1117	WCB Artefact Scatter 2	GDA	56	293569	6132707	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		
52-5-1118	WCB Artefact Scatter 1	GDA	56	294024	6132884	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Austral Archaeology,Mr.Jake Allen					**Permits**		

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

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VOLUME 2 – CONSULTATION

Please see Volume 2 Appendix.

VOLUME 3 – TEST EXCAVATION DATA

Please see Volume 3 Appendix.

VOLUME 4 – WEST CULBURRA ANTHROPOLOGICAL ASSESSMENT (Dale Donaldson 2023)

WEST CULBURRA

Lots 2 and 3 DP 1279350 (previously Lots 5 and 6 DP 1065111),

Culburra Road, Culburra Beach, NSW

ANTHROPOLOGICAL ASSESSMENT REPORT

Susan Dale Donaldson

Consultant anthropologist

21 November 2023

WARNING: THIS REPORT MAKES REFERENCES TO ABORIGINAL PEOPLE WHO HAVE DIED.

Contents

Table

Figures

Acronyms

ACHA	Aboriginal Cultural Heritage Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
AHIMS	Aboriginal Heritage Information Management System
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEC	Department of Environment and Conservation
DGEAR	Director General Environmental Assessment Requirement
DPE	Department of Planning and the Environment
EP&A Act	*Environmental Planning and Assessment Act 1979*
FPIC	Free, Prior and Informed Consent
ha	hectare
HNSW	Heritage New South Wales
ICOMOS	International Council on Monuments and Sites
IPC	Independent Planning Commission (NSW)
Km	kilometre
LALC	Local Aboriginal Land Council
LEC	Land and Environment Court
LEC Act	*Land and Environment Court Act 1979*
NSW	New South Wales
OEH	Office of Environment and Heritage
RAPs	Registered Aboriginal Parties
SCC	Shoalhaven City Council
SL	Sealark PTY LTD
SSD	State Significant Development
UNESCO	United Nations Educational, Scientific and Cultural Organization

Executive summary

In March 2021, Heritage NSW advised the NSW Department of Planning, Industry and Environment that they supported the need for a better understanding of the Aboriginal cultural significance of Sealark Pty Limited's 46 hectare (ha) proposed subdivision and development west of Culburra on Lots 2 and 3 DP 1279350 (previously Lots 5 and 6 DP 1065111), Culburra Road, Culburra Beach, NSW including further research into oral history records held at the Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS).

In May 2022, Sealark Pty Limited engaged Austral Archaeology to complete the required archaeological investigations. Austral engaged Susan Dale Donaldson undertake an anthropological assessment to identify any intangible and tangible cultural values associated with the proposal, in consultation with Aboriginal people, and to develop safeguards to avoid, minimise, mitigate or manage impacts to any identified values. The archaeological and anthropological reports will be included in subsequent Development Applications when lodged with the Shoalhaven City Council (SCC).

The anthropological assessment took place between June 2022 and June 2023 with delays associated with the release of the AIATSIS materials and the availability of Aboriginal participants. Whilst it is understood that the entire landscape is culturally significant to Aboriginal people, this assessment did not identify any specific places within the study area of high cultural significance such as places of ritual or spiritual importance (for instance, bora rings, birthing sites, mythological story places, dreamtime pathways / song lines, or places where ritual teachings are or were undertaken).

This assessment identified a number of cultural values directly associated with the study area relating to travel and the collection of natural resources. The study area is also valued as a place where totemic species and supernatural cultural beings might favour as a forested environment in which to habituate. Importantly the study area is part of a named 'Country' with Aboriginal custodians who hold the traditional responsibilities to look after it. The study area may also be associated with a historical camping area used by Aboriginal and non-Aboriginal people, but this has not been confirmed.

The assessment also found that the study area is situated in a highly significant cultural landscape containing traditional spiritual and archaeological values. The cornerstone features of the cultural landscape surrounding the study area are Bundarwa (Beecroft Peninsula) and Cullunghutti (Coolangatta Mountain); two sacred places associated with the spiritual life and death of Aboriginal

people and the basis for Aboriginal people's cultural identity today and in the past. Situated between these two sacred places is Lake Wollumboola, a highly significant cultural area.

As recommended by Kuskie (2012) and subsequently requested by Heritage NSW, a review of AIATSIS oral history materials relating to Aboriginal man Jack Campbell has been undertaken as part of this assessment. It has been established that the cultural information contained in the 1979 AIATSIS audio and visual files, and in particular information relating to shell middens, do not directly relate to the study area. The AIATSIS records do however provide important details about the cultural significance of places in the landscape surrounding the study area including at Crookhaven Heads, Orient Point, Beecroft Peninsula, Jervis Bay and Currarong.

The rich archaeological record at nearby Crookhaven Heads, Orient Point and Lake Wollumboola strongly influences how the study area is culturally valued by Aboriginal people today. The few archaeological sites known to be located in the study area are understood by Aboriginal people to be connected to the archaeological story across the broader cultural landscape. Aboriginal people hold strong contemporary connections to these archaeological sites (shell middens and artefacts) primarily because these 'objects' are believed to have been deposited by their Ancestors and are thus a tangible reminder of the rich cultural life of the past.

There is a strong sense in the Aboriginal community, regardless of the archaeological evidence or the results from the AIATSIS search, that the study area is culturally significant by virtue of its association with the surrounding cultural landscape.

This assessment has identified how the proposed activities may threaten the cultural values identified in the study area:

- ground disturbance can damage or disturb archaeological sites;
- access restrictions hinder Aboriginal people's ability to exercise their customary rights and responsibilities;
- increased public activity in the culturally sensitive foreshore zone;
- lack of public recognition can lead to disrespecting Aboriginal associations to Country;
- invasion of pest species undermines culturally valued species;
- run-off into waterways can cause pollution and impact aquatic life; and
- loss of habitat will contribute to the cumulative impact of reduced biodiversity across the region which in turn diminishes a range of cultural practises and beliefs.

This assessment has identified the following cultural heritage management actions (some beyond the responsibility of Sealark) aimed at safeguarding the identified cultural values:

1. develop a regional cultural heritage management strategy (including a cultural landscape map and possible rezonings) to enable better decision making aimed at safeguarding Aboriginal values and practises across the cultural landscape (SL, SCC and HNSW);
2. favour impact to land that is already disturbed (SL and other developers);
3. continue to foster good relationships with the local Aboriginal community (SL);
4. ensure development plans protect nearby waters and minimise the likelihood of damage to midden sites around the foreshore of the Crookhaven River through increased public access (SL);
5. consider ways to ensure Aboriginal people can continue to access foreshore middens to enable site monitoring and cultural teaching (SL and HNSW);
6. involve Aboriginal people in the development of the Management Plan for Crown Land (in foreshore buffer zone) (SL);
7. support Aboriginal people to revisit the middens across the local area, recorded by AIATSIS (1979), to check their condition (SL and HNSW);
8. develop and install cultural interpretive signage in public spaces within the development footprint to foster respect between residents and local Aboriginal people (SL);
9. ensure built infrastructure (streets / footpaths / parks / pathways / seats etc) are allocated names reflecting local Aboriginal cultural concepts (SL);
10. employ the local Aboriginal community members with experience in land management to assist in the management of Sealark properties across the region (including at Culburra West and any Biodiversity Stewardship Sites) (SL);
11. as part of the Cultural Heritage Management Plan, understand and follow local Aboriginal cultural protocols in relation to any unexpected finds (the community wish to discuss options and return items / remains as close as possible to where they were found) (SL);
12. enable local Aboriginal community members to collect and propagate seeds as part of a broader long-term environmental program to rehabilitate cleared blocks with local flora species of cultural relevance (SL); and
13. as part of 1 above, consider rezoning the bushland to the west of the study area as a reserve for public enjoyment and use (which would also enable Aboriginal people to undertake cultural practises) (SL, SCC and HNSW).

1.0 Introduction

1.1 Background

In April 2010, John Toon Pty Ltd (on behalf of Sealark Pty Ltd) lodged a request to Director General Environmental Assessment Requirements (DGEARs) to subdivide (Lots 2 and 3 DP 1279350, previously Lots 5 and 6 DP 1065111), Culburra Road, Culburra Beach, NSW and construct a variety of dwellings, tourist development, industrial development, foreshore reserves, parks and associated infrastructure. The land is located on the southern side of Crookhaven River and Curleys Bay, and west of Culburra.

DGEARs were subsequently issued and included the following requirements in relation to heritage:

8. Heritage and Archaeology	
8.1	Identify whether the site has significance to Aboriginal cultural heritage and identify appropriate measures to preserve any significance. The assessment must address the information and consultation requirements of the draft *Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (*DEC 2005*)*.
8.2	Identify any items of non-indigenous heritage significance and, where relevant, provide measures for the conservation of such items.

In 2012, in order to satisfy Point 8.1 of the DGEARs in relation to Aboriginal Heritage, archaeologist Peter Kuskie completed an Aboriginal Cultural Heritage Assessment (ACHA) for the site including consultation and site inspections with Registered Aboriginal Parties including the Jerrinja Local Aboriginal Land Council (LALC).

The Concept Proposal Development Application (the Application) was subsequently lodged with Department of Planning (Major Project 09-0088) for determination by the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Application covered an area of approximately 92 ha. In 2015, during the assessment period, the Application was transitioned from Part 3A to State Significant Development (SSD) under Part 4 Division 4.7 of the EP&A Act, where it remained an application for a Concept Proposal.

In June 2018, after the assessment period, the Department of Planning and Environment recommended refusal of the Application to the NSW Independent Planning Commission (IPC). Following its review, the IPC refused the Application in October 2018.

In March 2019, the applicant lodged an appeal against the Application's refusal with the NSW Land and Environment Court (LEC) (Case Number 2019/00078149). As a part of this appeal process, the applicant's details were transferred from John Toon Pty Ltd to Sealark Pty Ltd. Sealark Pty Ltd is the present owner of the Concept Plan site.

A Section 34 Conciliation Conference was held in accordance with the *Land and Environment Court Act 1979* (LEC Act), which commenced on 14 November 2019. The s34 Conciliation Conference resulted in a significantly reduced development footprint, additional Aboriginal heritage discussions and refined water quality controls, amongst other things.

The footprint of the current proposal (Figure 1) is approximately half of that originally proposed in 2010 and is predominantly located on Lot 2 DP 1279350 with incursions into Lot 3 DP 1279350 on the southern side of Culburra Road. Sealark describes the proposal as involving three distinct precincts with a total urban development footprint area of 47.34ha (65.59ha when including foreshore & woodland reserve) with supporting infrastructure, being:

1. Town Centre Expansion (Business, residential & recreation land) which covers an approximate area of 14.24ha and incorporates:
    - 3 mixed use lots ranging in size from 1,319m2 to 6,559m2;
    - 45 integrated housing lots ranging in size from 350m2 to 508m2;
    - 12 medium density residential lots ranging in size from 2,401m2 to 4,073m2;
    - Sportsground (multi field capacity) with supporting amenities;
    - Parkland / Open Space area including a 100m buffer to the MHWM; and
    - Road areas.

2. Industrial Centre Expansion (industrial land) which covers an approximate area of 6.32ha (does not include area of lot within town centre expansion) and incorporates:
    - 13 industrial lots ranging from 1,937m2 to 5,783m2;
    - Parkland / Open Space area and,
    - Road areas

3. New Residential Area (Residential & Recreation land) which covers an approximate area of 26.78ha and incorporates:
    - 244 low density residential lots ranging in size from 511m2 to 1,230m2;

- 20% of the low-density residential lots are assumed to have capacity for dual occupancy dwellings, therefore the precinct could provide up to 293 dwellings; and,
- Provision of 2 Parkland / Open Space areas including a 100m buffer to the MHWM.

Roads and access which are provided in each precinct and incorporates:

- Three roundabouts on Culburra Road that are the main entrance points to the residential and town centre areas;
- Perimeter road for the residential areas;
- Internal roads to access proposed lots in all stages;
- Emergency egress fire trail; and,
- Relocation of the intersection of Regmoore Close, Strathstone Street and Culburra Road further eastward to avoid the potential of unnecessary traffic queuing.

Supporting Infrastructure which is provided in each precinct and incorporates:

- drainage infrastructure;
- drainage ponds to irrigate dedicated public reserves and sportsground;
- new electrical substation near the industrial area;
- various stormwater quality treatment devices;
- water & sewerage infrastructure; and,
- electricity & telecommunications infrastructure.

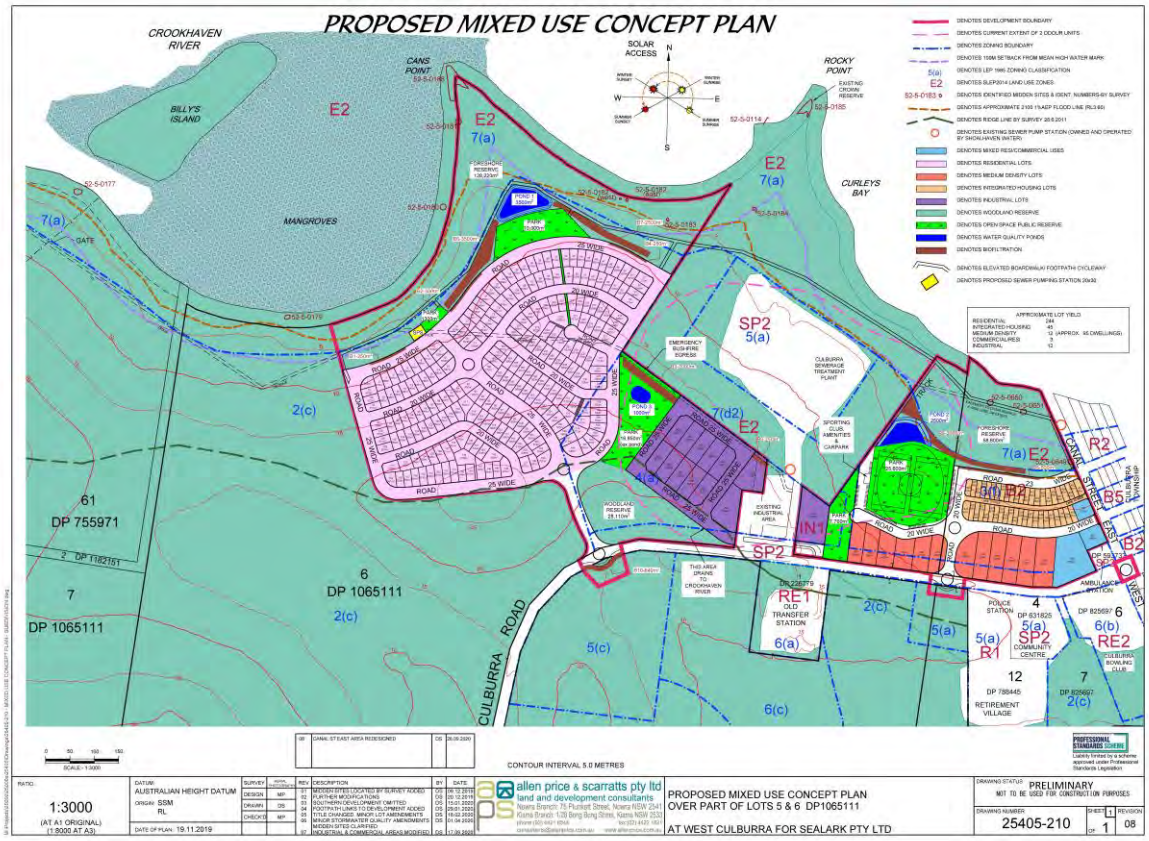

Figure 1 Concept Plan v8 West Culburra (Sealark Pty Ltd 28.09.2020)

In May 2019 archaeologist Dr Johan Kamminga was engaged by Sealark to assess the potential impacts the proposed amended West Culburra Concept Plan might have on Aboriginal cultural heritage. As part of this assessment Kamminga reviewed the ACHA (Kuskie 2012) produced for the original (larger) proposal as well as other relevant cultural information arising from the IPC review (Kamminga 2020).[1] Kamminga formed the opinion that 'the area of the Revised Concept Plan is not a significant Aboriginal cultural landscape and the Proposal will not result in irrecoverable direct and indirect impacts on a significant Aboriginal cultural landscape and waterscape. The ACHA and consultation process carried out on behalf of the Applicant adequately assesses Aboriginal cultural heritage including archaeological and non-archaeological sites and cultural landscapes' (Kamminga 2020: 3-4). Overall, Kamminga found that it can be demonstrated that the development proposed in the Revised Concept Plan does not pose an unacceptable risk to Aboriginal cultural heritage (Kamminga 2020: 10-11).

[1] Kamminga's assessment related to Concept Plan version 6 (01.04.2020). The current assessment relates to Concept Plan version 8 (28.09.2020) (see Figure 1). The difference between the two versions is the modification of the industrial and commercial areas (v7) and the redesign of Canal Street East (v8). The footprint has not been altered.

Kamminga specifically endorsed the conclusions of the ACHA (Kuskie 2012), which included research into the 'oral account recorded in the late 1970s by Jerrinja Elder, Mr Jack Campbell, and lodged with AIATSIS, of the middens adjacent to the investigation area and their importance to the Jerrinja community' as part of the development approval process (Kamminga 2020: 12).

In March 2021 Heritage NSW advised the NSW Department of Planning, Industry and Environment, that they supported the need for a better understanding of the Aboriginal cultural significance for the West Culburra proposed subdivision and development including further research into oral history records held by AIATSIS, as identified by Kuskie (2012).

In December 2021, the NSW Land and Environment Court (LEC) issued its determination on the appeal and granted Development Consent to the Concept Plan, with conditions (LEC No: 2019/78149). LEC conditions for the West Culburra proposal relating to Aboriginal Heritage include producing an ACHA report and Aboriginal Cultural Heritage Management Plan (ACHMP) to ensure the ongoing conservation, management, and protection of the area, specifically including the Crookhaven River middens (Kamminga 2020), other already identified places of cultural significance and any places identified in ongoing consultation with the Aboriginal community within the Study Area (LEC 2019: 11).

The LEC ruling also requires that future Development Applications for each stage of the Concept Proposal include an ACHMP demonstrating how Aboriginal cultural values and heritage on or adjacent to the site would be protected, including Aboriginal landscape values, the Crookhaven middens (immediately adjacent to the waterfront side of the Site), archaeological values along the foreshore and any other areas of archaeological sensitivity or relics identified (LEC 2019: 22).

In May 2022, Sealark Pty Ltd engaged Austral Archaeology to complete the required formal consultations for the development of the archaeological ACHA and ACHMP. Anthropologist Susan Dale Donaldson was concurrently engaged by Austral to investigate the relevance of oral accounts relating to midden sites held at AIATSIS (at the request of Heritage NSW, as recommended by Kuskie) and to gain a better understanding of the Aboriginal cultural values and heritage on or adjacent to the Study Area, including Aboriginal landscape values, and how these values can be protected and or acknowledged. More specifically, Donaldson's role is to prepare an anthropological assessment report to identify any intangible and tangible cultural values held by Aboriginal people associated with the

46 ha Study Area (Figure 2) and to develop measures to avoid, safeguard, mitigate or manage impacts to any identified values[2].

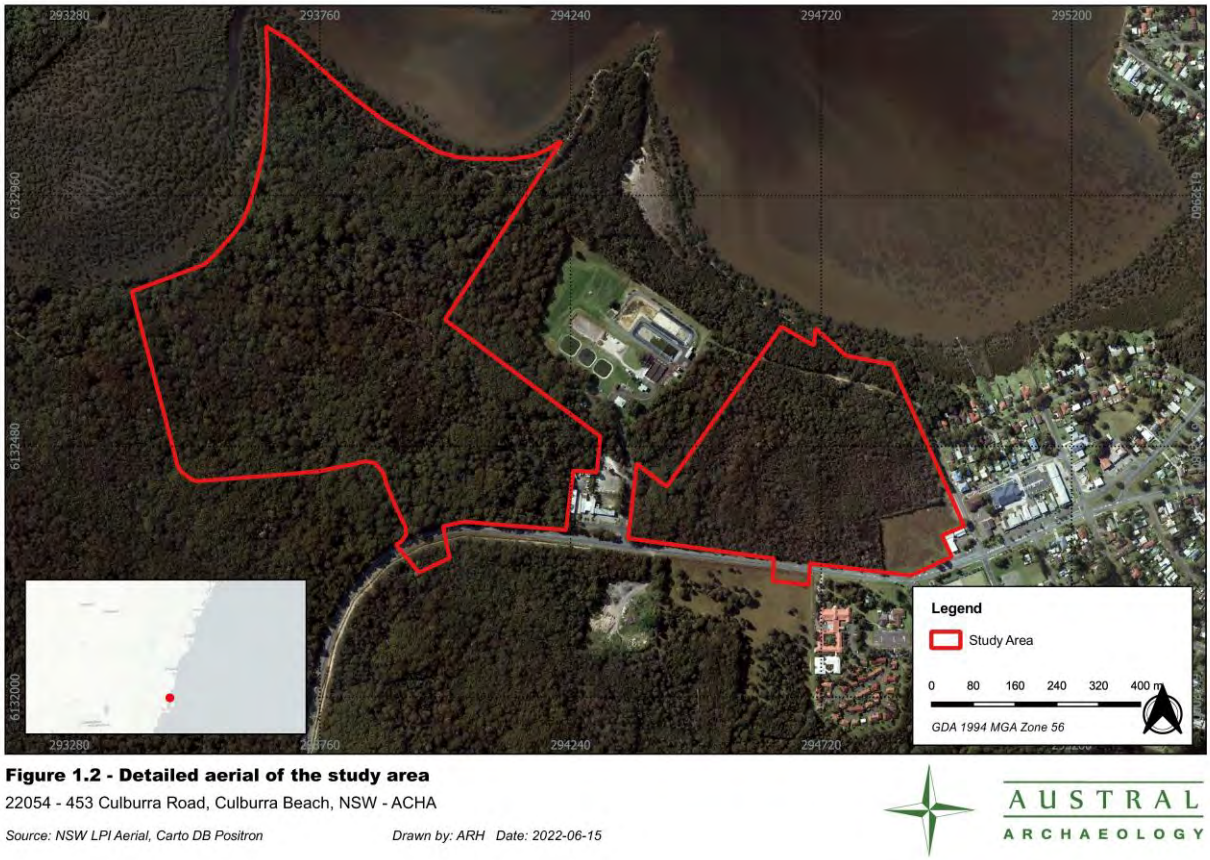

Figure 2 The Study Area (Austral Archaeology 2022)

An anthropological report (this report) will be attached to Austral Archaeology's ACHA report. The anthropological report will be provided to Heritage NSW and Sealark Pty Ltd. The report will be publicly available including being distributed to the Registered Aboriginal Parties (RAPs) which includes the Jerrinja LALC, and lodged with the Aboriginal Heritage Information Management System (AHIMS). These documents will then be included in subsequent Development Applications when they are lodged with Shoalhaven City Council.

[2] Note the Study Area (Figure 2) extends to the foreshore whilst proposed activity described in the concept plan (Figure 1) avoids the 100m foreshore buffer zone.

1.2 Understanding cultural significance

Heritage NSW's Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) refers to the Burra Charter's definition of how cultural heritage encompasses the four values: social, historical, scientific and aesthetic values (Australian ICOMOS 1999) and defines heritage in the following way:

> *Heritage consists of things we value today that we wish to pass onto the next generation. It represents a point in time and a dynamic shared history and includes an ever-expanding and all-encompassing set of ideas.*

In this assessment the relevant values are social and scientific. Scientific (archaeological) value refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information (Australian ICOMOS 1988). Information about scientific values will be gathered through any archaeological investigation undertaken (OEH 2011). Social or cultural value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Places of social or cultural value have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social or cultural value be damaged or destroyed (OEH 2011).

In 2013 the *Australia ICOMOS Burra Charter* (ICOMOS 2013) broadened its definition of 'place' to encompass Indigenous places of cultural significance which may comprise both intangible and tangible values across interrelated locations referred to as cultural landscapes. The Burra Charter's definition of 'place' as a geographically defined area includes natural elements, objects, spaces and views. The definition of 'cultural significance' encompasses aesthetic, historic, scientific, social or spiritual value for past, present or future generations and the definition of 'use' relates to the functions of a place, including the activities and customary practices that may occur at the place or are dependent on the place. 'Associations' means the connections that exist between people and a place, whilst 'meanings' denote what a place signifies, indicates, evokes or expresses to people.

Whilst the term 'intangible cultural heritage' is not directly defined in the Burra Charter, the cultural practices to which it refers are encompassed by the Charter, Explanatory Notes and Practice Notes,

including the ICOMOS (2017) Practise Note on *Intangible cultural heritage and place*, which covers all Australian cultural groups. In the 2017 ICOMOS Practise Note, cultural heritage is defined as:

> *…the diversity of cultural practices created by communities and groups of people over time and recognised by them as part of their heritage and cultural practices encompass traditional and customary practices, cultural responsibilities, rituals and ceremonies, oral traditions and expressions, performances, and the associated language, knowledge and skills, including traditional craft skills, but is not limited to these (ICOMOS 2017: 3).*

The concept of a 'cultural landscape' is a relatively new one in the field of heritage conservation and management and attempts to capture both material and non-material elements associated with land and water. In 1996 the World Heritage Committee adopted a definition for cultural landscapes:

> *Cultural landscapes represent the 'combined works of nature and of man'...illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal (UNESCO 1996).*

The United Nations Educational, Scientific and Cultural Organization (UNESCO) also acknowledge the concept of 'associative cultural landscapes' is of relevance to assessing and understanding Australian Indigenous concepts of land, water, connectedness and the concept of 'country' as described by the late anthropologist Deborah Bird Rose:

> *Country in Aboriginal English is not only a common noun but also a proper noun. People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country, and long for country. People say that country knows, hears, smells, takes notice, takes care, is sorry or happy…country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will toward life. Because of this richness, country is home, and peace; nourishment for body, mind, and spirit; heart's ease…Country is multi-dimensional – it consists of people, animals, plants, Dreamings; underground, earth, soils, minerals and waters, surface water, and air (Rose 1996: 7–8).*

The 'associative cultural landscape' encompasses the non-material values across a landscape, including river systems, and highlights the inseparability of cultural and natural values. Associative cultural landscapes may be defined as large or small contiguous or non-contiguous areas and itineraries,

routes, or other linear landscapes – these may be physical entities or mental images embedded in a people's spirituality, cultural tradition and practice.

The attributes of associative cultural landscapes include the intangible, such as the acoustic, the kinetic and the olfactory, as well as the visual. The range of natural features associated with cosmological, symbolic, sacred, and culturally significant landscapes may be very broad: mountains, caves, outcrops, coastal waters, rivers, lakes, pools, hillsides, uplands, plains, woods, groves, trees.[3] Truscott (2000) points out that often 'intangible heritage' can be seen, or heard, or tasted or smelt or felt emotionally.[4]

Importantly, associative cultural landscapes may be valued by multiple groups, who attach different values resulting in a concurrence of cultures and uses, all of which are recognised to have validity.[5] By considering Aboriginal cultural heritage values on a landscape scale, the inseparability of people and place, culture and nature, the past and the present, material and non-material values, the Aboriginal world view becomes more apparent. Seemingly isolated locations and events are understood as being interconnected.

Researchers Leader-Elliott, Maltby and Burke (2004) found that:

> *…a cultural landscape is more than just the sum of its physical places; it is equally concerned with the spaces between places and how these are given meaning, as well as the documentary and oral history stories that are woven around both. The deeply social nature of relationships to place has always mediated people's understandings of their environment and their movements within it, and is a process which continues to inform the construction of people's social identity today.*[6]

Accordingly, from a spatial perspective, the relationship between human activity and the natural environment may not always relate to isolated locations.

The most relevant understanding of cultural landscapes and intangible cultural heritage values for this assessment is the approach developed by Brown (2010). Brown's framework was developed in the context of National Park management in New South Wales (NSW) where:

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[3] ICOMOS International Symposium 2004.
[4] Truscott 2000: 23.
[5] US/ICOMOS, 1996.
[6] Leader-Elliott, Maltby & Burke 2004; see also Byrne & Nugent 2004.

> *…the cultural landscape concept emphasises the landscape scale of history and the connectivity between people, places, and heritage items. It recognises the present landscape is the product of long term and complex relationships between people and the environment.*[7]

Brown highlights how the integration of people's stories, memories and aspirations into management processes gives recognition to the link between the landscape and people's experiences, without this, 'an impression is created that the landscape is devoid of human history'. Moreover, he found that respecting and acknowledging people's attachments supports community identity and wellbeing.[8]

Whilst theoretical understandings specific to Aboriginal concepts of cultural landscapes continue to develop in Australia, it is acknowledged that Aboriginal cultural landscapes are places valued by an Aboriginal group (or groups) because of their long and complex religious and economic relationship with that land, and importantly, material evidence (ie archaeological items) of the cultural association may be minimal or absent.[9]

In this report cultural values are understood as the meaning and associations cultural groups have with elements across the landscape. These connections to places or elements may or may not have physical traits; they are often non-material or intangible Aboriginal cultural heritage values. The associated value is held within people's minds, memories and continued activities and knowledge. Whilst intangible values can be of a social or historical nature, the distinguishing feature of intangible Aboriginal cultural heritage values is the cultural element such as stories of cultural events, religious significance, spirituality, the intergenerational layers of cultural connection to place, knowledge of how to maintain and use natural resources, and undertaking cultural activities. These important values can be overlooked in cultural heritage management, and are easily lost if not retold, captured, safeguarded and maintained.

1.3 Methodology

There is no official policy in NSW to guide anthropological assessments being undertaken in parallel with development driven archaeological assessments. The methodology for this assessment thus

[7] Brown 2010: 4.
[8] Brown 2012: 108.
[9] Buggey 1999: 30.

considers a range of relevant tools including the *Burra Charter* (ICOMOS 1999)[10]; the *Burra Charter Practise Note on Intangible Cultural Heritage and Place* (ICOMOS 2017); Brown (2010); Byrne & Nugent (2004); the UNESCO *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003); *Protecting local heritage places: a guide for communities* (Australian Heritage Commission 2011); and the NSW Office of Environment and Heritage (OEH) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

Engagement with Aboriginal people for this assessment was undertaken according to current Australian best practice in cultural heritage management. This included a consideration of the following documents: *Guide to Free, Prior and Informed Consent* (Oxfam Australia 2010); *Ask First: A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission 2002); *Talk to Print: A step-by-step guide to publishing oral history* (DEC 2004); *Guidelines for Ethical Research in Australian Indigenous Studies* (AIATSIS 2012).

The recently published *Assessing heritage significance: Guidelines for assessing places and objects against the Heritage Council of NSW criteria* (NSW DPE 2023) and the *Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environmental Protection and Biodiversity Conservation Act 1999* (DCCEEW 2023), which replaced *Engage early: Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act* (2016), have also been incorporated in the assessment methodology.

The selection of Aboriginal participants took place collaboratively between the researcher, Austral Archaeology, Heritage NSW, Aboriginal organisations and Aboriginal families with cultural and historical associations to the Study Area. Gender equity and a balance in tribal affiliation also was achieved. The study area is within the Jerrinja LALC region and the South Coast People's Native Title application area. The relevant LALC has been involved in this process in accordance with the Heritage NSW *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

As a way to ensure Free, Prior and Informed Consent (FPIC) potential participants were made aware of the purpose of the Project and how their information is to be used. An introduction script containing project information was produced and applied either by email, over the phone or face-to-face. An information consent agreement outlining these details was developed for the assessment (Appendix 1)

[10] The Australian International Council on Monuments and Sites (ICOMOS) Charter for the conservation of places of cultural significance.

as were a set of interview questions to guide this process (Appendix 2). A community meeting notice was also produced aimed at encouraging participation in the assessment (Appendix 3).

The assessment took place between June 2022 and June 2023 with a slow start waiting six months for the AIATSIS materials to be provided, over which time intermittent contact with the community took place (see Appendix 4). A flexible consultation approach was undertaken to cater for Aboriginal participants availability, cultural safety and localised decision-making processes.

Qualitative ethnographic research methods were employed for this assessment involving:

- reviewing ethno-historical literature
- considering materials held by AIATSIS (in particular to determine if the oral account of Jack Campbell relate to shell middens within the study area);
- undertaking a gap analysis to formulate specific research questions;
- undertaking oral history recording, in-depth one on one interviews and small semi-structured, focus group sessions with Aboriginal people who hold cultural knowledge of Culburra;
- undertaking a physical inspection of the study area with the Aboriginal Custodians (where and when possible);
- visiting places beyond the study area if culturally or historically associated with the study area;
- reviewing historical and contemporary aerial images and maps to identify places where locations were known but not named or where places were inaccessible;
- analysing all the available evidence to identify cultural values associated with the study area;
- considering how the identified values may be impacted by the proposed work and how impacts might be avoided, reduced, mitigated or managed; and
- drafting an assessment report to be appended to Austral's Aboriginal Cultural Heritage Assessment Report (archaeological).

Important elements captured during consultation with the Aboriginal community was the location of important places, a physical description of them and the reasons why the identified places are important. Key principles within the Burra Charter Practise Note relevant to identifying and assessing the significance of intangible cultural heritage include (ICOMOS 2017: 3):

- Cultural practices at a place that relate to the place itself, to objects (and fixtures, contents, and elements), to people, and to its setting, and that may relate to other places, should be identified and investigated, and their contribution to the significance of the place documented and respected.

- A place, its location and setting may be integral to the existence, observation and practice of intangible cultural heritage.
- Knowledge and understanding of cultural practices come primarily from those engaged in the cultural practice. The participation of the communities or groups involved in or responsible for the cultural practices is essential to understanding intangible cultural heritage.
- The community or group is the primary source of information about its own intangible cultural heritage and is responsible for the safekeeping of knowledge, skills, objects and places involved in the cultural practices. There may be protocols about the sharing of information and intellectual property rights.
- Cultural practices at a place might be at risk if they are not recorded, or their contribution to the significance of the place or to the community or group, is not recognised.
- The loss of a cultural practice may diminish the cultural significance of a place. The conservation, maintenance and preservation of cultural practices may be integral to retaining the cultural significance of a place.

Sections 2 and 3 of this report combine background research with data collected during this assessment from Aboriginal people. Whilst section 2 highlights the cultural values identified as being in the study area, from an Aboriginal perspective the cultural places and values identified across the cultural landscape outside of the study area (section 3) interrelate with the values in the study area and can't be separated from them.

2.0 Cultural values in the study area

This section is based on information sourced from existing published and unpublished documents as well as interviews with Aboriginal knowledge holders undertaken as part of this assessment.

This assessment identified a number of cultural values associated with the study area relating to travelling through Country, the collection of natural resources and a possible post contact camp. The study area is also valued as a place where totemic species and supernatural cultural beings might favour as a forested environment in which to habituate.

Importantly the study area is part of a named 'Country' with Aboriginal Custodians who hold the traditional responsibilities to look after it. Custodial rights and responsibilities to care for country ensure the Country is healthy for future generations.

The few archaeological sites known to be located in the study area are understood by Aboriginal people to be connected to the archaeological story across the broader cultural landscape. Aboriginal people hold strong contemporary connections to these archaeological sites (shell middens and artefacts) primarily because these 'objects' are believed to have been deposited by their Ancestors and are thus a tangible reminder of the rich cultural life of the past.

2.1 Relating to Country

'Country' is a word Aboriginal people use to encompass land, sea, water, people and the Ancestral creation beings that live in the landscape. Country encompasses the kinship system – places are referred to as mother, father, brother and so on; Country and kin are inseparable, as is the past, present and future.[11]

Aboriginal people in Culburra connect to Country in multiple and complex ways; through language, through kinship, through cultural practises, through historical experiences and through a traditional land ownership system[12]. The complex Aboriginal land tenure system, which pre-dates the European

[11] Rose 1996.
[12] Peterson & Long 1986; Sutton 2003.

presence in the region, can be described by different types of groupings including tribal, sub-tribal, clan and linguistic[13].

Places across the landscape are named and owned by particular groups; areas of Country at multilayered geographical scales are carefully managed by well-defined groups of people who pass on rights to land to their descendants. Whilst much of the tradition system has been lost, a lot remains and is highly valued by Aboriginal people today.

Tindale (1974) locates Culburra as being within Wandandian country which he found to extend from the Shoalhaven River south to Ulladulla. Both Howitt (1904) and Tindale (1974) identified the Shoalhaven River to the north of Culburra as a boundary between the Wodi Wodi people to the north and the Wandandian people to the south. Howitt (1904) also found that the Shoalhaven River marked the northern extent of a larger tribal grouping he called Yuin which extended south to Cape Howe. Whilst the term Yuin translates to mean man or person, Howitt found a northern subgroup of this broad Yuin category was called Kurial (kuru meaning north) within which was the Gurungatta clan associated with the Lower Shoalhaven River District.

In 1839 and 1840 separate blanket distributions at Jervis Bay were recorded by the Kinghornes, whose property Mount Jervis, lay between Jervis Bay and Lake Wollumboola to the north. Identified in these returns were members of the Wagamy tribe, described as resident at Jervis Bay North and the Conamy Tribe who were located at the Lagoon, a reference to Lake Wollumboola[14]. The name Coonemia Creek, which drains into the southern end of the lake, remains testament to that group and the place they lived.

Linguistically, Eades (1976) found Jervis Bay to be the boundary between Dharawal and Dhurga language groups. Whilst Culburra is situated within the Dharawal language area, Aboriginal people associated with the study area would have spoken both Dharawal and Dhurga.

Based on the oral knowledge shared by Aboriginal man Percy Mumbler, Aboriginal people asserted by 1978 that the Roseby Park (Crookhaven Park) area 'has long been known to Aboriginal people by the traditional name of "Jerringa" and the people living there as the "Jerringa people"' (Fox 1978: 10). It is possible that this group name is based on the place name 'Jerrijer' recorded in 1900 as the Aboriginal

[13] Wesson 2000.
[14] Organ 1990: 245.

name for Greenwell Point, directly west of Orient Point and immediately north of the study area.[15] In my experience, clan or tribal group names correlating with place names is a common practise across Aboriginal Australia, as is the shifting over time of group names, their focal areas, their boundaries and their membership.

The contemporary geographical description of the 'Jerrinja' tribal area is that it stretches between the Crooked River in the north to the Clyde River in the south (and west to the mountain range).[16] 'Jerrinja' has also been referred to as a 'Clan of the Wandi Wandian People' as well as the 'Jerrinja – Wandi Wandian nation'[17]. One participant described the Jerrinja clan as being within the Wandandian area[18]. The study area lies within the Jerrinja Local Aboriginal Land Council area.

2.2 Caring for country

Aboriginal people have responsibilities to look after the Country they inherit from their Ancestors. Exercising the right to look after one's Ancestral Country is a fundamental aspect of Aboriginal cultural identity, spirituality and well-being. The relationship is symbiotic – people and Country take care of each other, ecologically, socially and spiritually. Being on country is good for people's mental, physical and spiritual health and wellbeing.[19]

In accordance with traditional customs Aboriginal people are required to look after specific culturally significant fauna [totems, mythological characters and supernatural beings for instance] as part of their ongoing role to pass 'Country' on to the next generation intact. Most native fauna species are viewed as important in the cycle of life and are thus respected. This practice has been taking place since traditional times and continues where opportunities arise, including through this Project in the future.

As described by Aboriginal men Percy Mumbler, Ted Thomas and Jack Campbell (now deceased):

> *the Jerringa people were free to roam at their will. It was their land. They were part of the land and it was part of them. …It was their sacred land. It was the responsibility of the Jerringa*

[15] Buthring ('a real black'; native of Coolangatta) 1900 in Organ 1990: 469; group name also stated as 'originally' being pronounced as Jaringarras (Gordan Wellington 5.6.2023).
[16] https://newbushtelegraph.org.au/the-jerrinja-tribe-and-the-shoalhaven/
[17] https://www.loveculburrabeach.com.au/about and https://www.facebook.com/JerrinjaCountry/about_details
[18] Deliah Lowe 23.4.23
[19] Donaldson 2011.

people to ensure that, through their religious ceremonies of increase, the land and waters would continue to bear abundantly… (Fox 1978: 10).

As evident during this assessment, 'Country' encompasses public and private land and extends well beyond the study area.

This is an important cultural area. We have been culturally strong to protect our country. We were born with cultural responsibilities to look after country including our two sacred places; Bundarwa and Cullunghutti. Bundarwa is our beginning place and Cullunghutti is our ending place. In between there is Orient Point with middens, burials and so many stories. Then there is Lake Wollumboola with 19,000 sites showing our people lived.
Deliah Lowe 23.4.2023

For us cultural heritage is more than archaeology – we value all species.
Alfred Wellington 19.1.2023

We have a spiritual connection to all of the land, the plants and animals too. We are part of it as Custodians of the environment to pass onto the next generation.
Deliah Lowe 23.4.2023

It would be good if we could co-manage the crown land along the foreshore; we could care, control and manage our bushland and waters as is our responsibility. We could access our midden sites so we can monitor them into the future.
Ron Carberry 19.1.23

I haven't been to this block, private property put me off. We have been locked out.
Deliah Lowe 23.4.2023

There is a history of Aboriginal community opposition to development across the region, an expression of looking after Country for future generations. In a 1988 short film produced by Jerrinja LALC and Wreck Bay Aboriginal Community Council was produced in response to the Australian Defence Force naval base at Beecroft. Cultural connections to the land were described in the following way[20]:

[20] *We Come From The Land; Orient Point 1988* [film] Jerrinja LALAC and Wreck Bay Aboriginal Community Council.

We are self-responsible for caring for it, this is something that has been given to us, so it cannot be unbroken. We are not opposed to tourism development with strict guidelines. They must contain a sense of responsibility for protecting the natural environment.

2.3 Moving through Country

The Australian continent is laced by an interconnected network of pathways utilised by Aboriginal people for thousands of years. Travelling routes exist along the entire length of the southeast coastline, extending west to link up with inland ranges along creek lines and ridge tops. Movement across the landscape took place for a number of reasons including food gathering, acquisition of raw materials, ceremonial and religious occasions, trade and exchange, warfare and fighting, and communications (Kabaila 2005: 23).

This area would have been part of a travelling route connecting Nowra and Roseby Park …there were people living at Roseby Park before the reserve was set up. At least 2 or 3 generations of people are documented as living there including Jack Campbell and James Bundle and their families. People used to travel from Roseby Park north to Crookhaven Heads, south to Currambene and Jervis Bay, south to Bundarwa and east to Nowra.
Deliah Lowe 23.4.2023

The importance and nature of barter, including local barter in the southeast Australian region was investigated by McCarthy in 1939 who ascertained that Yuin ceremonies involved the movement of people from the Monaro and Shoalhaven, as well as from the upper waters of the Snowy River, Moruya, Twofold Bay and Bega (Figure 3). McCarthy notes,

…there was held a kind of market…at some clear place near the camp, and a man would say, 'I have brought such and such things', and some other man would bargain for them. At these 'markets' shields, boomerangs, opossum fur strings, bone nose pegs, grass tree spears, fighting clubs, opossum rugs, spear throwers, baskets, bags, digging sticks were exchanged... (1939: 408).

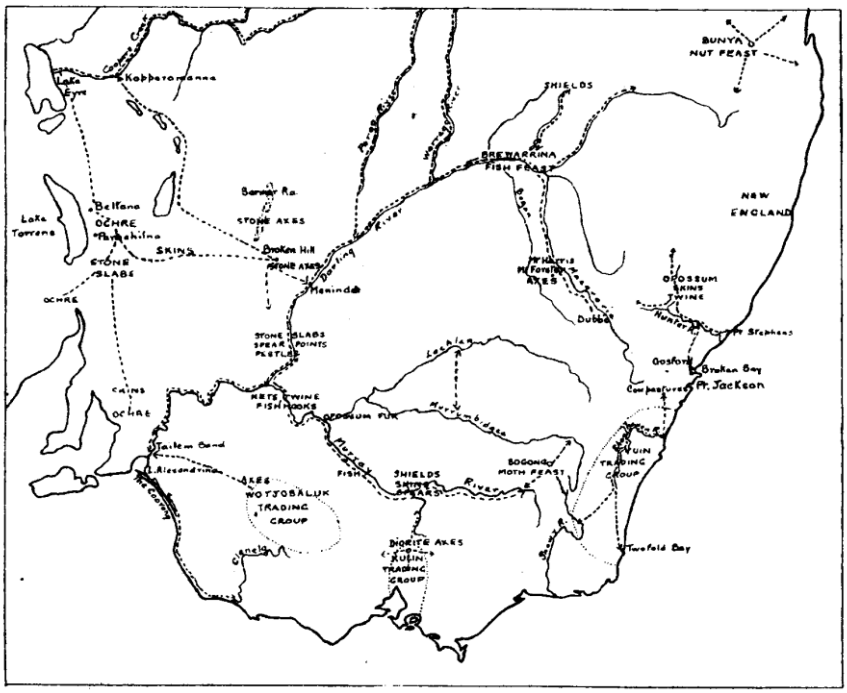

Figure 3 Map of barter and exchange in southeast Australia
Source: McCarthy 1939.

Trade relationships (and associated pathways) have also been documented between Aboriginal groups from the Shoalhaven, the Blue Mountains and Sydney (Attenbrow 2010). For many years, the Aboriginal residents at Roseby Park had almost free reign over nearly all of Orient Point, Crookhaven and Culburra, as explained by Terry Fox[21]:

> *The adjoining block of 133 acres, the Caffray estate, was in fact never purchased by the Board but the reserve residents used this and the adjoining Crookhaven park area for grazing and residential purposes into the early 1950s. Generations of Aboriginal people growing up at Roseby Park therefore regarded the entire area as theirs …*
>
> *My mum used to walk from Roseby Park to Beecroft; they had their tracks.*
> Deliah Lowe 23.4.2023

Over time the land was subdivided and developed. In 1957 the foreshore area of Roseby Park Aboriginal Reserve was revoked for the purpose of 'public recreation' and in 1965 a major road was

[21] Fox 1978

constructed right through the middle of the 'mission'.[22] Land to the south of the reserve was then excised from the Crookhaven Park to permit further residential development. Aboriginal people's movement was restricted.

Aboriginal people have fond memories of the time when their country was more accessible than today:

> *We walked or rode bikes around the edge of Curly Bay from Roseby Park to Currarong.*
> Ron Carberry 19.1.23

> *We would walk from Orient Point to Callala through private property and around Curley Bay; the whole area is rich in resources. We know how to catch what we want. This place (the study area) would have been a walkway for our people to Callala Bay. Development is ok if we don't get locked out.*
> Graham Connelly 20.4.23

> *We used walking tracks all through our country including along the foreshore near where the pumping station is (Curleys Bay)[23]. There was an old track through here (study area) that we used to get to town (Nowra). We just passed through; I don't remember seeing any old camps. Gerald* Carberry 21.4.23

> *Our grandfather William Wellington used the road through here; he had a bullock and cart and would take the Aboriginal workers from Roseby Park to work on the farms at Pyree, Brundee and Worrigee. Each family was allocated a farm to work on.*
> Jenny Wellington 21.4.23

> *We used to come all the way up and followed the canals in tin canoes all the way along the Crookhaven River to the floodgates. Curleys Bay, it was a food source for us. And they used to camp. And of course there was nothing sort of put there, for a purpose. So everyone used to walk there, but it would be, if you go out, they wouldn't go for a day trip, they'd be going for weeks. We used to always get, all the oysters and that all around Curleys Bay. And the ones that had the canoes, used to come straight across there.*
> Gordan Wellington 5.6.2023

[22] Fox 1984:31.3.
[23] Sewerage treatment plant

The 1968 parish map (Figure 4) shows the historical Culburra Road to be aligned with the current Culburra Road, situated to the south of the study area. Earlier maps (e.g. 1927 plan) don't show any roads at all near or through the study area.

Figure 4 1968 Plan Parish of Wollumboola

Gordan Wellington understands that the current Culburra Road aligns with the historical dirt track, as per Figure 4. The 'flood gates' are located where Culburra Road crosses over the Crookhaven River and the 'Arch Gates' were situated on the Culburra Road near the intersection with Coonemia Road, both west of the study area[24]. Perhaps historical cattle tracks were present within the study area, and used by local people as 'short cuts' when travelling between Culburra and Pyree.

[24] Pers comm Gordan Wellington 5.6.23.

Figure 5 Vehicular track through study area (2022)

There is no doubt that the study area was transiently accessed by Aboriginal people in the pre and early contact period as they journeyed between the resource rich coast containing lakes, rivers and creeks, and the inland forested rangelands (Figure 5). Historically the study area was also likely used for the same purpose prior to the construction of fences demarcating private property boundaries.

2.4 Use of natural resources

Traditional knowledge about the ecosystem is the evolving body of knowledge, beliefs and practices, accumulated as it is handed down the generations through song, storytelling and other cultural practices.

The subsistence or economic value inherent in the study area is evident in the archaeological record. Cultural practices associated with the use of natural resources, today and in the past, form an important part of Aboriginal cultural values associated with the study area.

The study area contains a variety of habitat types all valuable to Aboriginal people for different reasons; a river, mangroves and forests (see figures 6, 7, 8 and 9). Aboriginal people developed a highly localised understanding of the interrelationships between species and the natural environment over time, assisting in the collection and consumption of natural resources.

> *Culture involves protection of flora and fauna as well as the cultural heritage.*
> Ron Carberry 19.1.23

> *This place has raspberries, sarsaparilla, bottle brush, lili pillies, honey suckle, quails, superb wrens and the night owl.*
> Graham Connelly 20.4.23

> *There'd be bush foods and medicines in there. The she-oaks protect the water because the black cockatoos eat the seeds and they bring the rain.*
> Grace Crosley 21.4.23

Figure 6 Forest in centre of study area

Figure 7 View into study area from the west

Figure 8 View into study area from the east

Figure 9 View into study area from the north

See Table 1 below for a list of culturally valued flora species found across the study area.

Table 1 Culturally valued flora species found across the study area

COMMON NAME	SCIENTIFIC NAME	CULTURAL VALUE
Bangalay	Eucalyptus botryoides	Shelter, water craft
Spotted gum	Corymbia maculata	Tools, weapons, bowls
Iron bark	Eucalyptus paniculata	Water craft, coolamons
Stringy bark	Eucalyptus globoidea	Shelter, water craft
Stringy bark	Eucalyptus eugenioides	Shelter, water craft
Mahogany	Eucalyptus robusta	Fire, tools
Scribbly gum	Eucalyptus sclerophylla	Bowls, coolamons
Paper bark or tea-tree	Melaleuca ericifolia	Bedding, roofing, medicinal
Paper bark or tea-tree	Melaleuca styphelioides	Bedding, roofing, medicinal
Wattle	Acacia longifolia	Tools, food source (gum)
Old man banksia	Banksia serrata	Drink sweetener, tanning, source of grubs
Hairpin banksia	Banksia spinulosa	Drink sweetener
She oak	Allocasuarina littoralis	Medicinal
Geebung	Persoonia linearis	Food source
Burrawang	Macrozamia communis	Food source

Salt bush	Atriplex australasica	Wind breaks, medicinal
Snake whistle	Dianella caerulea	Coloration, whistle
Sarsaparilla	Hardenbergia violacea	Drink source
Mat Rush	Lomandra longifolia	Food, weaving, medicinal
Bracken fern	Pteridium esculentum	Medicinal, food source
Apple berry	Billardiera scandens	Food source
Boobialla or juniper	Myoporum acuminatum	Food source
Kangaroo grass	Themeda australis	Food source
Mangrove	Avicennia marina	Food source, tools
Glasswort	Sarcocornia quinqueflora	Food source

Regardless of historical private property laws (restricted access), the Study Area is important as a place containing natural resources culturally valued by Aboriginal people.

2.5 Living on Country

Aboriginal knowledge holders participating in this assessment indicated a possible historical camping place in the study area, on the edges of Curleys Bay. Unfortunately, no specific locational details were recorded during this assessment (Figure 10).

> *There used to be old camps on higher ground around Curleys Bay*
> Jenny Wellington 21.4.23

> ***My mother used to talk about camps along Curleys Bay,*** *they had a good view to Cullunghutti from there.*
> *Ron Carberry 21.4.23*

> *Good fishing in Curleys Bay, mainly Mullett as it is a protected breading area.*
> Gerald Carberry 21.4.23

> *Well, that's up from where the dock, we used to have access straight to the park there. And at the crossroads, we called that Curleys Ramp. Because they had cattle, all over the place here. The Caffreys used to have cattle, running there. Well that was a favourite spot of ours, there at Curley Bay. It would be up from where the dock is. Were all the Lonesborough's lived. They was allotted a 50 acre blocks along here. But they all fronted Curleys Bay. That was on the foreshores*

of Curleys Bay. The 50 acre lots used to be going towards, where the floodgates is and you went on to Pyree. ***Well, there was lots of little huts there. Oh, there was a lot of old people. There was a mix of people, white and black. You know? they were old fishermen.*** *And the same as Wreck Bay. They used to be, like the Butler families, used to come all the way up to Wreck Bay. They used to fish all those beaches. That was probably in the early '30s. They were all falling to pieces. They was anywhere up the river, they were.* ***And especially up around where the floodgates is****. There'd be always camps there. Bush camps. Yeah. Now the floodgates, they used to call it the Arch Gates. And then the ramp was there. But when the road would come around here, to where the big pond is back here. And then you've the Shoalhaven running up this way. The floodgates, they used to open it up, when that water built up there. But it's totally different now. Where are the Arch Gates? Now these Arch Gates should be here somewhere on Culburra Road.*

Gordan Wellington 5.6.2023

My Aunty Betty Carpenter told me how her mother and father lived in an old tin shack, she ***pointed to the place across the river from Orient Point****. She lived at Curleys Bay with her parents Minnie Carpenter and Dave Coomie Carpenter above the high tide mark, near where the Lonesborough's had their oyster leases.*

Noel Wellington 2.6.23

So what about that area east and west of the pumping station[25], was there any huts, or camps? Not in my days. I don't remember huts there. I've never even known anyone in my, from '49, '47, '49... that lived there.

Gordan Wellington 5.6.23

[25] Sewerage pumping station

Figure 10 View to the southern bank of Curley Bay

> *They might find scattered stuff in there. Because I mean to say, the area is there, it was a food source, and anywhere there's a food source, our people inhabited. I don't think there's any fresh water in there, that's why there was no permanent camps here. They carried their water or whatever, in there. It all depends on what time of the year it was. I know, we had fresh water springs on the Mission (Orient Point). There was an old creek, that run to the foreshores of Shoalhaven there.*
>
> Gordan Wellington 5.6.23

After inspecting a shell fragment on the track in the eastern portion of the proposed development, initially interpreted by a participant to be evidence of a 'camp site', the participant formed the view that the shell was more likely to be an isolated find linked to a water wash out which was evident along the track[26].

Given the unavailability of freshwater in the study area, permanent occupation in the distant and recent past seems unlikely. It is more likely that the study area was valued as a place to collect natural resources and as a safe place to travel through, as outlined above.

[26] Ron Carberry 21.4.23.

2.6 Beliefs associated with Country

Local cosmological beliefs underpin life, explain how things are connected, and give principles regulating human-animal relations which influence land management practices and the use of natural resources. Below is a description of how the southeast coast of NSW, including the study area, was created.

> *This place [Beecroft] is important because it relates to all other places in our country here. It's like a web which branches out and all things are related. From hunting to ceremony, to religion. For a long time, for thousands of years, our people have lived on this land. Our very existence is our relationship to this land. And if we can't have that something will die within us.*
>
> *Mirigal created the earth, and sent his spirits to live on the earth. Today this is the people, the trees and the animals. Of these spirits there was Bundoola and his 13 wives which became the 13 tribes of the south coast, that's how the south coast Aboriginal people began…*
>
> *I want to tell you a story. It is about the powerful sprint called Bundoola. Bundoola was given a wife by our tribe. But Bundoola wasn't happy, he wanted to take another fancy one. He tried to kill his wife by giving her poisoned fish. He was punched by the elders for doing the wrong thing. Bundoola went a long was down the south coast. The spirit bird men were sent after him to bring him back, but he got away. He travelled back up the coast to Tianjara Falls. The bird men caught him there and tied him up with vines. They lowered him down the falls but Bundoola was strong and powerful and clever and he was able to get away. This is where he came back to down here at Beecroft. The two bird men caught up with him again, he was standing on his boat spearing fish. They saw him and turned Bundoola into stone and sank him beneath the water, that what the story is about here on Beecroft. Bundoola is the powerful rain spirit. Now when the great storms come up, you'll see Bundoola throw his spears at the lightening across the sky. You can hear the thunder of his feet, and sounds of battle as Bundoola and the bird spirits fight again in the sky…'.* [27]

Another important way Aboriginal people connect to Country is through totemism; the complex inter-relationship between people and the natural world where the two provide mutual benefits to each other through a spiritual, yet tangible inter-dependency.[28] There are a number of different forms or

[27] *We Come From The Land; Orient Point 1988* [film] Jerrinja LALC and Wreck Bay Aboriginal Community Council.
[28] Elkin 1974; Rose et al. 2003.

categories of totems including personal totems, gender totems, family or clan totems, tribal totems and totems relating to the specialised powers of 'clever people'.[29] According to Rose, the relationship developed between a person or group and a totemic species allows for mutual protection and assistance through ongoing environmental interactions.[30]

Totemic species in this region recorded by Howitt include the kangaroo, bush rat, eagle hawk, lace lizard, brown snake, black duck, echidna, bream, waterhen, white-breasted cormorant, pelican and bandicoot.[31] Participants also mentioned the totemic importance of the koala (Figure 11). A specific type of totemism called *'budjan'* was documented in this region by Howitt; one's *budjan* provides kinship links between the people or group who identify with a particular totem, as well as kinship links to the natural world.[32] *Budjan* species become part of a person's extended family and in this region are often birds.

Figure 11 Koala (Shutterstock 2023)

The strong connections Aboriginal people hold with the natural environment have been retained despite the impacts of colonial history, including through totems.

> *The Jerrinja totem is the koala.*
>
> Alfred Wellington 19.1.23

[29] Rose et al. 2003: 3.
[30] Rose et al. 2003: 40–50.
[31] Howitt 1904: 133, 262.
[32] Howitt 1904: 133 ; Rose et al. 2003: 3.

There are plants and animals on the block that are important to us; all plant and animals are important to us but mainly the koala, magpie and swans. The koala is our logo. The koala lives on the west side of Lake Woollumboola so it could move into this area too. Gambewarr means koala.

Graham Connelly 20.4.23

Our special totem was the bandicoot. Now, the bandicoot, there's two types. There's the poisonous type, you can't eat. And there's one you could eat. Both are important.

Gordan Wellington 5.6.23

One of the Jerrinja tribal totems is the black swan, the gunyu. They are protected but we eat the eggs from Curleys Bay and Lake Wollumboola. We need to look after the reeds for the swans to enjoy.

Grace Crosley 21.4.23

Another important element of Aboriginal religion across the region is a belief in a human-like creature called the *dulagaal*, first recorded by Horatio Hale in 1846:

… the devil is called Tulugal. He was described to us, by a native, as a black man of great stature, grizzled with age, who has very long legs, so that he soon overtakes a man, but very short arms, which brings the contest nearest an equity. This goblin has a wife who is much like himself, but still more feared, being of a cruel disposition, with a cannibal apatite, especially for young children….[33]

In 1904 Howitt found that *tulugal* deriving from the terms *tulu* meaning a hole or grave and *gal* meaning belonging to and that it was being used to refer to human ghosts and to beings who lived in trees, rocks, or caves in the mountains, and who were credited with stealing and eating children[34]. The *dulagaal* story later appeared in Roland Robinson's 1958 collection of stories, as described to him by Percy Mumbler.

[33] Hale (1846) in Organ 1990: Ixx.
[34] Howitt 1904: 462–63.

…A doolagarl is a man like a gorilla, he has long spindly legs. He has a big chest and long swinging arms. His forehead goes back from his eyebrows. His head goes into his shoulders. He has no neck. A doolagarl makes you weak and tired. You can't walk. Your mate gets weak. You have to bustle about, make a fire, you don't want to let that fire go out. If the fire goes out, you go to sleep and the doolagarl comes. He lifts up your blanket. He tickles you. If you laugh and wake up he grabs you, puts you under his arm and walks off with you. He tears off your arms, tears you to pieces. He bashes you against a tree and eats you….[35]

Aboriginal people's spiritual associations with the broader cultural landscape continues to inform how families use and access Country. Each family has stories about *dulagaal* sightings and frightening experiences. Similarly, each family knows of places associated with *guwinj* (=ghost or spirit of the dead) that they avoid.

That fear was there, the Dooligal. And the other word was the goonge. They're called the goonge. The only ghostly place was up here at the floodgates. A forested landscape is seen as a haven for the Dooligal or a pretty hiding place for them…. It's in the spirit world, I suppose, when you think.
Gordan Wellington 5.6.23

We believe in life after death, and the guwinj is in all the bush in our country, not just here, all around. We like the bush where our ancestor's spirits are resting in peace there.
Grace Crosley 21.4.23

Enabling Aboriginal Custodians to undertake their customary responsibilities to care for and protect their Country is an important way to sustain these cultural beliefs and practices and, in doing so, maintain ecological biodiversity.

2.7 Connections to the past: Archaeological sites

Today Aboriginal people hold strong cultural connections to the archaeological sites in the study area primarily because these 'objects' were deposited by their Ancestors and are a tangible and visual reminder of the rich cultural life they lived.

[35] Robinson 1958: 121–123.

As evidenced by the oral history record, the few archaeological sites known to be located in the study area are understood by Aboriginal people to be connected to the extensive archaeological record across the broader cultural landscape, particularly at nearby Crookhaven Heads, Orient Point and the northern shores of Wollumboola Lake.

> *I fear about other sections of the lake such as Curleys Bay and Crookhaven River. We don't know the significance of these places until development has been approved. We might find another Wollumboola.*
> Alfred Wellington 15.9.22

Picking up a fragment of a shell midden or an artefact has meaning to Aboriginal people.

> *It means that it was handled by one of our people. It means a lot. Because it means our people – there's truth behind all the stories, that they tell.*
> Gordan Wellington 5.6.23

> *We used to find middens in the mangroves around the edges of Curleys Bay.*
> Graham Connolly 20.4.23

> *There was an old track through here [study area] that we used to get to town [Nowra]. There was less vegetation here then; I remember seeing snakes and middens in the clear areas. It is all grown over now.*
> Gerald Carberry 21.4.23

> *Burials are often found in midden. Given there are middens on this block [ie the study area], there should be monitors present when the ground is disturbed.*
> Gerald Carberry 21.4.23

> *There is a 'camp site' on the eastern block where the midden is. It isn't an historical camp; it would have been one used by the 'old people' before our time; they left the midden there.*
> Ron Carberry 21.4.23

There is a strong sense within the Aboriginal community, regardless of scientific archaeological modelling, that further archaeological investigations across the study area will reveal a rich and extensive archaeological footprint.

3.0 Cultural values and places across the landscape (beyond the study area)

The study area is situated in a highly significant cultural landscape containing traditional spiritual and archaeological values. The cornerstone features of the cultural landscape surrounding the study area are Cullunghutti (Coolangatta Mountain) and Bundarwa (Beecroft Peninsula); two sacred places to the north and south of the study area associated with the spiritual life and death of Aboriginal people and the basis for their cultural identity today and in the past.

Whilst each of the places described below are beyond the study area, they are culturally connected to the study area and to each other.

3.1 Archaeological sites (including a review of AIATSIS records)

One of the key recommendations of the original ACHA was (Kuskie 2012: 5):

> *As a condition of any further heritage investigations associated with an application for the development approval under Part 4 for the investigation area, the oral account recorded in the late 1970s by Jerrinja Elder Jack Campbell, and lodged with AIATSIS, of the middens adjacent to the investigation area and their importance to the Jerrinja community, should be researched.*

A review of AIATSIS oral history interviews and historical photos associated with Jack Campbell and Culburra was undertaken, as directed by Heritage NSW, as a way to determine if the cultural information related to the study area. In particular it was thought that the interview with Jack Campbell might contain references to shell middens located in the study area. The following materials were accessed and reviewed:

CONNOLLY_G01 (A007610) AUDIO
Creator: Connolly, Graham, 1936-
Title: Discussion of sacred sites in Jervis Bay area
Publication Information: 1979

I can confirm that the 46-minute audio recording of Jack Campbell was undertaken by Graham Connelly Snr in 1979 and provides generalised references to midden material (no specific locational details provided)[36]. The recording provides other good information about cultural values generally (natural resource use, connections to country, the significance of country etc). There is no reference to burials.

The photographs taken at the time of the audio recording (as listed below) give a good indication of the places being referred to in the audio recordings. The 140 images have been received without captions; AIATSIS does not have a captions list for these photos. There are some images of middens and ground in general (bush and beach/coastal).

CONNOLLY.G01.BW (N01223-N01225) PHOTO
Creator: Connolly, Graham, 1936-
Title: Shell midden on the South Coast region of New South Wales
Added Author: Connolly, Graham, 1936- (photographer)
Publication Information: 1979

CONNOLLY.G03.BW (N00919) PHOTO
Creator: Connolly, Graham, 1936-
Title: Bushland, rock pools, rock shelters, and midden sites in the Nowra region.
Publication Information: Between 1980 and 1989

CONNOLLY.G01.BW JPG\CONNOLLY.G01.BW-N01223_01 > 36 PHOTOS

CONNOLLY.G01.BW JPG\CONNOLLY.G01.BW-N01224_02A > 35A PHOTOS

CONNOLLY.G01.BW JPG\CONNOLLY.G01.BW-N01225_02 > 37 PHOTOS

A review of the photos with Graham Connelly (the original photographer) was a critical part of this assessment and enabled the identification of the locations documented. The following highly significant places feature on the audio and visual materials assessed.[37]

[36] CONNOLLY_G01 (A007610) AUDIO
[37] Graham Connolly and Regina Reid 20.4.23.

Bansen's Well:

There was a water well at Orient Point. Bansen lived there. People carried washing to well.

Devil's Hole:

Important sacred site at Beecroft Peninsula.

Worrigee:

There was a sacred bunan ring (ceremonial site) at Worrigee.

Boggy Hole:

Boggy Hole is at Currarong; a sacred site.

Kings Chair:

What we call the Kings Chair is at Crookhaven Park. It is a fishing place where children were taught how to swim. You can see Culburra Point from Kings Chair. There are midden shells in a heap, behind the chair in the coastal dunes. They aren't scattered, that stops the mutton fish from scattering. Law set down by Dharama.

Crookhaven Park:

There is an important bora ground and women's area at Crookhaven Park near Culburra Oval Where the sports ground, amenities block and road were built. The area also contains important natural resources (honey suckle, yams, geebungs, cherry, lilli pilli, cabbage tree grapes). There is a freshwater waterhole there too which was used for drinking and washing.

Long beach:

Jervis Bay; middens and former Aboriginal reserve.

Honeymoon Bay:

Jervis Bay; middens and historical camping area.

During this assessment, there were no cultural places or values identified in the 1979 AIATSIS photographic collection directly associated with the study area. It appears that the 1979 documentation focused on highly significant cultural sites, both tangible and intangible, across the region (to the north, south, east and west of the study area).

The rich archaeological record at nearby Crookhaven Heads, Orient Point and Lake Wollumboola strongly influences how the study area is culturally valued by Aboriginal people today.[38] The few archaeological sites known to be located in the study area are understood by Aboriginal people to be connected to the archaeological story across the broader cultural landscape. Aboriginal people hold strong contemporary connections to the archaeological sites located in the study area (shell middens and artefacts) primarily because these 'objects' are believed to have been deposited by their Ancestors and are thus a tangible reminder of the rich cultural life of the past.

> *We need to look at the landscape, and how these places link. With the passage of time and change and fences, it's not until we revisit these places old stories are triggered. We might find another Wollumboola. I fear for other sections of the lake and around Curleys Bay and Crookhaven River. We don't know the significance until development has been approved.*
> Alfred Wellington 15.9.2022

As apparent during this assessment, there is a strong sense in the Aboriginal community, regardless of scientific archaeological modelling or the results from the AIATSIS research, that further archaeological investigations across the study area will reveal a rich and extensive archaeological footprint.

3.2 Places of mythological and ritual significance

As outlined by Cane, the rapid disintegration of Aboriginal life in the Jervis Bay region combined with the tendency of Aboriginal people to keep their religious knowledge secret from the disinterested public, has led to a lack of documentation relating to mythological beliefs and ritual practises associated with the study area and surrounds (Cane 1987: 45).

Moreover, as is the case across the continent in the post contact era,

> *minor myths and place names are most easily filtered out of the oral traditions. Over a period of time, only the more significant mythological events are passed on from generation to generation. Thus, the stories which survive over a period of time are usually the most significant of all the stories once known and celebrated by the ancestors of the current Aboriginal descendants (Cane 1987: 45).*

[38] Fox 1978: 10 -11.

A few highly significant places associated with myth and ritual have been recorded over the past few centuries across the cultural landscape within which the study area is located, as outlined below.

Cullunghutti (Coolangatta Mountain)

Cullunghutti is located to the north of the study area and is connected with a mythology first recorded by Matthews in 1898. The story describes the 'post death journey' for Aboriginal people in association with special rocks located on the eastern side of the mountain.[39]

> *…It was from a rock on the eastern slope of Coolangatta that the dead, after burial in the midden sand, arose in spirit and departed from the world...*[40]

Aboriginal people also hold strong historical connections to the mountain in relation to Aboriginal employment on the estate of Alexander Berry.[41]

> *Cullunghutti and Bundarwa are the most sacred places for Jerrinja.*
> Gerald Carberry 21.4.23

> *The spirits go up from there, from Cullunghutti…*
> Jenny Wellington 21.4.23

Cullunghutti dominates the skyline north of Orient Point and Crookhaven Heads, and continues to be revered by Aboriginal people today.

[39] Waters 2013: 25.
[40] Egloff in Cane 1987: 46.
[41] Waters 2013.

Figure 12 Cullunghutti (view to north from Orient Point)

Bundarwa (Beecroft Peninsula)

Bundarwa is located south of the study area and defines the eastern extent of Jervis Bay. The peninsula contains a complex of mythological and ritual sites associated with Bundoola a man like mythological figure who controls the sea and the local marine resources. Bundoola is believed to reside at Devils Hole (Cane 1987: 47). As a prominent sacred place in the region, Aboriginal people continue to revere Bundarwa (Beecroft Peninsula).

> *When I hear lightening, I get scared of Bundoola every time and I shut my curtains*
> Jenny Wellington 21.4.23

Another mythological character known as Spundula lives at places known as Duckhole and Drum and Drumstick. Spundula is believed to controls the weather (Cane 1987: 52).

A bunan (ceremonial ring site) was recorded at Hammerhead Point and another at Green Point marked by three scarred trees (Cane 1987: 52). A key feature of Aboriginal ritual practices in this region is the use of *bora* or *bunan* – being circles of foot-hardened earth surrounded by raised embankments formed as a result of many years of people dancing in a circular formation, over the same ground. Body oils would act to harden the earth and hinder the growth of vegetation.[42]

[42] Howitt 1904; Roth 1909; Mathews 1904.

Berndt's 1974 analysis of Aboriginal religion across Australia identified this region as being associated with the 'Magico-religious Bora Complex' (Figure 13), which is, according to Berndt,

> *the degree to which magical elements intrude on basic ritual, as expressed through the active participation of native doctors (or 'clever men') and the appearance of super-natural beings who are conceived of as set apart from man. Within the context of both, a special relationship exists between man and the Sky World.*[43]

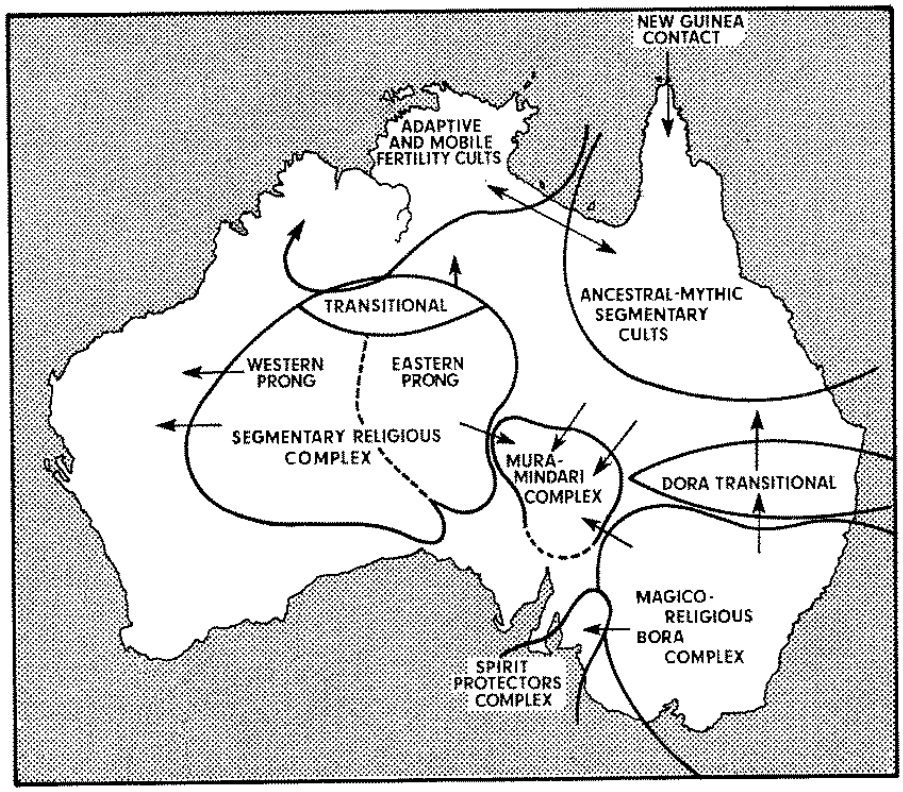

Figure 13 Australian Aboriginal religious patterns (Berndt 1974: 23)

Today, knowledge about ritual places including bora rings is held by senior Aboriginal people, but generally the main threat to bora ground sites come from a loss of knowledge on their exact locations. Other bunan sites have been recorded at Crookhaven Park near Culburra Oval, but none within the study area.

[43] Berndt 1974: 23.

Bid Bid (Callala) Creek

Information about mythological women known as 'Bipbip' was recorded by Cane in 1987:

> *there is a remnant knowledge amongst the Aboriginal community of a myth about 'Bipbip Women'. These women were something like classical mythological sirens. They looked like normal women, except they had pointed toes. They used to come down from the mountains and lure Aboriginal men from their families, onto Beecroft Peninsula. The activities of these women and the location of their sites have largely been forgotten, although one 'Bipbip womens' site in known at Orient Point….it is interesting to note that the name Bid Bid Creek has been given to a small creek running through the Armament Depot. Aboriginal people do not recall sacred stories about this creek, but one may assume its name has some historical connection with the original myth; possibly even being part of the original 'dreamtime' path or track the women travelled along... (Cane 1987: 47-48).*

In 2018 the NSW Independent Planning Commission (IPC) conducted a review of ACHA reports associated with a development proposal at West Culburra. As part of the review, the Jerrinja LALC met with the IPC and recorded some information about the significance of Bid Bid Creek located at Callala in Jervis Bay south of the Study Area.

Mrs Lowe explained there is an important women's Dreamtime track near Kinghorn Point. The area covers from the upper Bid Bid Creek across to Callala Creek down to where it enters Lake Wollumboola:[44]

> *I have heard stories about Bid Bid Creek growing up, but haven't been there.*
> Alfred Wellington 15.9.2022

No further mythological associations were documented during this assessment in relation to the Bipbip Women, Bid Bid Creek or Kinghorn Point. The closest of these localities in relation to the study area is Bid Bid Creek, approximately 9 kilometres (km) southwest of the study area.

Goodnight Island (Curleys Bay)

[44] Bid Bid Creek flows southeast from Forest Road to join Callala Creek which flows into Jervis Bay at Callala Beach. Neither Callala Creek or Bid Bid Creek enter Lake Wollumboola.

Some details were collected during this assessment about the importance of Goodnight Island located in Curleys Bay to the northeast of the study area.

> *People use to camp on the north side but the south side of the island was a special place; a ceremonial site. Kids could play on the north side of the island but not the south side.*
> Gerald Carberry 21.4.23

> *We weren't allowed to go to Goodnight Island.*
> Grace Crosley

> *Goodnight Island was very sacred to our people. Because I remember Dad, back in the mission manager's days, the watchdog used to come around, the Government sent these cars around after kids that was being neglected. And every Christmastime, this would be happening. And my dad used to get the kids, put them... Because they always had access to boats. They used to have boats tied up, in front of the Mission. And he used to row them all around to Goodnight Island. And on Goodnight Island, we had a big old shed there. And they used to take the kids there, to hide them.*
> *Because the Commonwealth was coming – To get these kids. They were never stolen. Well they had them out there, until these cars went. Only a day, or overnight, and they'd be back home again. And it always happened on school holidays.*
> Gordan Wellington 5.6.23

<u>Currambene Creek</u>

Currambene Creek near Huskisson is thought to be the location where a ceremonial gathering was documented in 1801 (Grant in Cane 1987: 32-34). Whilst no shelters were evident, an abundance of food, fires and flattened ground was observed.

No further details were documented in relation to this place.

3.3 Places associated with natural resource collection

Lake Wollumboola

Lake Wollumboola is located 1.5 km southeast of the study area and is valued as a place to camp, to collect natural resources and to undertake cultural teachings given its location between two highly significant sacred sites. The lake is also a highly significant archaeological site.

As part of the 2018 IPC review of ACHA reports associated with a development proposal at West Culburra, the Jerrinja LALC met with the IPC and recorded some information about the significance of Lake Wollumboola:

- Lake Wollumboola is a sensitive ecosystem, opening to the sea intermittently and therefore does not get flushed often. The lake is an important breeding ground for birds and fish. Mr Carberry and Mr Connolly Jnr explained that the lake catchment contains an important fish trap site.

- Lake Wollumboola has always been used for its cultural resources up until today. The lake is geographically situated between the Bundarwa, the Jerrinja birth place and the Cullunghutti, on the eastern ridge of Mount Cullunghutti is the departure site when Jerrinja people pass on and go into the spiritual world.

- The Jerrinja strongly believe in educating young Aboriginal and non-Aboriginal people about the importance of midden sites and significance of Lake Wollumboola. Information can be provided at sites through interpretation signage, which has been done in areas throughout the Shoalhaven.

Figure 14 Welcome signage at Lake Wollumboola (2023)

Figure 15 Lake Wollumboola view to the southeast (2023)

Participants in this assessment also described the importance of the lake in relation to the cultural landscape containing the study area.

> *And that lake, wasn't Wollumboola Lake when I was there, it was Guunyu Lake. Guunyu Lake, because Guunyu is the swan. And that lake fed us for many, many years. We used to catch a bird, we used to call the snipes. They're out on the mud flats, picking. And they'd have a really long beak.*
>
> Gordan Wellington 5.6.2023

Figure 16 Cultural interpretive signage at Lake Wollumboola

Comerong Island

One participant described the cultural and historical values associated with Comerong Island located approximately 3 km northeast of the study area.

> *One of my uncles, he was a boat builder. Old Uncle Joe Bung. Well, his right name was Norman Wellington. And being fishermen, they used to get all their stuff off of Comerong Island, that gave them the vines for making pots, and it gave them the trees. Because the corkwood tree, they used to make the rowing oars out of. And I know as a kid we'd be sitting down with broken glass trimming them.*
>
> Gordan Wellington 5.6.2023

Billy Island

> *I heard to old people talk about Billy Island, from the uncles. Mum's brother used to go fishing around Billy Island and the creek there.*
>
> Deliah Lowe 23.4.2023

3.4 Places where people lived

Cane describes informal ('unmanaged') Aboriginal camping places in the region during the early 1900s, including one on the eastern shores of Currambene Creek (Callala) and another 'adjacent to the beach to the north of Green Point' (Jervis Bay) (Cane 1987: 38), but none within the Study Area. According to

Cane, most Aboriginal people in the region were living in more formal arrangements at Long Beach (Jervis Bay), Roseby Park (Orient Point) and Wreck Bay (Jervis Bay) (Cane 1987: 40).

Currambene Creek

In the 1890s Aboriginal people were forced off the formal reserve at Long Beach following the leasing of Beecroft Peninsula as a bombing range and established an unofficial camp on the northern bank of Currambene Creek (Cane 1987: 43). The 'camp' contained more than 10 timber cottages with bark roofs and the residents would row to Huskisson for rations. The last known person to live there was Mrs Carpenter who died in the 1920s (Cane 1987: 43). It seems that the residents of the Currambene Creek camp gradually shifted to another unofficial camp at Green Point, just north of the Long Beach Reserve, on the eastern side of Jervis Bay (Cane 1987: 43).

Coonemia Creek

According to one participant in this assessment Aboriginal people used to camp at Coonemia Creek, approximately 8km south west of the study area.

> *A lot of sacred ground was up in here, where they used to come and camp. Coonemia Creek. On Coonemia Creek, they used to be camping up. And now, when the parks bought it from Halloran.* Gordan Wellington 5.6.2023

Kinghorn Point

During the 1900s Aboriginal people from Roseby Park would set up camps at Kinghorn Point, walking between Orient Point and Kinghorn Point as well as Carama Inlet (Cane 1987: 44). According to Cane, continued movement from reserves to traditional homelands is a common feature of post contact Aboriginal settlement where Aboriginal groups attempt to maintain links with their land and traditions (1987: 45). According to participants in this assessment, seasonal farm work was also undertaken by Aboriginal people from Roseby Park at a private property at Kinghorn.[45] The route between Orient Point and Kinghorn does not pass through the study area.

[45] Graham Connelly 20.4.23.

Aboriginal Reserves

In 1840 the Land and Emigration commissioners concluded that 'moderate reserves' should be set aside for Aboriginal people to 'enable them to live, not as hunter-gatherers, in which case no good would be done, but as cultivators of the soil'. The Land Act of 1842 enshrined these views and allowed Crown land to be reserved from sale for the use of Aboriginal people (Goodall 2008: 52). This Act reflects a protectionist legacy of the NSW state government towards Aboriginal people from the 1840s until around the 1940s. The protectionist policies of this time were ostensibly aimed at improving the lives of Aboriginal people but it also served as a way for the government to exert control over Aboriginal people's day to day lives.

In proximity to the study area, the first portion of land reserved for the use of Aboriginal people was at Long Beach located on the western side of Beecroft Peninsula, Jervis Bay (1881–1916). The Roseby Park Reserve (gazetted in 1900 with additions in 1907) is located at Orient Point and is the closest reserve to the study area (Fox 1978).

> *The Caffreys used to have cattle, running there. I think the Caffreys donated the ground, to the Reserve. And through the Reserve, the council, they cut it in half.*
> Gordan Wellington 5.6.2023

Aboriginal reserves were also established at Wreck Bay on the southern side of Jervis Bay (1954) and at the northern end of Seven Mile Beach (1899–1953), as well as others across the state of NSW.[46]

The reserves at Seven Mile Beach and Long Beach were revoked by the government over time. Aboriginal people however continue to reside at both Roseby Park and Wreck Bay which enables continued connection to Country across the region.

Whilst the former Aboriginal reserve system across NSW was initially a reaction to changes following settler selection of land, sometimes in response to requests for land made by Aboriginal people or by settler farmers advocated on behalf of dispossessed locals, the places reserved were often occupied by Aboriginal people for thousands of years prior to the gazettals and continue to be valued as places for Aboriginal people to reside.

[46] Waters (2013: 212-213).

3.5 Named places

There are a few historical references to Aboriginal place names across the region surrounding the study area: Currambene Creek (= Currambun); Sussex Inlet (= Berrewerry); Coolangatta MT (=Cullingatty); Berry (=Bongaree); Shoalhaven River (= Burray); and Bundarwa (= Beecroft Peninsula).[47]

Billy's Island, close to the study area, is thought to be named after Aboriginal man King Billy / Billy Bung, but this has not been historically verified.[48]

> *Billy's spirit is resting on Billy Island. It is a men's place so you need to be an initiated man to go there. The used to say 'Pop will get you'; they meant Billy.*
> Jenny Wellington 21.4.23

Curley's Bay, adjacent to the study area, is apparently named after an Aboriginal shepherd by the name of Curley who worked under Patrick Caffery for Berry at what is now Orient Point in the mid-1830s (Wallis 1988: 117). This naming association has not been further examined.

[47] Waters (2013) and Organ (1990).
[48] King Billy, different to King Billy buried at Huskinson Church (Gerald Carberry 21.4.23) / Billy Bung (Gordan Wellington 5.6.23).

4.0 Cultural significance of the identified values and places

Knowledge and understanding of Aboriginal people's connection with the Study Area (Lots 2 and 3 DP 1279350, Culburra Road, Culburra Beach, NSW) has come from a range of sources, including oral traditions, historical records, the archaeological record and consultation with Aboriginal people.

This assessment has identified a number of cultural values directly associated with the study area including travelling through Country and the collection of natural resources. Importantly the study area is part of a named 'Country' with Aboriginal Custodians who hold the traditional responsibilities to look after it. The study area is also valued as a place where totemic species and supernatural cultural beings might favour as a forested environment in which to habituate. The study area may also be associated with an historical camping area used by Aboriginal and non-Aboriginal people, but this has not been confirmed.

Whilst it is understood that the entire landscape is culturally significant to Aboriginal people, this assessment did not identify any specific places within the study area of high cultural significance such as places of ritual or spiritual importance (for instance, bora rings, birthing sites, mythological story places, dreamtime pathways / song lines, or places where ritual teachings were undertaken).

An important finding of this assessment is that Aboriginal people's connections with the study area cannot be separated from the broader cultural landscape within which the proposed works are situated. The study area is situated in a highly significant cultural landscape containing traditional spiritual and archaeological values.

The cornerstone features of the cultural landscape surrounding the study area are Bundarwa (Beecroft Peninsula and Cullunghutti (Coolangatta Mountain); two sacred places associated with the spiritual life and death of Aboriginal people and the basis for Aboriginal people's cultural identity today and in the past. The rich archaeological record at nearby Crookhaven Heads, Orient Point and Lake Wollumboola strongly influence how the study area is culturally valued by Aboriginal people today.

The archaeological sites identified in the study area are understood by Aboriginal people to be connected to the archaeological story across the broader cultural landscape. Aboriginal people hold strong contemporary connections to these shell middens and artefacts primarily because these 'objects' are believed to have been deposited by their Ancestors and are thus a tangible reminder of the rich cultural life of the past.

Following a detailed review of AIATSIS materials relating to Aboriginal man Jack Campbell and possible references to shell middens located in the study area, as requested by Heritage NSW, it has been established that the cultural information contained in the AIATSIS audio and visual files do not directly relate to the study area. The AIATSIS records do however provide important details about the cultural significance of places in the landscape surrounding the study area including at Crookhaven Heads, Orient Point, Beecroft Peninsula Jervis Bay and Currarong.

5.0 Potential impacts and mitigation measures

The Aboriginal people who participated in this assessment expressed the following concerns in relation to how the proposed activities might impact the cultural values identified in the study area.

> *The impact on tribal lands needs to be contextualized in a broader sense relating to other developments on Jerrinja country. There is massive development pressure across Jerringa land council area being an entirely coastal jurisdiction. I'm not anti-development, I just want to see a cultural landscape map so that development can occur around important places, not on them.*
> Alfred Wellington 15.9.22

> *We like the bush where our ancestors spirit rest in peace. Can't they build on land that is cleared already?*
> Grace Crosley 21.4.23

> *As long as whatever they find, they've got to divulge it, and tell the people. And you've got to put it, in a safe place. Where they'll never be disturbed. Do not remove them from their natural area. Well, on my side of it, I think there shouldn't be any restrictions there. I mean, if they do discover something, it's got to be divulged. You don't put shells and everything in this Memorial Park (Gerroa), you'd put them in the reserve section [in the study area]. The only other thing too, is if they find any scarred trees, a scarred tree can't be touched. So the only thing they can't touch, is them. Because some of them, are thousands of years old. Go around them, or preserve them in some way that they can. But that sort of thing, would have to be okayed from the local land council.*
> Gordan Wellington 5.6.23

> *We need to be clear about process especially when managing unknown archaeological sites. Is it possible for development not to be approved if high archaeological values are identified? In case we find another Wollumboola.*
> Alfred Wellington 15.9.22

> *… It is important to protect the foreshore; we can't have jetties. As a senior custodian I don't want to see the bush built into an urban environment. I don't look favourably at all this land disappearing. They have to stay away from the waterways.*
> Deliah Lowe 23.4.2023

…if the community ask for access, plan tracks that stay away from sites.
Gerald Carberry 21.4.23

…design tracks that have the least impact and direct the public to places we want them to go. Construct a viewing platform to the bay where there aren't any middens.
Ron Carberry 21.4.23

They have put themselves at a disadvantage by not working with us, we could have been in a better position now. Under Aboriginal Law we are the Aboriginal custodians of the land. We can't buy or sell like European law…it would be good if they gave us some land that we could care for as Custodians. Good development is done by consulting properly and by embedding our cultural group into their plans. We are viewed as one of many stakeholders, we should be in a different category as traditional custodians of the land. There is a lot of ignorance. They could offer support to Jerrinja people in other ways too, in sport, education, or help setting up a fish hatchery to improve local fish stock. They could build housing for poor people, black and white…
Deliah Lowe 23.4.2023

…include a statement on people's land title about respecting Country especially the sensitive foreshore.
Gerald Carberry 21.4.23

…during construction, keep any artefacts and soil on site, don't displace them. They belong here. Any trees that have to be cut down should be given to the community to use to make totem poles, slabs for seats, posts for signs, firewood and other things.
Gerald Carberry 21.4.23

…when the trees get knocked down the critters will need somewhere to go. The bush to the west (of the study area) should be made into a flora and fauna reserve like a wildlife corridor. We could also use it to undertake cultural practises.
Ron Carberry 21.4.23

I'd like a name in this development, part of our tribal names (you've got a reserve, you've got street names, you've got park names). To recognise our people. And I'd like for something like this to go to our community 'cause that gives you a bit of pride in the area you lived in. Well you

give the oval an Aboriginal name and it's just out of respect. And that respect takes you a long way. I think all these streets should be a meaning behind it, all the names. And I've seen a lot of this stuff happening in places where they disrespect and it doesn't go down well. But I think it'd be respectful if you used the full name, Jaringarras, to recognise our older people.
Gordan Wellington 5.6.23

They can't bring in weeds and the wrong plants. Jerrinja people can collect seeds from the block and propagate plants and sell them to the people building their homes or to plant in the new park.
Deliah Lowe 23.4.2023

We need to consider impacts to sites adjacent to the study area caused by environmental runoff and loosening of sediments through tree removal.
Ron Carberry 19.1.23

We should make sure Aboriginal sites get inspected after minor vegetation clearance when the ground surface is more visible
Ron Carberry 19.1.23

We should have access tracks to the Aboriginal sites so that Aboriginal community people can go to the sites for educational purposes as well as to monitor and preserve the sites. The rules around where the access tracks should be and who can use them and how the sites will be looked after needs to be in a management plan.
Ron Carberry 19.1.23

We will lose a corridor, a bush corridor, a traditional pathway to Crookhaven.
Deliah Lowe 23.4.2023

There should be interpretative signage and incorporate local place/flora/fauna names into street signs.
Ron Carberry 19.1.23

The foreshore is ecologically significant as it facilitates growth of aquatic species and plants.
Ron Carberry 19.1.23

This assessment has identified how the proposed activities may threaten the cultural values identified in the study area in the following ways:

- ground disturbance can damage or disturb archaeological sites;
- access restrictions hinder Aboriginal people's ability to exercise their customary rights and responsibilities;
- increased public activity in the culturally sensitive foreshore zone;
- lack of public recognition can lead to disrespecting Aboriginal associations to Country;
- invasion of pest species undermines culturally valued species;
- run-off into waterways can cause pollution and impact aquatic life;
- loss of habitat will contribute to the cumulative impact of reduced biodiversity across the region which in turn diminishes a range of cultural practises and beliefs.

This assessment has identified the following cultural heritage management actions (some beyond the responsibility of Sealark) aimed at safeguarding the identified cultural values:

1. develop a regional cultural heritage management strategy (including a cultural landscape map and possible rezonings) to enable better decision making aimed at safeguarding Aboriginal values and practises across the cultural landscape (SL, SCC and HNSW);
2. favour impact to land that is already disturbed (SL and other developers);
3. continue to foster good relationships with the local Aboriginal community (SL);
4. ensure development plans protect nearby waters and minimise the likelihood of damage to midden sites around the foreshore of the Crookhaven River through increased public access (SL);
5. consider ways to ensure Aboriginal people can continue to access foreshore middens to enable site monitoring and cultural teaching (SL);
6. involve Aboriginal people in the development of the Management Plan for Crown Land (in foreshore buffer zone) (SL);
7. support Aboriginal people to revisit the middens across the local area, recorded by AIATSIS (1979), to check their condition (SL and HNSW);
8. develop and install cultural interpretive signage in public spaces within the development footprint to foster respect between residents and local Aboriginal people (SL);
9. ensure built infrastructure (streets / footpaths / parks / pathways / seats etc) are allocated names reflecting local Aboriginal cultural concepts (SL);

10. employ the local Aboriginal community members with experience in land management to assist in the management of Sealark properties across the region (including at Culburra West and any Biodiversity Stewardship Sites) (SL);

11. as part of the Cultural Heritage Management Plan, understand and follow local Aboriginal cultural protocols in relation to any unexpected finds (the community wish to discuss options and return items / remains as close as possible to where they were found) (SL);

12. enable local Aboriginal community members to collect and propagate seeds as part of a broader long-term environmental program to rehabilitate cleared blocks with local flora species of cultural relevance (SL); and

13. as part of 1 above, consider rezoning the bushland to the west of the study area as a reserve for public enjoyment and use (which would also enable Aboriginal people to undertake cultural practises) (SCC and HNSW).

Potential further areas for research:

- further investigate the origins of the naming of Billy Island and Curley Bay
- locate the land and adjoining oyster leases in Curley Bay held by the Lonesborough family to determine where historical camp sites were.

6.0 Conclusion

Whilst it is understood that the entire landscape is culturally significant to Aboriginal people, this assessment did not identify any specific places within the study area of high cultural significance such as places of ritual or spiritual importance (for instance, bora rings, birthing sites, mythological story places, dreamtime pathways / song lines, or places where ritual teachings are or were undertaken).

This assessment did however identify a number of cultural values directly associated with the study area that relate to travel and the collection of natural resources. The study area is also valued as a place where totemic species (koalas) and supernatural cultural beings (dulagaal) might favour as a forested environment in which to habituate. Importantly the study area is part of a named 'Country' (Jerrinja) with Aboriginal custodians (Jerrinja people) who hold the traditional responsibilities to look after it. The study area may also be associated with a historical camping area used by Aboriginal and non-Aboriginal people on the banks of the Crookhaven River / Curley's Bay, but this has not been confirmed.

The assessment also found that the study area is situated in a highly significant cultural landscape containing traditional spiritual and archaeological values. The cornerstone features of the cultural landscape surrounding the study area are Bundarwa (Beecroft Peninsula) and Cullunghutti (Coolangatta Mountain); two sacred places associated with the spiritual life and death of Aboriginal people and the basis for Aboriginal people's cultural identity today and in the past. Situated between these two sacred places is Lake Wollumboola, a highly significant cultural area.

As recommended by Kuskie (2012) and subsequently requested by Heritage NSW a review of AIATSIS oral history materials relating to Aboriginal man Jack Campbell has been undertaken as part of this assessment. It has been established that the cultural information contained in the AIATSIS audio and visual files, and in particular information relating to shell middens, do not relate to the study area. The AIATSIS records do however provide important details about the cultural significance of places in the landscape surrounding the study area including at Crookhaven Heads, Orient Point, Beecroft Peninsula, Jervis Bay and Currarong.

The rich archaeological record at nearby Crookhaven Heads, Orient Point and Lake Wollumboola strongly influences how the study area is culturally valued by Aboriginal people today. The few archaeological sites known to be located in the study area are understood by Aboriginal people to be connected to the archaeological story across the broader cultural landscape. Aboriginal people hold

strong contemporary connections to these archaeological sites (shell middens and artefacts) primarily because these 'objects' are believed to have been deposited by their Ancestors and are thus a tangible reminder of the rich cultural life of the past.

There is a strong sense in the Aboriginal community, regardless of the archaeological evidence or the results from the AIATSIS search, that the study area is culturally significant by virtue of its association with the surrounding cultural landscape.

This assessment has identified how the proposed activities may threaten the cultural values identified in the study area including ground disturbance; access restrictions; increased public activity in the culturally sensitive foreshore zone; lack of public recognition; invasion of pest species; run-off into waterways; and loss of habitat.

This assessment has identified a number of cultural heritage management actions aimed at safeguarding the identified cultural values including the development a regional cultural heritage management strategy (including a cultural landscape map and possible rezonings) to enable better decision making aimed at safeguarding Aboriginal values and practises across the cultural landscape; favouring impact to land that is already disturbed; involving Aboriginal people in the development of the Management Plan for Crown Land (in foreshore buffer zone); support Aboriginal people to revisit the middens across the local area, recorded by AIATSIS (1979), to check their condition; develop and install cultural interpretive signage in public spaces within the development footprint to foster respect between residents and local Aboriginal people; ensuring built infrastructure (streets / footpaths / parks / pathways / seats etc) are allocated names reflecting local Aboriginal cultural concepts; and employing local Aboriginal community members to assist in the management of Sealark properties across the region (weed eradication and seed collection / propagation as part of a broader long-term environmental program to rehabilitate cleared blocks with local flora species of cultural relevance)

These cultural heritage management actions, if implemented in partnership with Jerrinja people, should minimise impact to the identified cultural values caused as a result of the proposed development.

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Appendix 1 Project FPIC / consent agreement

ASSESSMENT INFORMATION / CONSENT AGREEMENT

Consultations for Aboriginal Cultural Values

WEST CULBURRA

BACKGROUND INFORMATION: In April 2010, John Toon Pty Ltd (on behalf of Sealark Pty Ltd) lodged a request to Director General Environmental Assessment Requirements (DGEARs) subdivide Lots 5 and 6 DP 1065111, Culburra Road, Culburra Beach, NSW and construct a variety of dwellings, tourist development, industrial development, foreshore reserves, parks and associated infrastructure. The land is located on the southern side of Crookhaven River and Curleys Bay, and west of Culburra.

DGEARs were subsequently issued and included the following requirements in relation to heritage:

8. Heritage and Archaeology	
8.1	Identify whether the site has significance to Aboriginal cultural heritage and identify appropriate measures to preserve any significance. The assessment must address the information and consultation requirements of the draft *Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (*DEC 2005*)*.
8.2	Identify any items of non-indigenous heritage significance and, where relevant, provide measures for the conservation of such items.

In 2012, in order to satisfy Point 8.1 of the DGEARs in relation to Aboriginal Heritage, archaeologist Peter Kuskie completed an Aboriginal Cultural Heritage Assessment for the site including consultation and site inspections with Registered Aboriginal Parties including the Jerrinja Local Aboriginal Land Council.

The Concept Proposal Development Application (the Application) was subsequently lodged with Department of Planning (Major Project 09-0088) for determination by the Minister for Planning under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Application covered an area of approximately 92Ha. In 2015, during the assessment period, the Application was transitioned from Part 3A to State Significant Development (SSD) under Part 4 Division 4.7 of the EP&A Act, where it remained an application for a Concept Proposal.

In June 2018, after the assessment period, the Department of Planning & Environment recommended refusal of the Application to the NSW Independent Planning Commission. Following its review, the NSW Independent Planning Commission refused the Application in October 2018.

In March 2019, the applicant lodged an appeal against the Application's refusal with the NSW Land & Environment Court (LEC) (Case Number 2019/00078149). As a part of this appeal process, the applicant's details were transferred from John Toon Pty Ltd to Sealark Pty Ltd. Sealark Pty Ltd is the owner of the Concept Plan site.

A Section 34 Conciliation Conference was held in accordance with the Land and Environment Court Act 1979 (LEC Act), which commenced on 14 November 2019. The s34 Conciliation Conference resulted in a significantly reduced development footprint, additional Aboriginal heritage discussions and refined water quality controls, amongst other things.

In December 2021, the NSW Land and Environment Court issued its determination on the appeal and granted Development Consent to the Concept Plan, with conditions (LEC No: 2019/78149). The footprint of the approved development is approximately 46Ha, half of the original development footprint; the western extent of the original plan has been removed.

The Development Consent contains a number of conditions and in relation to Aboriginal Heritage. Prior to development being undertaken on the site, new Development Applications will need to be lodged with Shoalhaven City Council under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The new DAs need to be consistent with the approved Concept Proposal and supported by an ACHA and ACHMP, amongst other things.

The approved Concept Plan conditions require Sealark Pty Limited to conduct formal consultation with the Aboriginal Community in accordance with the *National Parks and Wildlife Regulation 2019* and produce an Aboriginal Cultural Heritage Assessment (ACHA) report and Aboriginal Cultural Heritage Management Plan (ACHMP). The ACHA and ACHMP are currently being undertaken by Austral Archaeology.

PURPOSE FOR COLLECTING THE INFORMATION: In March 2021, Heritage NSW advised the NSW Department of Planning, Industry and Environment that they supported the need for a better understanding of the Aboriginal cultural significance for the 46Ha proposed subdivision and development west of Culburra including further research into oral history records held by AIATSIS.

In May 2022, Sealark Pty Limited engaged Austral Archaeology to complete the required ACHA and ACHMP along with anthropologist Susan Dale Donaldson to prepare an anthropological assessment to support the ACHA and ACHMP.

Donaldson is currently undertaking consultations with Aboriginal people associated with the West Culburra area to identify a broad range of intangible and tangible cultural values and to develop safeguards to avoid, minimise, mitigate or manage impacts to the identified values. Your contribution will inform this assessment and you are not being asked to provide restricted information however, it will assist with the planning process if restricted areas are known and avoided.

USE OF INFORMATION COLLECTED: An anthropological report will be prepared by Susan Dale Donaldson and will be attached to Austral Archaeology's ACHA report. The report will be provided to Heritage NSW and Sealark Pty Limited. The report will also be publicly available including being distributed to the Registered Aboriginal Parties (RAPs), the relevant Local Aboriginal Land Councils (LALCs), and lodged with the Aboriginal Heritage Information System (AHIMS). These documents will also be included in subsequent Development Applications when they are lodged with Shoalhaven City Council.

PUBLIC / CONFIDENTIAL INFORMATION: Information will be treated in accordance with instructions received by Aboriginal informants. Whilst detailed culturally sensitive information will be redacted in publicly available reports, general locational details will be provided to Heritage NSW.

COPYRIGHT: The Aboriginal informant will retain exclusive copyright over information they provide. Heritage NSW will hold a non-exclusive right to use the material in current and future planning.

ABORIGINAL INFORMANT INFORMATION COLLECTOR:

Name: Name:

Contact: Contact:

I agree to the use of information I provide and confirm the following:

- I understand the nature and purpose of the research/interview project.
- I consent to give Austral Archaeology and their associates [Susan Donaldson] the right to record and photograph me for this project.
- I realise that what I say during interviews is not confidential and may be used by Heritage NSW for planning purposes.
- I will inform the researcher of any confidential information which I don't want included in the report to Heritage NSW
- I may ask to examine a draft transcript to make sure it is accurate.
- I will retain the exclusive copyright over my information and Heritage NSW will hold a non-exclusive right to use the material in current and future planning.
- I understand that a transcription of my interview will be included in the Austral Archaeology report and may also be sent to LALCs, RAPs, AHIMS, Heritage NSW, AIATSIS, etc.
- Additional instructions / clause:

SIGNATURES

Signature of information collector: Date:

Signature of Aboriginal informant: Date:

NAME AND CONTACT OF NEXT OF KIN: Who should be contacted regarding your information if you are no longer able/living?

Appendix 2 Project interview questions/topics guide

NAME OF INTERVIEWEE: CONTACT DETAILS:

INTERVIEW TIME & DATE: INTERVIEW LOCATION:

CULTURAL VALUES

What is your ancestral / tribal / family connection to the Culburra area and in particular West Culburra? Where did you grow up?

Have you ever visited Culburra? What places? When?

Is Culburra important to you and your family? Why? Has the importance of the place changed for you over time?

How would you describe your cultural connection to Culburra to a stranger?

Think about how you use area, any story places, pathways, ceremonial grounds, fishing places, places where ancestral spirits reside, archaeological sites, tribal boundaries, shared country / meeting places, recreation places, old camping places, food, medicine, water and other natural resources, totem species, places associated with life and death, connections across the landscape, teaching places, and places associated with historical events.

Are there places in this area or nearby that are spiritually important to you and your family?

How do you describe the Traditional Ownership of the area? Tribal boundaries

Do you have an Aboriginal name for the area?

Do you connect to different parts of the area at different times of the year? All year around? Cultural practises change with seasons?

Whose job is it, from a custodial perspective, to care for this area? The water, the plants, the animals, the fish? Discuss tribal boundaries / custodianship.

Do you maintain these connections / values? If yes, what things do you do? Where?

How does this block relate to the surrounding land? Connection between land and waters? Between other parts of the landscape? Your definition of country?

How do you feel when you visit the area? How do you feel when you don't get a chance to visit? Where do you usually go?

Did you hear about middens in this area from the Old People? How would you describe a midden? Is it important to you? Why? Have you ever seen middens here?

Do you have a connection to other things left behind by the Old People? flakes, blades, knives, grinding stones? What do they mean to you? How do you look after these objects?

How would you define healthy country? Does it matter to you if the river banks are forested or cleared? The visuals? Does it matter to you if the water is clean or polluted? Running or dry? Weeds on the land and in water?

How would you describe traditional practices of the movements following seasonal travel routes and the availability of food and resources? What about today?

Can you explain the difference, if any, between Aboriginal people's connection with Culburra compared with non-Indigenous connections?

What other neighbouring Aboriginal groups do you think have a cultural interest in this area?

What about Aboriginal people with contemporary and historical connections to the area, not necessarily traditional owners?

Do you know of any European families who would know about Aboriginal people's historical association with the Culburra area?

VIEWS ON CURRENT PROPOSAL / IMPACTS

What do you know about the current proposal?

Do you think the work will impact on the cultural values you have been talking about? Which ones? How?

How do you think your values could be protected / safeguarded in relation to the proposed work?

Appendix 3 Community meeting notice

ANTHROPOLOGICAL ASSESSMENT WEST CULBURRA

Lots 5 and 6 DP 1065111, Culburra Road, Culburra Beach, NSW

WHAT? Susan Donaldson (anthropologist) is currently undertaking consultations with Aboriginal people associated with the Culburra area to identify cultural values across Lots 5 and 6 DP 1065111, Culburra Road, Culburra and to develop safeguards to avoid, minimise, mitigate or manage potential impacts to the identified values.

WHY? Heritage NSW requested a better understanding of the Aboriginal cultural significance for the 46Ha proposed subdivision and development west of Culburra. Sealark Pty Limited, the developer, engaged Austral Archaeology to complete an archaeological report and management plan. Austral engaged anthropologist Susan Donaldson to prepare an anthropological assessment over the same area.

WHERE? Banksia Hall Community Centre, 988 Culburra Rd, Culburra

WHEN? 11am Friday 21st April 2023

HOW? Meet at the hall to learn more about the assessment.

For those interested, we can visit the proposed development area and document the cultural values.

MORE INFORMATION / RSVP: Susan Donaldson 0405 183 751

Appendix 4 Community engagement record

DATE	NAME	DETAILS
27.06.2022	Alfred Wellington CEO Jerrinja LALC (JLALC)	Message left with Alfred asking him to contact me about West Culburra cultural values assessment.
27.06.2022	AIATSIS collection manager	Emailed access request to AIATSIS; no reply.
05.08.2022	Sarajini AIATSIS collection	AIATSIS confirmed receipt of my request.
05.08.2022	Alfred Wellington CEO JLALC	Message left with Alfred asking him to contact me about West Culburra cultural values assessment.
10.08.2022	Rod Lucas Anthropologist	On my behalf my colleague Rod Lucas visited AIATSIS requesting access to the materials I requested. None were available.
29.08.2022	Alfred Wellington	Email from asking to discuss West Culburra.
29.08.2022	Alfred Wellington	Phone call with AW about how to proceed. AW requested consults take place the week of the 12th September to give him time to notify elders to participate. We agreed on the dates 15th and 16th September to undertake consultations on site. I sent through FPIC materials, meeting / assessment notices and consent forms for him to distribute. He said he would inform me of payment rate and LALC IP requirements. AW also expressed concern that the broader landscape wasn't being considered (too much focus on the individual lots). I informed AW that my approach will include a landscape perspective.
30.08.2022	Alfred Wellington CEO JLALC	Text and email to AW planning consultations.
31.08.2022	Alfred Wellington	Left message with AW. Text from AW saying 'I can't talk right now'.
31.08.2022	Alfred Wellington	Email to request a copy of the JLALC IP form as noted by AW.
1.9.22	Alfred Wellington	Emailed draft consent form for JLALC consideration, as requested. Also emailed community information sheet for distribution.
02.09.2022	Alfred Wellington	Text to AW asking him to contact me.
12.09.2022	Alfred Wellington	Text to AW asking him to contact me given the consults were planned for the 15th and 16th. Text to SD from AW stating 'I doubt anyone available. I haven't been able to get notification out..'.
13.09.2022	Alfred Wellington	Left message with AW. Emailed requesting to meet AW and community members.
14.09.2022	Alfred Wellington CEO J LALC	Phone call – AW indicated that he 'could be' available to meet me tomorrow at JLALC office. He agreed to call me back to confirm. Text – SD to AW – SD was available to meet AW from 11am tomorrow. Requested confirmation.

DATE	NAME	DETAILS
15.09.2022	Alfred Wellington CEO JLALC	Various calls and text messages throughout the day. 7am text from AW – he is unable to meet today and doesn't think elders are either. He agreed to locate Delilah Lowe and Rod Wellington and ascertain their availability for me to consult them later today, or tomorrow. 9am phone call from AW – concerned that their cultural information (intellectual property) will be misconstrued and the communities desired outcome not realized (e.g instead of building 800 houses, 200 will be built). Discussed and documented cultural values. NEXT STEP – AW to ask Rod Wellington, Delilah Lowe, Pam Wellington about Susan attending a land council board meeting. AW asked that I 'work with us to find ways to protect and manage places of cultural value and still get to do development'. I agreed. AW also mentioned Grace and Gordan. 1pm text from AW – he has been unable to locate DL or RW.
15.09.2022	AIATSIS	Phone call to enquire how request is proceeding. Contact officer has changed jobs, asked that I email instead. Emailed collection office requesting urgent action of request. Reiterated that my key request was for Jack Campbell recording from 1970 in relation to Culburra middens.
20.09.0222	Alfred Wellington	SD call and text Alfred. Left message about Susan attending LALC meeting in the coming weeks so that community can be briefed on my assessment project.
20.9.2022	JLALC Office	Phone message and email sent to JLALC Office requesting to be placed on agenda at next LALC meeting. Offered to drop into the JLALC office the next day (21.9.22).
21.9.2022	Alfred Wellington	Follow up 20.9.22 message. Emailed to request to be added to the agenda of next JLALC meeting.
21.9.2022	JLALC Office	Follow up 20.9.22 message
30.9.2022	Rose, Matt, Alex,	Phone link up to discussion progression of assessment. It was suggested that Susan make contact with RAPs and NTSCorp. Ron and Gerald Carberry names were mentioned as potential participants. Susan noted that she had hoped for more guidance from JLALC board prior to contacting others. Susan agreed to make contact with other potential participants. Matt requested that Susan investigate a larger area, as per community request. Alex reiterated that the AHIP was required for the test pit near the midden. Susan informed team that her current approach (given no firm participants from JLALC) was to present at a LALC meeting so knowledge holders could make an informed decision about participating in the anthropological assessment.
10.10.2022	Alfred Wellington	Emailed to request to be added to the agenda of next JLALC meeting.
21.10.2022	Alfred Wellington	Voice message left – asking for a date to attend board meeting.
21.10.2022	JLALC Office	Voice message left – asking for a date to attend board meeting.
24.10.2022	JLALC Office	Voice message left – asking for a date to attend board meeting.

DATE	NAME	DETAILS
26.10.2022	Reuben Ingall AIATSIS	Email response from AIATSIS that my request for materials (27.06.2022) has been allocated an access officer and was being processed. Susan completed and returned the required access forms.
26.10.2022	Taylor at JLALC Office	Phone conversation with Taylor – she said AW is 'busy', and that she will ask the board about me attending a meeting.
31.10.2022	JLALC Office	Voice message left – asking for a date to attend board meeting.
15.11.2022	Alfred Wellington	Phone call with AW. He indicated that it would be good to 'catch up', before the end of the year but that end of Jan was more likely. He again agreed that I needed to attend a LALC board meeting.
8.12.2022	Alfred Wellington	Emailed to request to be added to the agenda of next JLALC meeting as previously discussed.
19.1.2023	RAPS Alfred Wellington, Ron Carberry, John Carriage; Justice Story and Aaron Taylor	Community meeting / RAP walkover site. Documented cultural values.
19.1.2023	Graham Connolly and Regina Reid	Met at the Nowra Showgrounds to inform of assessment and complete AIATSIS order forms. Both are keen to participate once AIATSIS order arrives. Documented cultural values.
23.1.2023	Reuben Ingall AIATSIS	Confirmation email from AIATSIS that the requested oral history material will be provided shortly.
23.1.2023	NTSCorp Isobel Brinin and Sandy Chalmers	Emailed NTSCorp to notify of assessment and seek participants.
23.1.2023	Ron Carberry	Phone message to arrange an interview / community meeting.
25.1.2023	Reuben Ingall AIATSIS	Materials received from AIATSIS
25.1.2023	Graham Connolly	Phone message left with GC in regards to AIATSIS materials.
6.2.2023	Graham Connolly	Phone message left with GC in regards to AIATSIS materials.
6.2.2023	Ron Carberry	Phone message left with RC in regards to setting up a community meeting.
20.2.23	Ron Carberry	Phone discussion about setting up a community meeting in Culburra. We agreed that the 10th March would suit. RC suggested the 'old school house' at Rosby Park. I agreed to follow-up / organise.
20.2.23	Alfred Wellington	Emailed about community meeting planned for the 10th March.
20.2.23	Graham Connolly	Text message to Graham in regards to his availability on the 9th March to review AIATSIS material
6.3.23	Alfred Wellington	Phone call and email about upcoming community / assessment session.
6.3.23	Ron Carberry	Notified of sorry business in community. Sd still not spoken to Alfred re school house. Agreed to postpone to April.
20.3.23	Ron Carberry	Ron informed that 'things were a bit messy'. SD to try contact AW.
20.3.23	Graham Connolly	Discussion about assessment, payment for his time and availability. Agreed to meet on the 20th April at Nowra Library / Art Centre.

DATE	NAME	DETAILS
21.3.23	Alfred Wellington	Phone discussion about community meeting and site visit; agreed there needs to be site visitation. AW to 'check with his bosses' who wants to be involved. AW said there were maintenance issues with the School House and that the Banksia Hall in Culburra was a better location for a community meeting.
21.3.23	Ron Carberry	RC provided his email so that I can provide him with the community meeting notice for distribution.
21.3.23	John from AIATSIS	Discussion about captions and permissions.
27.3.23	Alfred Wellington and JLALC admin	Emailed revised meeting notice (for 21st April).
27.3.23	Ron Carberry	Emailed revised meeting notice (for 21st April).
11.4.23	Graham Connelly	Confirmed meeting 10am 20th April at Shoalhaven Art Centre. GC not wanting to attend on the 21st
11.4.23	Ron Carberry	Message and text re 21st at Banksia Hall. Phone call – RC confirmed attendance of Grace and others on the 21st. Cultural values discussed.
11.4.23	Alfred Wellington and JLALC admin	Emailed revised meeting notice (for 21st April) again given no response. Phone call / text - AW notified of a potential funeral (for a family death that occurred in October).
18.4.23	Ron Carberry	Text message and voice message about meeting planning and attendance.
18.4.23	Alfred Wellington	Text message and voice message about meeting planning and attendance.
18.4.23	JLALC admin	Voice message about meeting planning and attendance.
19.4.23	NTSCorp Isobel Brinin and Sandy Chalmers	Follow-up email (from 23.1.2023) to NTSCorp regarding assessment and seeking advice on participants. Return email from Sandy suggested I consult with Delia Lowe and Noel Wellington.
20.4.23	Graham Connolly and Regina Reid	Review of AIATSIS materials and cultural values documentation.
21. 4 23	Delia Lowe, Gerald Carberry, Grace Crosley, Jenny Wellington, Ron Carberry,	Workshop cultural values / cultural values documentation
22.4.23	Grace Crosley and Jenny Wellington	Cultural values documentation / site assessment
23.4.23	Delia Lowe	Cultural values documentation / site assessment
2.6.23	Noel Wellington	Seek advice on values / participants.
5.6.23	Gordan Wellington	Cultural values documentation