

APPENDIX 5: ABORIGINAL HERITAGE IMPACT ASSESSMENT

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

FOR

Modification 4 Cabbage Tree Road Sand Quarry 398 Cabbage Tree Road Williamtown SSD 6125 Project FINAL

A Report to Newcastle Sand Pty Ltd

By

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January 2025

Project Name	Modification 4 Cabbage Tree Road Sand Quarry, 398 Cabbage Tree Road Williamtown		
Document Description	Aboriginal Cultural Heritage Assessment Report for Modification 4 Cabbage Tree Road Sand Quarry Project, 398 Cabbage Tree Road Williamtown		
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External Review	Jonathan Berry Project Manager -Wedgetail Consulting		
Document Status	Final		
Date	16 th of January 2025		
Prepared for:	Newcastle Sand Pty Ltd		

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Abbreviations

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ARAS	Archaeological Risk Assessment Services
Code of Practice	Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales
Consultation Requirements	Aboriginal cultural heritage consultation requirements for proponents 2010
DECCW	NSW Department of Environment Climate Change and Water
DPE	NSW Department of Planning and Environment
DPIE	NSW Department of Planning, Industry and Environment
Guide	Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
The proponent	Newcastle Sand Pty Ltd
m	metres
mm	millimetres
SEARs	Planning Secretary's Environmental Assessment Requirements

Executive Summary

Williamtown Sand Syndicate Pty Ltd trading as Newcastle Sand is proposing to modify its existing approved sand quarry (SSD 6125) at 398 Cabbage Tree Road by extending the extraction area west into Lot 9 (DP 239608) Western Extension – Modification 4, and making small extensions (less than 20m wide) from the existing extraction footprint in Lot 100 (DP 1263921).

The Western Extension extraction area is approximately 7.3ha and comprises approximately 500,000 tonnes of sand that will be extracted consistently with the existing extraction, processing and environmental management measures. The extraction process will take approximately 12 months and will be completed within the existing approved quarrying life.

The existing sand quarry (the Cabbage Tree Road Sand Quarry) was approved under State Significant Development Application 6125 on 9 May 2018 with quarrying operations permitted to 31 December 2033 at an extraction rate of up to 530,000 tonnes per annum. Based on current estimates, given the high demand for sand resources, the existing approved resource areas and the proposed extension would be expected to be completed before 2030. The proposed Western Extension will provide a valuable sand supply for the local and regional construction industry and maximize the use of infrastructure built for the existing quarry with limited environmental and community impacts.

The Cabbage Tree Road Sand Quarry is located at 398 Cabbage Tree Williamtown NSW 2318 in the Port Stephens Local Government Area. The existing quarry disturbance occurs within Lot 100 DP 1263921, Lot 121 (DP 556403) and Lot 11 (DP 629503), with the Western Extension occurring within Lot 9 (DP 239608). The proponent is Williamtown Sand Syndicate Pty Ltd. The Western Extension and core focus of this ACHAR is bounded by private land to the north, west and south with the approved sand quarry located to the east (See Figure 2: Appendix 1).

The semi-rural land is located within the Port Stephens Shire Council local government area and is currently zoned RU2 Rural Landscape under the *Port Stephens Local Environmental Plan 2013 (PSLEP 2013)*.

The Cabbage Tree Road Sand Quarry is classified as State Significant Development (SSD) with Modification 4 considered a Section 4.55(2) modification (under the *Environmental Planning & Assessment Act 1979*), being a modification that involves more than minimal environmental

impacts. A Section 4.55 (2) application requires the preparation of a Modification Report, prepared in accordance with the *Environmental Planning and Assessment Regulation 2021* (EP&A Regs).

An Amendment Report was submitted outlining the approach to the preparation of the Modification Report, this Amendment Report proposed the completion of an Aboriginal Cultural Heritage Report (ACHAR) to address matters relevant to Aboriginal Heritage. This is effectively the Secretary's Environmental Assessment Requirements.

The ACHAR has been prepared in accordance with the guidelines for Aboriginal community consultation and archaeological assessment, including the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW and the Aboriginal cultural heritage consultation requirements for proponents 2010.

The Archaeological Survey assessment found that the proposed development site had the potential to harm two newly recorded Aboriginal objects.

Overview of survey assessment results

- A total of two new Aboriginal sites were identified during the Archaeological Survey investigation. Two open sites (Site 1) AHIMS 38-4-2338 and (Site 2) 38-4-2337 have been assessed to be of low archaeological significance.
- The proposed works will impact Site 1 (38-4-2338) and Site 2(38-4-2227) registered Aboriginal sites located within the assessment area resulting in a total loss of value.

Cultural Significance

- No RAPs have defined the assessment area as having high cultural significance.

Project Impacts and Conservation outcomes

The proposed development works will impact registered Aboriginal sites: Site 1: AHIMS 38-4-2338 and Site 2: AHIMS 38-4-2337.

- The proposed works will not impact on the Aboriginal cultural landscape features of the assessment area.
- There will be no conservation outcomes for the newly recorded AHIMS sites as a result of the development.

ACHAR Recommendations

Consultation with registered Aboriginal parties (RAPs) was undertaken to identify Aboriginal cultural/social heritage values in the project area, assess impacts of the proposed Modification 4 Cabbage Tree Road Sand Quarry development activities and develop appropriate management recommendations.

Consultation with the eleven RAPs identified that the local area has cultural heritage value to the local Aboriginal community. In particular, RAPs expressed the cultural importance and significance of the vegetated dune landscape around the study area. No specific Aboriginal cultural values have been identified within the assessment area itself.

Based on background research, register searches, Aboriginal community consultation and archaeological survey, the following recommendations are made:

- Newcastle Sand values Aboriginal community consultation should commit to ongoing consultation with Aboriginal stakeholders for the Mod 4 Cabbage Tree Road Sand Quarry Project.
- Newcastle Sand should update the Aboriginal Cultural Heritage Management Plan (ACHMP) for the development to the satisfaction of the Secretary. This plan must:
 - be prepared by a suitably qualified and experienced person whose appointment has been endorsed by the Secretary.
 - be prepared in consultation with Heritage NSW and RAPs and be submitted to the Secretary for approval prior to commencing ground disturbing activities on the site, unless the Secretary agrees otherwise; and
 - include a description of the measures that would be implemented to:
 - protect, monitor and manage known sites of archaeological and cultural significance.

- The above mitigation proposals be discussed with RAPs to seek their views and an assessment of the cultural significance of the assessment area.
- Any identified surface Aboriginal objects comprising open sites AHIMS ID 38-4-2338 and 38-4-2337 should be collected under a Community Collection method after the ACHMP is issued and prior to commencement of the proposed development.
- This work should be carried out under a Care & Control Agreement.
- The existing Aboriginal Cultural Heritage Management Plan should be modified to include these specific mitigation measures.
- If changes are made to the proposed works which could impact locations outside of the current assessment area, further archaeological investigation may be required.
- All cultural material recovered from Mod 4 assessment area should be reburied within Western Keeping Place located on Port Stephens Council Land.
- The proposed development should not commence until the SSD project approval is issued and should then be undertaken in accordance with the SSD project approval conditions.

Practical measures to mitigate actual or likely harm to those Aboriginal objects in Newcastle land.

Newcastle Sand Pty Ltd took Aboriginal heritage into consideration during the design process for the proposed Modification 4 project of Lot 9 (DP 239608) and Lot 100 (DP 1263921) 398 Cabbage Tree Rd Williamtown and has minimised harm to Aboriginal heritage sites as much as is practicable. Background research and archaeological survey have identified two newly recorded Aboriginal archaeological sites AHIMS ID 38-4-2338 and 38-4-2337 within the proposed SSD Modification 4 Project assessment area. Practical measures have been proposed to mitigate harm to Aboriginal objects within the assessment area. These measures have been developed in consultation with the project's RAPs.

1. INTRODUCTION & BACKGROUND

1.1 THE EXISTING CABBAGE TREE SAND QUARRY PROJECT-SSD 6125-MODIFICATIONS 1-3.

The existing Cabbage Tree Road Sand Quarry was approved under SSD_6125 on 9 May 2018 by the NSW Independent Planning Commission. The quarry site is located approximately 12 kilometres north of Newcastle and 3 kilometres south-west of Newcastle Airport. The approved quarry extends across four lots of land located at 398 Cabbage Tree Road, Williamtown; Lot 100 DP 1263921 (formerly Lot 1 DP 224587), Lot 121 DP 556403, Lot 11 DP 629503 and Lot 1012 DP 814078 (Figure 1: Appendix 1: Figure 2).

The existing Cabbage Tree Road Sand Quarry site is positioned immediately to the north of Cabbage Tree Road in Williamtown within the Port Stephens Council Local Government Area. Access is via Cabbage Tree Road between Nelson Bay Road and Masonite Road.

The quarry is approved to extract approximately 3.25 Mt of sand over the lifetime of the development. The approved maximum annual extraction rate is 530,000 tpa from a total disturbance area of 42.3 ha.

The existing quarry development comprises the following key infrastructure:

- An upgraded intersection on Cabbage Tree Road consisting of left-turn-in deceleration lane and left-turn-out acceleration lane.
- An office and workshop compound connected to the electricity and water mains, comprising offices, toilets (with waste pump out), workshop, weighbridge, a fully bunded plant storage and refuelling area and a staff/visitor car park.
- A sealed access road from the intersection to the office and workshop compound.
- A processing plant with associated hard stand and water containment infrastructure, connected to mains water and powered by a diesel generator.

Quarrying is carried out using a combination of excavators, loaders and dozers. The sand is then transported by truck from the resource area to the processing area, located in the northern section of the quarry, and processed using the wash plant and an electric screen. Products are then loaded onto trucks using a front-end loader and transported off-site by the customer or to the customer by independent haulage contractors.

The quarry resource is effectively divided into a southern and northern resource area. Resource extraction commenced in the southern area with the establishment of the intersection and the workshop area, however the majority of extraction to date has occurred in the northern area. The northern resource area has been extracted south to north along the western side then the eastern side. The majority of the northern resource area was exhausted by the end of 2024.

Extraction occurs through a series of 1-2 ha sectors that provide for the direct transfer of topsoil and cleared vegetation to quarried areas to promote progressive rehabilitation. The core aim of the rehabilitation is to reinstate native species consistent with the existing vegetation communities (in terms of composition and structure) in the area. Methods include a combination of natural regeneration, brush matting, direct seeding and propagated tube stock methods. The final landform will remain at a minimum of 1 m above the highest predicted groundwater levels with 1 in 4 batters (1 m vertical to 4 m horizontal) around the perimeter of the resource area.

Quarrying operations are managed in accordance with a Statement of Commitments, the Environmental Protection Licence for the site (EPL 21264) and a series of Environmental Management Plans that provide protocols for the management and monitoring of clearing, topsoil, weeds, rehabilitation, air quality, noise, traffic and water.

1.2 MODIFICATION 4 CABBAGE TREE ROAD SAND QUARRY PROJECT AND JUSTIFICATION.

The proposed Modification 4 project seeks to extend the boundary of the approved southern resource area in a westerly direction to support the extraction of an additional estimated 500,000 tonnes of sand resources over an area of 7.3 ha. The extension area would be located to the west of approved Section 8B, 9A and 9B in the southern resource area. It is also planned to extend the boundary by up to 20m in certain sections of the approved resource, with the majority of the proposed extension footprint impacting the neighbouring lot, Lot 9 in DP239608. The 20m wide extension areas are fully offset in area by the avoidance of previously approved impact areas.

Lot 9 DP239608 has an area of approximately 10.66 ha and currently supports a rural residential dwelling, sheds and native and exotic vegetation. If approved, extension of the quarry resource will require demolition of existing infrastructure and vegetation clearance. It

is noted that the proposed extension area was subject to RZM mining activities in the 1970's, with native vegetation having been cleared at that time. Vegetation on the site at present therefore consists of regrowth on rehabilitated land.

It is proposed to increase the resource area by a total of approximately 7.3 ha, estimated to contain 500,000 tonnes of sand resource (Figure 2 below and Figure 3: Appendix 1) . At the approved maximum annual extraction rate, the proposed modification would result in an additional year of quarry operations. It is noted that the quarry is permitted to operate for up to 15 years from May 2018, however existing approved resources are expected to be exhausted within the next 3-5 years. The proposed modification thus does not require an extension of the approved quarry lifespan.

The proposed modification is driven by an ongoing high demand for construction materials throughout NSW. Available resources to meet this demand are limited, as there are no currently operating sources of fully graded, premium quality, construction sand in the Sydney Metropolitan area. The Stockton Bright Area comprises a significant construction sand reserve for the Sydney area as well as the Hunter Region, however it is noted that Newcastle Sand have had increasing approaches from companies seeking concrete sand due to a reduction in supply from other local sand quarries.

Sand material available within the proposed extension area is suitable for the construction industry and would be used for the production of concrete products, cement and asphalt paving. The material available is thus in high demand and the quarry infrastructure on the existing site in conjunction to its proximity to the Pacific Highway makes the site particularly suitable for the production of material.

Approval of the modification would allow the recovery of NSW's sand resources to be maximised, resulting in the provision of an additional 0.5 million tonnes of high-quality sand, helping to meet demand throughout the Sydney and Hunter regions and assisting those industries and associated downstream consumers (e.g. homeowners and road building). The modification would also enable the extension of the quarry's beneficial economic impacts to local residents including employees, contractors and customers.

The project is classified as State Significant Development (SSD) and constitutes a Section 4.55 (2) modification under the EP&A Act 1979.

In 2024, an archaeological survey was undertaken by Archaeological Risk Assessment Services Pty Ltd (ARAS) for the Modification 4 SSD assessment area (Lot 100 DP1263291 and

Lot 9 in DP239608-Figure 2). The assessment identified a total of two new Aboriginal sites during the Archaeological Survey investigation. Both open sites; Site 1 AHIMS 38-4-2338 and Site 2 38-4-2337 have been assessed to be of low archaeological significance.

The Archaeological Survey assessment found that the proposed sand quarry extension project had the potential to harm newly recorded Aboriginal objects 38-4-2338 and 38-4-2337.

1.3 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

As Modification 4 is a modification to an existing approved State Significant Development, no specific Secretary's Environmental Assessment Requirements (SEARs) were issued. The Amendment Report submitted with the application for the modification proposed the development of an ACHAR to address matters relevant to Aboriginal Heritage, this approach was supported by the Secretary.

To ensure consistency with the existing approval, the original SEARs for SSD -6125 have been used to guide the development of this ACHAR. Table 1 outlines the requirements relevant to this assessment and where they are addressed in the report.

Table 1: Typical SEARs: Aboriginal Heritage requirements

Requirement	Where Addressed
• Aboriginal Cultural Heritage – an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the Code of Practice for Archaeological Investigation in NSW (DECCW 2010), and guided by the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011). • The ACHAR must: – identify, describe and assess impacts on the Aboriginal cultural heritage values that exist across the development site – provide evidence and details of consultation with Aboriginal people in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) – include results of a surface survey and any test excavations (where required) and an unexpected finds protocol.	• This report. • Section 12 • Section 3 and Appendix 4 • Section 6

1.4 OBJECTIVES OF THE ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT (ACHAR)

The objectives of this ACHAR are to comply with Heritage NSW regulations in support of an Environmental Impact Assessment, which include:

- Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (Guide) (OEH 2011);
- Aboriginal cultural heritage consultation requirements for proponents 2010 (Consultation Requirements) (Department of Environment, Climate Change & Water [DECCW] 2010a);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (Code of Practice) (DECCW 2010b);

Determine whether the proposed development activity is likely to cause any harm or damage to Aboriginal objects;

- Provide advice as to the likely land use restrictions posed by Aboriginal heritage objects or potential Aboriginal heritage objects; and
- Provide recommendations for the management of Aboriginal cultural heritage to support the proposed Modification 4 project's sand quarry development consent.

1.5 PROPOSED MODIFICATION 4 CABBAGE TREE ROAD SAND QUARRY 398 CABBAGE TREE ROAD WILLIAMTOWN (LOT 100 DP1263291 AND LOT 9 IN DP239608) DEVELOPMENT.

The proposed Modification 4 project seeks to extend the boundary of the approved southern resource area in a westerly direction to support the extraction of an additional estimated 500,000 tonnes of sand resources over an area of 7.3 ha. The extension area would be located to the west of approved Section 8B, 9A and 9B in the southern resource area. and making small extensions (less than 20m wide) from the existing extraction footprint in Lot 100 (DP 1263921), with the majority of the proposed extension footprint impacting the neighbouring lot, Lot 9 in DP239608 (Figure 2 below and Figure 3: Appendix 1).

Lot 9 DP239608 has an area of approximately 10.66 ha and currently supports a rural residential dwelling, sheds and native and exotic vegetation. If approved, extension of the

quarry resource will require demolition of existing infrastructure and vegetation clearance. It is noted that the proposed extension area was subject to RZM mining activities in the 1970's, with native vegetation having been cleared at that time. Vegetation on the site at present therefore consists of regrowth on rehabilitated land.

Existing infrastructure includes a residential dwelling and several sheds in the central section of the lot, with stored general waste along the access road. The site is accessible from the Cabbage Tree Road via a gravel access road.

Site preparations will require:

- Vegetation clearance and topsoil stripping, in line with existing site preparation methods in the existing quarry site.
- Demolition of existing infrastructure to be undertaken in accordance with Australian Standards 2601-2001: The demolition of structures.
- Removal and disposal/recycling of any waste present onsite at licensed waste/recycling facilities.
- Establishment of required mitigation measures such as exclusion fences etc.

The modification will require the amendment of the existing Biodiversity Offset Strategy to reflect the amended resource boundary. This will be informed by a Biodiversity Development Assessment Report (BDAR) prepared as part of the modification report.

The pit area will be accessed by extending the internal access road from the existing quarry development, with no additional site access or intersection required from the Cabbage Tree Road.

1.6 PLANNING APPROVAL FRAMEWORK

The NSW Department of Planning and Environment assesses projects that are deemed to be of State significance under Sections 4.17, 4.38 and 4.55 of the Environmental Planning and Assessment Act 1979 (EP&A Act) due to their size, economic value or potential impacts. These projects include:

- State significant development (SSD);
- State significant infrastructure (SSI); and

- Critical State significant infrastructure (CSSI).

The decision-maker (for example, the Minister for Planning and Public Spaces, or delegate) can grant consent to SSD applications or approve SSI applications, with such modifications or on such conditions as the decision-maker may determine. The decision-maker can also refuse consent or disapprove the application for approval. Cabbage Tree Road Sand Quarry is defined as a state significant development, with Modification 4 considered a Section 4.55(2) modification (under the *Environmental Planning & Assessment Act 1979*), being a modification that involves more than minimal environmental impacts.

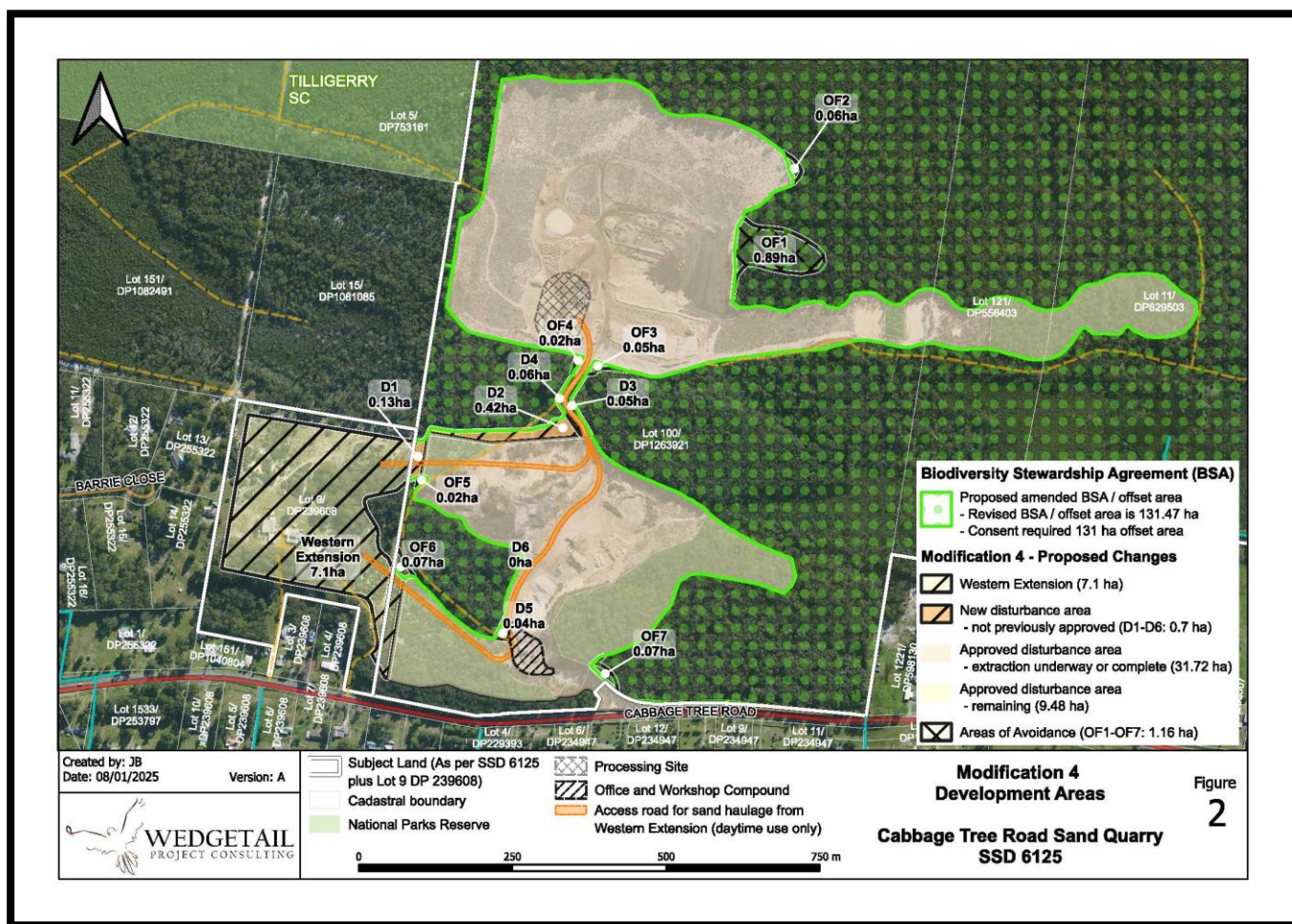


Figure 2: Proposed Modification 4 Development Area and Facilities(after Wedgetail 2024).

1.7 REPORT AUTHORSHIP.

This report was prepared by Dr. Giles Hamm (Principal, ARAS), with review from Mr. Jonathan Berry of Wedgetail Project Consulting Pty Ltd. Giles has graduate and post graduate qualifications in Aboriginal archaeology and environmental science and over 30 years of experience in cultural heritage management throughout Australia.

2. LEGISLATIVE FRAMEWORK

2.1 THE NATIONAL PARKS AND WILDLIFE ACT 1974 (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (the 'NPW Act') is the primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. The Office of Environment and Heritage (OEH) administer the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to harm Aboriginal objects and Aboriginal places, and by providing two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The NPW Act defines Aboriginal objects and Aboriginal places:

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

Aboriginal place means any place declared to be an Aboriginal place under section 84.

The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences – that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating an Aboriginal place – against which defences may be established under the *National Parks and Wildlife Regulation 2009* (NSW) (the 'NPW Regulation').

Section 87 of the NPW Act establishes defences against prosecution under s.86 (1), (2) or (4).

The defences are as follows:

- An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87 (1));
- Exercising due diligence to establish Aboriginal objects will not be harmed (s.87 (2))
Due diligence may be achieved by compliance with requirements set out in the

National Parks and Wildlife Regulation 2009 (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87 (3));

- Undertaking “low impact” activities (s.87 (4)).

The NPW Act was amended in 2010 and as a result the legislative structure for seeking permission to impact on Aboriginal heritage changed. A section 90 approval is now the only AHIP consent available and is granted by OEH. A number of factors are taken into account (Section 90 (K) by OEH in the AHIP determination process, which include : site significance, Aboriginal consultation requirements, Ecologically Sustainable Development (ESD) principles, project justification and consideration of alternatives. The penalties and fines for damaging or defacing an Aboriginal object have also increased.

2.2 THE NATIONAL PARKS AND WILDLIFE REGULATION 2009 (NSW)

The NPW Regulation 2009 (cl.80A) assigns the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (NSW Department of Environment, Climate Change and Water 2010) (the Code) as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act.

In addition the NPW Regulation describes “certain low impact activities” in s.80B. Disturbed land is defined by cl.80B (4) as “disturbed if it has been the subject of a human activity that has changed the land’s surface, being changes that remain clear and observable”. Examples given in the notes to cl.80B (4) include “construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure)”.

2.3 THE DUE DILIGENCE CODE OF PRACTICE FOR THE PROTECTION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES 2010

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (the Code) describes the process that must be followed and the actions that must be

taken by a proponent, and the site conditions that must be satisfied, to show due diligence in the consideration of potential harm to Aboriginal objects.

The Due Diligence Code sets out a basic framework with the following steps followed in order to make an assessment of whether or not proposed activities may impact Aboriginal objects:

- Step 1. Will the activity disturb the ground surface?*
- Step 2a. Search the AHIMS database and use any other sources of information of which you are already aware*
- Step 2b. Activities in areas where landscape features indicate the presence of Aboriginal objects*
- Step 4. Desktop assessment and visual inspection*
- Step 5. Further investigations and impact assessment*

The process set out in the Code involves consideration of harm to Aboriginal objects at increasing levels of detail, with additional information incorporated at each step and used to support the decisions being made. If the proposed activities are not “low impact activities” (a defence for which is provided under the Regulation) the considerations result in a determination of whether or not:

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

Under the Due Diligence Code (DECC 2010) significant disturbance means disturbance of the topsoil or surface rock layer of the ground, such as by digging, grading, bulldozing, scraping, ploughing, drilling or dredging; erecting a building or structure the clearing of native vegetation by disturbing root systems and exposing the underlying soil.

2.4 NSW ABORIGINAL LAND RIGHTS ACT 1983

The Aboriginal Land Rights Act 1983 is administered by the NSW Department of Human Services – Aboriginal Affairs. This act established Aboriginal Land Councils (at State and Local levels). These bodies have a statutory obligation under the Act to; (a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and (b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

The subject area is located within the boundaries of the Worimi Local Aboriginal Land Council (Worimi LALC).

2.5 NATIVE TITLE ACT 1993

The Native Title Act 1993 was introduced to work in conjunction with the Commonwealth Native Title Act. Native Title claims, registers and Indigenous Land Use Agreements are administered under the act.

A search of Native Title Register was conducted on 19 December 2023, with no active or determined Native Title Claims across, or in the vicinity of, the subject area.

2.6 STATE SIGNIFICANT DEVELOPMENT: NSW ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

In New South Wales, the Department of Planning and Environment co-ordinates the whole-of-government assessment of the merits of State significant development (SSD) and infrastructure (SSI). These major projects are assessed under Division 4.7 of the *Environmental Planning and Assessment Act 1979* and require development consent from the Independent Planning Commission or the Minister for Planning (or delegate) before they may proceed.

The NSW Department of Planning and Environment assesses projects that are deemed to be of State significance under the Environmental Planning and Assessment Act 1979 (EP&A Act) due to their size, economic value or potential impacts. These projects include:

- State significant development (SSD).
- State significant infrastructure (SSI).
- Critical State significant infrastructure (CSSI).

The decision-maker (for example, the Minister for Planning and Public Spaces, or delegate) can grant consent to SSD applications or approve SSI applications, with such modifications or on such conditions as the decision-maker may determine. The decision-maker can also refuse consent or disapprove the application for approval.

The Independent Planning Commission (the commission) is the consent authority for any of the following development that is SSD (unless the application is made by or on behalf of a public authority or unless the development is declared to be SSI related development):

- the local council has objected to the application, or
- there are at least 50 submissions by way of objection (other than from a council) to the application, or
- the proponent has disclosed a reportable political donation.

State Significant Development and Aboriginal Cultural Heritage approvals.

Section 90 of the *National Parks and Wildlife Act 1974* is turned off during the assessment of State Significant Projects. Thus, the legal requirement for an Aboriginal Heritage Impact Permit approval is revoked. Instead, Department Secretary's Environmental Assessment Requirements (SEARs) are issued. These may include the need for the investigation of Aboriginal cultural heritage.

The required supporting information may include an Aboriginal Cultural Heritage Assessment Report(ACHAR) to be prepared in line with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW and Heritage NSW requirements.

The Cabbage Tree Road Sand Quarry project is classified as State Significant Development and Modification 4, considered a Section 4.55(2) amendment to the existing consent.

2.7 DEFINITION OF A 'SITE'

The Heritage NSW –(now Department of Planning and Environment -DPE) advises developers and consultants that the term 'site' is used to group Aboriginal Objects or define a location where an Aboriginal Object or cultural item occurs. They propose general criteria to assist in the classification of a site.

Sites can be defined as:

- Exposures where archaeological evidence is revealed.
- A topographic or landform unit where occupation evidence has been recorded. This may be an entire landform unit (ridge, creek, valley) or part of a landform unit (saddle on ridge, creek bank).
- Sites which have physical boundaries defined by rocks (stone arrangement), earthworks (mounds) or cleared land (ceremonial ground).
- Sites defined by Aboriginal community groups as culturally significant.
- Arbitrary or the assignation of a boundary for the convenience of recording (in cases where the site would probably be much larger if based on the criteria above). Arbitrary criteria include the use of a fence-line, dirt track or gully as a boundary. In some cases, the area may simply be designated as 50m x 50m, or as a smaller sample plot, based on convenience.
- Artefact density. (In some cases, a site boundary may be defined by the average number of flakes per square metre). This is a specialized type of arbitrary criterion and justification of the rules used must be made explicit; and
- The chosen definition of a site or isolated find needs to be specified for the study. It is the consultant's responsibility to decide on an appropriate definition, suited to the project, the research goals and comparability with other regional studies. Heritage NSW requires site forms to be completed for isolated finds.

3. ABORIGINAL STAKEHOLDER CONSULTATION

Consultation for this ACHAR has been conducted by Archaeological Risk Assessment Services Pty Ltd (ARAS) in accordance with the Consultation Requirements (DECCW 2010b).

3.1 REGISTRATION OF ABORIGINAL PARTIES

In accordance with step 4.1.2 of the Consultation Requirements, ARAS corresponded with the following organisations by registered email on 6th of May 2024 requesting the details of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area:

- Hunter-Local Land Services;
- Port Stephens Shire Council ;
- Native Title Service Corporation (NTS Corp);
- Office of the Registrar of Indigenous Corporations;
- Worimi Local Aboriginal Land Council ;
- Heritage NSW – Parramatta Head Office (DPE);
- National Native Title Tribunal;and
- Office of the Registrar, Aboriginal Land Rights Act 1983.

In accordance with Step 4.1.3 of the Consultation Requirements, an advertisement was placed in the Port Stephens Examiner on 10th of May 2024 inviting the participation of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the local area (Appendix 4).

In accordance with Step 4.1.3 of the Consultation Requirements, on the 14th of May 2024, letters via email were sent to all Aboriginal persons or organisations identified through advertisement or through responses from agencies contacted as part of Step 4.1.2. In accordance with Step 4.2 the letters provided details about the location and nature of the proposal, as well as an invitation to register as an Aboriginal stakeholder.

As a result of that process 11 groups and individuals registered their interest below (see Table 2).

Table 2: Part 4.1. OEH Consultation Guidelines: Final Registered Aboriginal Parties (RAP) for Modification 4 Cabbage Tree Road Sand Quarry: 398 Cabbage Tree Road Williamtown.

RAP Organisation	Contact Person	Email, Postal Address and Contact Number.	Date Registered and Method
Candy Towers	Candy Towers	worimitoc@hotmail.com	14 th of May 2024-Email
Widescope Indigenous Services	Steven Hickey	73 Russell Street EMU PLAINS NSW 2750 widescope.group@live.com	14 th of May 2024-Email
Dr Liz McEntyre	Dr Liz McEntyre	Emcentryre50@gmail.com	20 th of May 2024-email
Robert Syron	Bob Syron	Bobsam1@bigpond.net.au	14 th of May 2024-Email
Didge Ngunawal Clan(DNC)	Lillie Carroll; Paul Boyd	didgengunawalclan@yahoo.com.au	14 th of May 2024-Email
Mur-Roo-Ma Inc.	Anthony Anderson	murroomainc1@gmail.com	21 st May 2024-Email and Letter
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM	lennie.anderson011@bigpond.com	15 th of May 2024-Email
Karuah Indigenous Company Pty Ltd	David Feeney	indigenousskaruah@outlook.com	28 th of May 2024-Email
Joshua Matthews	Joshua Matthews	Joshmatthews2017@yahoo.com	3rd of June 2024-Email

RAP Organisation	Contact Person	Email, Postal Address and Contact Number.	Date Registered and Method
Brent Matthews	Brent Matthews	mbrent447@gmail.com	2nd of June 2024-Email.
Woka Aboriginal Corporation	Steven Johnson	wokacorp@yahoo.com	14 th of May 2024-Email.

3.2 PROJECT SCOPING MEETING AND CODE OF PRACTICE ARCHAEOLOGICAL SURVEY METHODOLOGY REVIEW

A project scoping meeting with registered Aboriginal Parties was held on the 31st of July 2024 at Fern Bay. Following this consultation meeting, a survey methodology was agreed upon by four main Registered Aboriginal Parties. No other responses were received from the remaining six RAPs.

A site walkover was conducted with four RAPs who responded to the July project scoping meeting on the 17th of April 2024 to review the assessment area and discuss the proposed archaeological and cultural heritage survey methodology. RAP Candy Towers was invited to attend the site walkover but was unable to attend.

3.3 PARTICIPATION IN CODE OF PRACTICE ARCHAEOLOGICAL SURVEY

The following RAPs were engaged by the proponent and participated in the archaeological survey fieldwork program:

- Mur-Roo-Ma Inc;
- Worimi Local Aboriginal Land Council;
- Nur-Run-Gee Pty Ltd AGA Services; and
- Karuah Indigenous Company Pty Ltd.

3.4 FURTHER CONSULTATION AND ACHAR REVIEW

On 5th of December 2024, the project RAPs were sent the draft ACHAR with a 28-day review period. Out of the 11 registered groups, four responded with comments on the ACHAR report (see Appendix 4; Consultation Log). Two RAP responses supported the recommendations outlined in the ACHAR. No other responses were received from any other RAP.

4. ENVIRONMENT & LAND USE HISTORY

4.1 LAND SYSTEMS AND GEOMORPHIC DESCRIPTION

Modification 4 assessment area at 398 Cabbage Tree Road Williamtown is classified within the 'Soil Landscapes of Newcastle: 100,000 Sheet' (Thom et al 1992, Matthei 1995) as part of the Shoal Bay and Tea Gardens Soil Landscapes. These are classified as Aeolian Landscapes.

The assessment area is located within the Tomago Coastal Plain physiographic region. This consists of Quarternary sediments including marine and aeolian deposits. With clay and silt deposits of the interbarrier depression. The area contains low lying Pleistocene beach ridges. Broadly the assessment area lies within the inner barrier sand dunes not far from the boundary of the inner barrier depression. These are described as well drained Pleistocene sand-sheets and dunes on the Tomago Coastal Plain(Matthei 1995).

Aeolian Soil Landscape is described as well drained Podzols and deep imperfectly drained Humus Podzols on low rises and deep poorly drained Humus Podzols on poorly drained flats and depressions (Matthei 1995).

Mitchell et al (2020) geomorphically describes the assessment area as being part of the Coastal Barrier Landscape. Mitchell et al (2020) argue that the Coastal barrier landscape (Figure 4: below) , consists of two barriers of beach ridges, sand dunes and associated drainage systems. This landscape is quite different from other parts of the Hunter valley as it evolved during the late-Pleistocene and Holocene directly in response to sea level change. When sea level was low, the river valleys were incised to bedrock 75-100m below the present valley surface near the present coast. As sea levels rose, the valley was backfilled as the barrier systems formed and a fluvial/tidal delta of sand and estuarine mud was established in the river mouth.

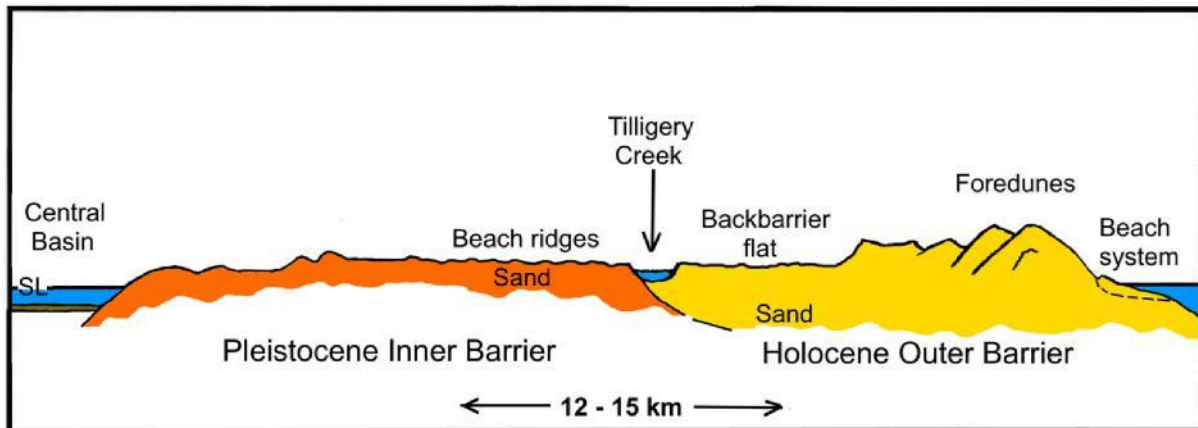


Figure 4: Mitchell's Coastal Barrier Landscape showing the Pleistocene Inner Barrier.

Two oscillations of sea level are evident in the barriers with the extensive inner-barrier system forming at a sea level slightly higher than present 120 – 140 ka, and the more limited outer barrier forming since the last glacial. Over the last 6.5 ka sea level and the coastal margin has been relatively stable. Today sea level is rising again as a consequence of global climate change and coastal retreat (erosion) is increasing. The same sort of landscape change and sedimentary sequence had also occurred at the time of formation of the inner barrier about 120 ka. The legacy of all these changes is a complex fill stratigraphy in the lower Hunter Valley but virtually all of this is beneath the present land surface.

According to Mitchell et al (2020), the inner barrier is approximately 32 km long and attached to bedrock at Tanilba/Mallabula and Hexham. It was formed when sea level rose about 4-6m higher than present. This condition has been dated in numerous locations along the coast to around 125 ka. The barrier system consists of a beach ridge plain overlain by aeolian dunes up to 59m high. The general elevation of the beach ridges is 5-10m. Ground penetrating radar surveys suggest that the Inner Barrier may not be homogenous, as the surveys show intervals of shoreline progradation interspersed with channel deposits (Boyd and Roy 1995). Mitchell et al (2020) argue that some of these shoreline disjuncts may preserve Aboriginal sites but their discovery and interpretation would be difficult.

Between 1966 and 1995 parts of the inner barrier sands near the assessment area were dredged to a depth of 16–18m by RZ Minerals for the recovery of heavy mineral sands. All this land was rehabilitated and today the dredge path is not easy to identify. It is likely that some Aboriginal sites were destroyed because of this dredging (Mitchell et al 2020: 80).

Late-Pleistocene Aboriginal sites may be preserved at depth in some buried landscape units, but these would only ever be located by chance in excavations or dredging and could easily be overlooked if no knowledgeable observer was present when they were exposed (Mitchell et al 2020:73).

Figure 5 below, shows that at least 98 % of the Modification 4 site comprises dune crest and lower sand dune landforms. Approximately 95 % of the site has been subject to some kind of heavy sand mining disturbance in the past. Figure 6 below, shows that the site is also generally elevated with heights between 4-16m AHD.

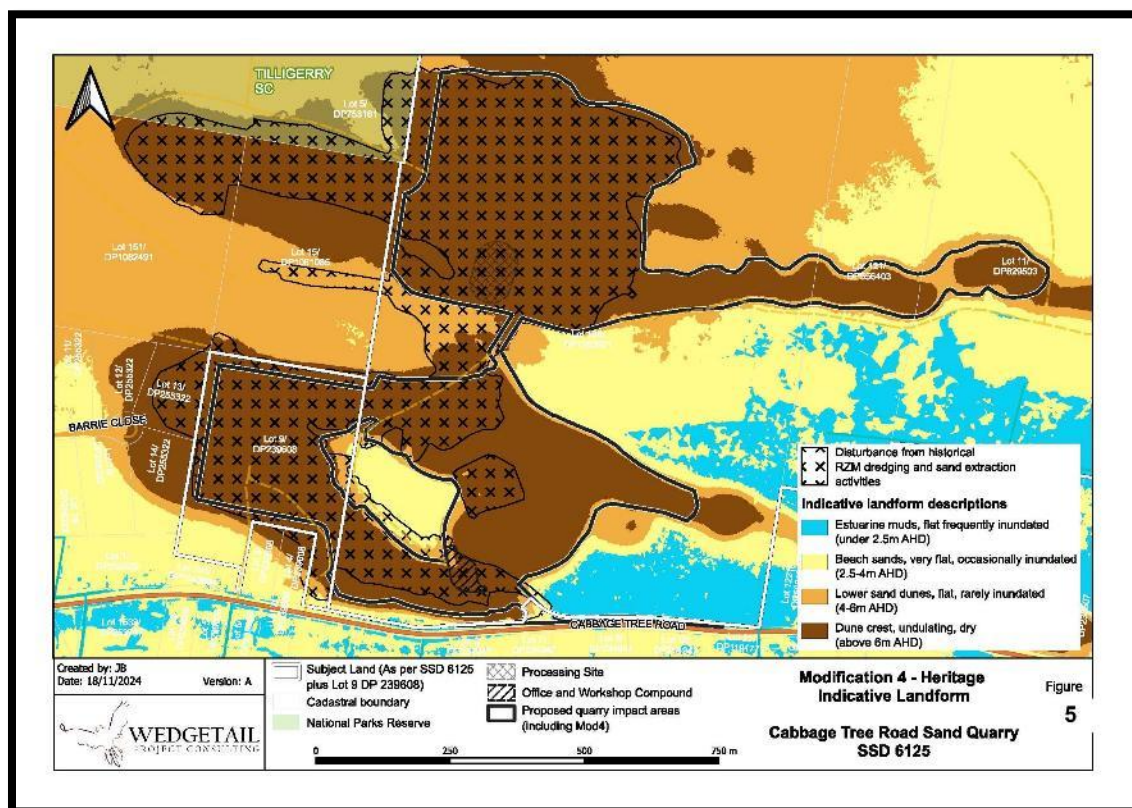


Figure 5: Modification 4 Landforms

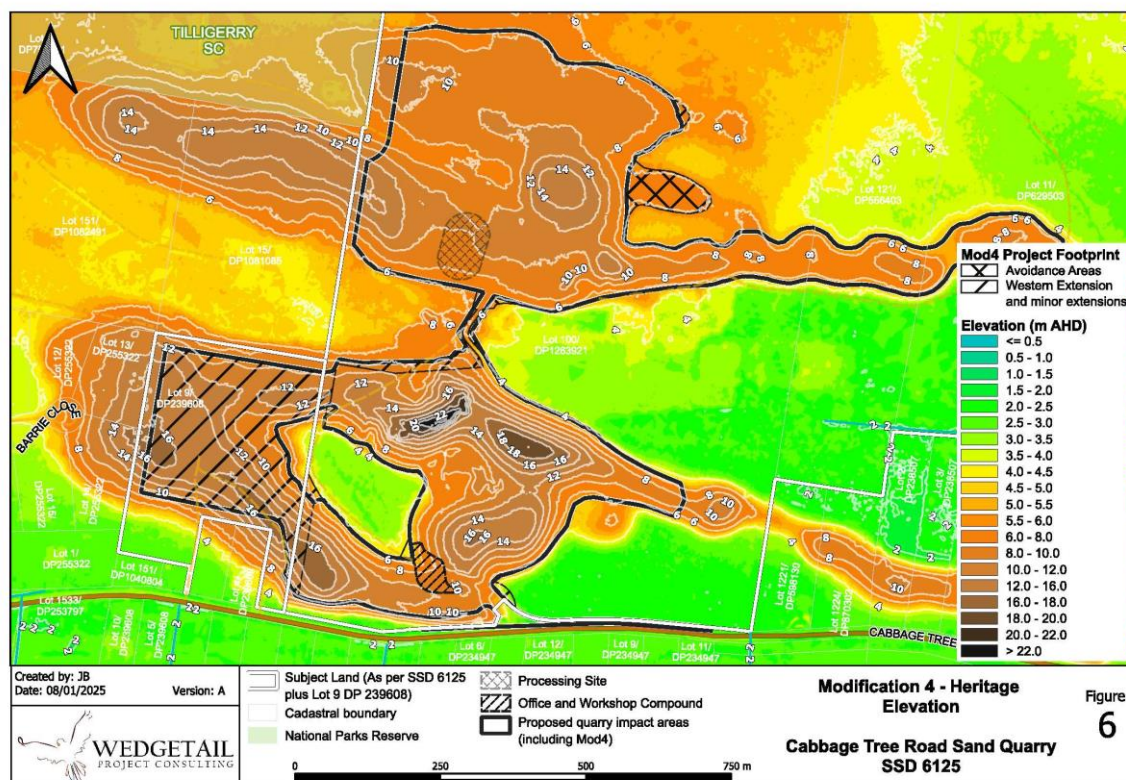


Figure 6: Modification 4 assessment area showing elevation modelling (source Wedgetail Project Consulting).

4.2 GEOTECHNICAL ASSESSMENT

Geotest pits were undertaken near the assessment area by RCA Australia in 2015(RCA Australia 2015). The fieldwork assessment consisted of the investigation of the drilling of 12 boreholes, the installation of groundwater monitoring wells and laboratory testing of selected samples.

Geomorphically, RCA Australia (2015: 4)described the landscape surrounding the assessment area in broad terms as:

.... Topographically, the site and adjacent surrounding area comprises sand sheets and low undulating sand dunes on the coastal plain. The areas from which sand extraction is proposed generally comprise low undulating sand dunes. Existing ground surface elevations across the areas from which sand extraction is proposed are variable and range up to 8-9m

AHD in proposed extraction Area 1, up to 15m AHD in proposed extraction Area 2 and up to 23m AHD in proposed extraction Area 3. Flatter low-lying areas with existing ground surface elevations typically in the order of 2-4m AHD were present to the north and south of proposed extraction Area 1, between proposed extraction Area 2 and 3, and to the south-east of proposed extraction Area 3.

Drainage across the site is expected to comprise surface infiltration, with any surface drainage generally expected to be in the direction of the existing surface slopes. Some swampy areas were noted in depressions within the dune areas and in the low-lying areas adjacent to the proposed extraction areas. The closest significant body of water to the site is Fullerton Cove (which is connected to the north arm of the Hunter River) which is located about 1.2-1.3km to the south of Cabbage Tree Road at the southern side of proposed extraction Area 3.

RCA Australia defined the soil and geomorphic character of the general assessment area in Table 3 below.

Table 3. Summary of soil landscapes surrounding the assessment area (After RCA Australia 2015 and Matthei 1995)

Soil Landscape	Location	Geology	Topography	Dominant Soil Materials
Shoal Bay Soil landscape	Well drained sandsheets and dunes, and some poorly drained sandsheets on the Tomago coastal plain north of Fullerton Cove/ Tilligerry Creek and south of Medowie, Grahamstown Lake and Port Stephens.	Pleistocene aeolian (windblown) sandsheets and low dunes composed of quartz sands.	Gently inclined sandsheets to elongated, low undulating dunes. Dunes are usually well drained, but minor swampy areas may occur in depressions.	Brownish grey loamy sand topsoil, over subsoil consisting of bleached light grey sand and brownish black or dark brown organic-stained sand.

Soil Landscape	Location	Geology	Topography	Dominant Soil Materials
Tea Gardens soil landscape	Extensive beach ridges and sandsheets on Tomago coastal plain.	Pleistocene beach ridges and sandsheets consisting of marine and aeolian (windblown) quartz sands.	Beach ridges and sandsheets. The ridges are generally well drained but swales are seasonally waterlogged.	Brownish black to brownish grey loamy sand topsoil and bleached greyish yellow-brown sand over black and occasionally dark brown to brown and dull yellow orange loam sand to sand over saturated brown, dull yellowish brown or dull yellow orange sand. Sandy peat to organic sandy loam in depressions.

4.3 AIR PHOTO INTERPRETATION, LANDOWNER ADVICE AND HISTORIC LAND-USE.

Prior to the 1960s the site was an open woodland and relative untouched (Figure 7 below). The site seems to have been cleared of native vegetation from at least 1979 and has been subject to extensive dredging by RZM Mines (See below). Dredged operations stripped upper 300mm of topsoil, processed sand (removing about 4%) down into approximately 10m into the water table, then placed the sand back into the site. This activity may have burnt vegetation, then respread material over site. Only a small number of native trees remained in the north-eastern corner of the assessment area.

Some farming activities are also present. By the 1970s local land-use (dredging) of the assessment area has increased surface disturbance (1979 air photo).



Figure 7 : Airphoto 1966 showing assessment area showing only minor land-use.



Figure 8: Airphoto 1979 showing substantial surface disturbance to old footprint assessment area.



Figure 9: Airphoto 2001 showing the extent of the surface disturbance across the assessment area principally from historic mining activities.

Based on historic land-use , farming and mainly mining impacts , at least 90% of the assessment area is considered to be significantly disturbed (See Figure 10 below).



Figure 10: Modification 4 assessment area showing areas of major surface ground disturbance (based on historic air photography, landowner feedback and onground assessment).

4.4 EFFECTS OF BIOTURBATION AND SOIL EROSION PROCESSES ON STRATA

Weathering processes such as sedimentary movement (erosion, deposition), bioturbation, weathering and dune movement are the primary natural processes that may affect archaeological sites in the Lower Hunter region. Sediment (soil) movement throughout the region is characterised by erosional landscapes (higher terrain areas) and aggrading landscapes (Hunter River delta, floodplain and wetlands).

Soil movement downslope is usually caused by water and wind movement, resulting in finer sediment particles being transported to lower terrain areas. Smaller stones of low density (<6 millimetres) can also be transported in this way. Sheetwash erosion is common throughout the Lower Hunter region, and is most notable in areas where recent land use practices have cleared vegetation or disturbed the ground surface. Dean-Jones (Resource Planning 1991:27-28) argues that sheetwash erosion is most common on footslopes and drainage lines that intersect low bedrock spurs. In these erosion areas, lateral movement of sediment and the exposure of the subsoil is predicted.

Bioturbation refers to disturbance of the fabric of sediments (sedimentary structures) by plants and animals (i.e. vectors of movement, plants roots, animals vectos such as ants, burrowing insects, beetles, spiders worms, termites etc) , and can result in the movement of soil by mixing and moulding.

Dean-Jones and Mitchell (1993:43) identify an important effect of bioturbation on the soil profile, being the development of stone layers between the A and B horizons of texture contrast soils. This results from a thickening of the topsoil, which buries stone fragments at a level where bioturbation usually ceases operating (i.e. at the base of the A horizon). This process may affect the stratification of open sites within the Lower Hunter region, but sites may still retain a high integrity.

4.5 CHRONOLOGY

The evolution of the Hunter River and estuary in response to sea level rises has been defined by four evolutionary depositional phases (Roy *et al* 1995, Umwelt 2002). In summary, Roy (Roy 1993: 1) defines these main phases of depostion as:

Unconsolidated sediments in the lower Hunter Valley delta are up to 90 m thick and occupy a bedrock paleovalley that extends from 30 km inland to halfway across the continental shelf. They represent deposition during interglacial highstands of the sea and at least three phases of sedimentation, separated by erosional events, are present. Each phase comprises flood plain alluvium and channel sands overlying estuary basin muds that occur landward of coastal sand barriers. Both transgressive and regressive facies are recognisable in the fluvial and marine sand units. The estuarine muds are highstand deposits; they are geotechnically unstable and their continuing compaction probably exacerbates present-day flooding. Individual barrier and estuary-mouth sand bodies extend for 10's kms and reach thicknesses

of 20+ m; they represent potential petroleum reservoirs in valleys undergoing slow subsidence.

These climatic geomorphic events and their evolution are described in more detail below:

- Last Interglacial: approximately 120,000 years ago

It is estimated that the sea level was four to five metres higher than present, and that raised estuarine shell beds at Largs were deposited at this time. The inner coastal barrier formed at this time. Roy et al (1995) consider that an extensive deltaic floodplain, similar to that of today, formed in the lower valley. Isolated remnants of Pleistocene terrace deposits that remain in the lower Hunter Valley indicate that the Pleistocene floodplain was up to ten metres higher than the Holocene floodplain.

- Last Glacial Maximum: approximately 18,000 years ago

As the sea level fell in the lead up to the last glacial maximum, coastal rivers such as the Hunter River gradually incised their valleys. Roy et al (1995) note that the last Glacial palaeovalley at Maitland is 20 metres below the surface, deepening to 50 metres below the coastline. At the height of the Glacial Maximum, the coastline was displaced approximately 25 kilometres to the east. During this time, much of the old Pleistocene floodplain around Maitland was eroded, with the sediment transported out beyond the Glacial coastline. These floodplain sediments must therefore have been part of the sediment swept landward across the continental shelf as the sea levels rose in earlier times.

- Post glacial sea level rise and marine transgression: approximately 18,000 to 6,500 years ago

The post glacial transgression was characterised by repeated landward migration of sand bodies, possibly in the form of a series of short lived proto barriers. By the time the sea level stabilised at 6500 years ago, Hexham Swamp would have formed the shoreline of the estuary, reflected in the deposition of “beach” sediments around the swamp margins.

- Mid to late Holocene stability : approximately 6,500 years ago to present

When sea level stabilised at its present level, a new stable sandy barrier formed to the east of the old Pleistocene barrier, and a new cycle of estuarine and deltaic sedimentation commenced in the lower Hunter Valley. Storm washover deposits were in the early stages of barrier formation. The Hunter estuary barrier is distinctive because of its high sediment supply and the multiple phases of dune transgression that were initiated between 5,000 and

500 years ago (continuing to the present). During the past 2,000 years, fluvial deposition of floodplain sediments dominated the estuary floodplain, with overbank alluvium being deposited as far downstream as Hexham. It is assumed that deposition of floodplain deposits in Hexham Swamp also accelerated during this time.

The infilling of the Hunter estuary has resulted from two processes: the build up of tidal delta marine sands in the lower estuary, and fluvial estuarine sedimentation in the upper estuary that has gradually been migrating seaward (Roy and Boyd 1996). The creation of an extensive floodplain in the lower Hunter by this infilling process has involved significant local variations in the form of the landscape. Roy *et al.* (1995) identified numerous palaeo-channels across the floodplain surface, although their exact age is not known. These channels may be older features – relict delta flood distributaries that formed as the estuarine basin was infilling – or they may be more recent features, reflecting channel switching after the floodplain formed (Roy and Boyd 1996).

In a review of the late Pleistocene archaeological record of the central lowlands of the Hunter Valley Hughes *et al* (2014) argue that most archaeological materials older than approximately 10,000 years have either been completely removed or so widely dispersed across the landscape, that they are no longer recognisable as discrete locations of artefact discard.

Sand bodies are likely to provide the best opportunity for detecting late Pleistocene occupation however these areas can be limited based on the overall effects of bioturbation processes. Further they argue that Duplex soils commonly found in the central Lowland landscape especially the A horizon are not necessarily of any great age and can develop within a few centuries. Agreeing with the work of Dean-Jones and Mitchell (1993) intact and relatively undisturbed hearth sites will provide the best opportunity for dating open sites in the central Lowlands of the Hunter Valley. The B horizon or B unit within these duplex soils are likely to have virtually no archaeological potential due to their likely ancient ages predating human occupation (Hughes *et al* 2014: 36).

4.6 SIGNIFICANT WETLAND AND HABITAT/ RESOURCE POTENTIAL IN THE LOWER HUNTER

There are numerous wetland areas associated with the Hunter River floodplain. Wetlands are defined as "*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including*

areas of marine water the depth of which at low tide does not exceed six metres" (Department of Environment and Heritage 2004). Within this broad definition, forty different wetland types are recognised, and these fall into three primary categories: (1) marine and coastal zone wetlands, (2) inland wetlands, and (3) human-made wetlands.

'Wetlands' in general are areas of swamp, shallow water or water-logged land. The water cover may be permanent or temporary. The areas are usually characterized by vegetation of a moist-soil or aquatic type. Wetlands do not include the deep waters of rivers, lakes, reservoirs, and estuaries, where aquatic vegetation is sparse or absent, or areas where water cover is so temporary as to have little or no effect on the development of a moist-soil vegetation (Goodrick 1970).

Early historical records of settlers and explorers such as Backhouse (1843:399) describes the surrounding landscape as 'one vast wood, interrupted by a few open swamps' and Lieutenant Breton (1833) described Maitland as a thick vine brush, that was very difficult to penetrate. Similar observations were made by Cunningham (1825) who described the land between Maitland and Newcastle as being low and swampy, covered with stunted brush. Further inland he observed fertile locations, which were well watered but heavily timbered and brushy (Cunningham 1827:78-9).

Hexham Swamp is the largest of the lower Hunter wetlands, being over 2400 hectares in area and representing almost half of the remaining swampland of the Hunter region. In 1990, approximately 900 hectares of the Swamp was dedicated as part of the Hexham Swamp Nature Reserve. The Hexham swamps are contiguous with important freshwater wetlands on freehold land to the west, near Minmi, the Shortland Wetland Centre to the east and in Newcastle Council's Wetlands Reserve below Newcastle University (NSW National Parks and Wildlife Service 1998:7).

Before European settlement, it is understood that Hexham Swamp was covered by predominantly freshwater vegetation with saline communities restricted to creek margins (NSW National Parks and Wildlife Service 1998:18). Reeds and bullrushes form the dominant vegetation of the existing swamp, with the main species present being Common Reed (*Phragmites australis*), Fimbristlyis Reed (*Fimbristlyis ferruginea*), Tall Spike Rush (*Eleocharis sphacelata*) and Broad-leafed Cumbungi (*Typha orientalis*). These plants can grow over four metres high in the mud of the swamp (Waterhouse 1981:39). With the hydrology of the Hunter altered and the river increasingly saline from the 1950s, saline communities within the river expanded.

The subsequent installation of the gates in Ironbark Creek in the 1970s restricted the saline intrusion and resulted in the partial return to freshwater conditions (NSW National Parks and Wildlife Service 1998:19). In a 1970 survey, eleven of the fourteen coastal wetland types were identified at Hexham Swamp (Goodrick 1970). Since this time, a minimum of nine plant species have disappeared from the swamp, presumably as a result of hydrological changes within the swamp (NSW National Parks and Wildlife Service 1998:9).

Briggs 1978 identified four primary vegetation types within Hexham Swamp:

- **saltmarsh and mangroves:** predominantly found in the south-east zone, dominated by grey mangrove, red samphire, saltwater couch and paspalum. Isolated stands of paperbarks and swamp casuarina occurred on higher ground;
- **reed community:** the central part of the swamp, dominated by *Fimbristylis ferruginea*, with minor areas of the common reed;
- **freshwater meadows and seasonal freshwater swamps:** the upper reaches of the swamp to the south west. This area contains the most diverse range of vegetation communities, dominated by cumbungi and other freshwater species; and
- **freshwater grassy swamps:** in the north-west part of the swamp, consisting of submerged aquatic plants, reeds, paspalum and other agricultural fodder plants. (NSW National Parks and Wildlife Service 1998:21).

The elevated ground surrounding wetlands throughout the area was once defined by coastal rainforests and forests. These forests have been progressively cleared, first for timber and then for agricultural use. Post-contact settlement has also resulted in introduced plant species within the wetlands, with the Water Hyacinth (*Eichornia crassipes*) the most prominent introduced plant in freshwater swamp areas. This species is prevalent on the western side of Hexham Swamp, and can form dense mats (Waterhouse 1981:40).

The wetlands of the region are rich in animal life and would have provided abundant resources for Aboriginal people, including estuarine fish, water birds, and a variety of lizards. Large wetlands such as Hexham Swamp support large populations and a greater diversity of native plants and animals than do small wetlands, and they provide essential habitat for specialised species that often depend on larger areas for survival (Pressey 1981). The tributary drainage lines and their associated catchments would also have provided habitat for a variety of mammals, including possum, wallaroo, kangaroo, swamp wallaby, swamp rat, sugar glider, squirrel glider and bandicoot (Umwelt 2002).

Across Hexham Swamp a minimum of ten species of crab is known, the most common being the Red-fingered Marsh Crab and Semaphore Crab. Marine snails and shrimps are known, and numerous bird species are associated with these landscape areas. Larger wading birds include the royal spoonbill, great egret, white faced heron and sacred ibis are found here. When the paper barks and swamp mahoganies are in blossom, the large range of associated insects attract a variety of birds, such as scarlet honeyeaters and yellow thornbills. Marsupials also use the forests, such as squirrel gliders who feed on swamp mahoganies (Waterhouse 1981:38). Common fish species include bream, luderick and mullet, and at high tide, schools of small fish swim into the mangrove and saltmarsh areas looking for food and shelter (NSW National Parks and Wildlife Service 1998:21).

Other key swamps near the subject area include Woodberry Swamp, Wentworths Swamps, Pambulay Swamp and Tarro Swamp (Figure 1: Appendix 1) . Woodberry Swamp is close to Hexham Swamp, and contains a wide variety of water birds. In addition to the swamps of the lower Hunter floodplain, there are several much smaller areas of freshwater wetland on the coastal strip between Port Stephens and the Lake Macquarie district. Many of these occur as swampy depressions or lagoons formed where drainage has been impeded by the formation of sand dunes parallel to the coast. Virtually all have been altered in shape, extent and appearance during the post-contact settlement of the area. In addition, new aquatic habitats have also been created by urban development, such as the shallow artificial lake constructed at Grahamstown near Raymond Terrace (Waterhouse 1981:23).

Over time there would have been changes in the available ecological resources during the evolution of the lower Hunter landscape. In the early to mid Holocene, the most valued areas for resources that would support larger groups of Aboriginal people or more regular visits were probably the margins of the tributary drainage lines. In the later Holocene, the tributaries would have maintained these resources, but their relative resource value would have decreased as freshwater supplies extended to the swamp margins. The infilling of the Hunter River alluvial valley within the past 4000 years would also have resulted in significant variations in the form of the landscape, with associated changes in the presence of plant and animal habitats (Umwelt 2002:3.7).

The assessment area does not contain any Paperbark swamps or substantial wetlands which in terms of substantial ecological resources is limited when compared to larger wetlands like Tomago, Hexham or Kooragang (Figure 12 below) . This area may have only been

considered a local open woodland habitat of minor ecological/economic value by Worimi Aboriginal people.

The assessment area land consists of a series of mostly low sandy ridges and flats which have been cleared of vegetation and are now open paddocks containing pasture grasses. Apart from small pockets of eucalyptous trees in the north-east, the land has not been ploughed for pasture improvement in the past and was initially used for minor grazing until the late 1990s. There are no local outcrops of rock on the subject land that would be suitable for making stone tools.

4.7 VEGETATION

The local vegetation patterns have been classified broadly as partially cleared open forest and woodland with a tall understory. A tall dry heath/scrubland is present in cleared areas. Dominant species present include *Eucalyptus pilularis* (blackbutt), *Angophora costa* (smooth barked apple), *Eucalyptus gummifera* (red bloodwood) and occasional *Eucalyptus signata* (scribbly gum). The understory is dominated by *Banksia serrata* (old man banksia), *Leptospermum laevigatum* (coastal tea tree), *Acacia longifolia* (sydney golden wattle), *Persoonia lanceolata* (lance leaf geebung), *Persoonia levis* (broadleaf geebung) and *Pteridium esulentum* (bracken). *Xanthorrhoea australis* (grass tree), *Macrozamia communis* (burrawang), *Casuarina glauca* (swamp oak) and *Melaleuca quinquenervia* (broad leaf paperbark) and the occasional species which include; *Livistonia australis* (cabbage tree palm) and *Eucalyptus robusta* (swamp mahogany) on poorly drained sandsheets, (Matthei 1995).

Wedgetail Project Consulting (2024) have undertaken a site specific flora and fauna investigation of the assessment area. Vegetation surveys identified one native plant community types (PCTs) in varying condition and form and one exotic vegetation community across the subject lot (Lot 9 DP239608). This included:

- PCT3544 - Coastal Sands Apple-Blackbutt Forest in a Moderate to Good Condition, a Shrubby condition and a managed condition. This PCT areas of has intact canopy, shrubby sections and more managed areas with a diverse range of species present. Some exotic grasses are also present within the managed areas.

- Exotic grassland – This vegetation across the tracks and surrounding the house and sheds. None of the above TECs have any associations with Threatened Ecological Communities (TECs) listed under the BC or EPBC Act.

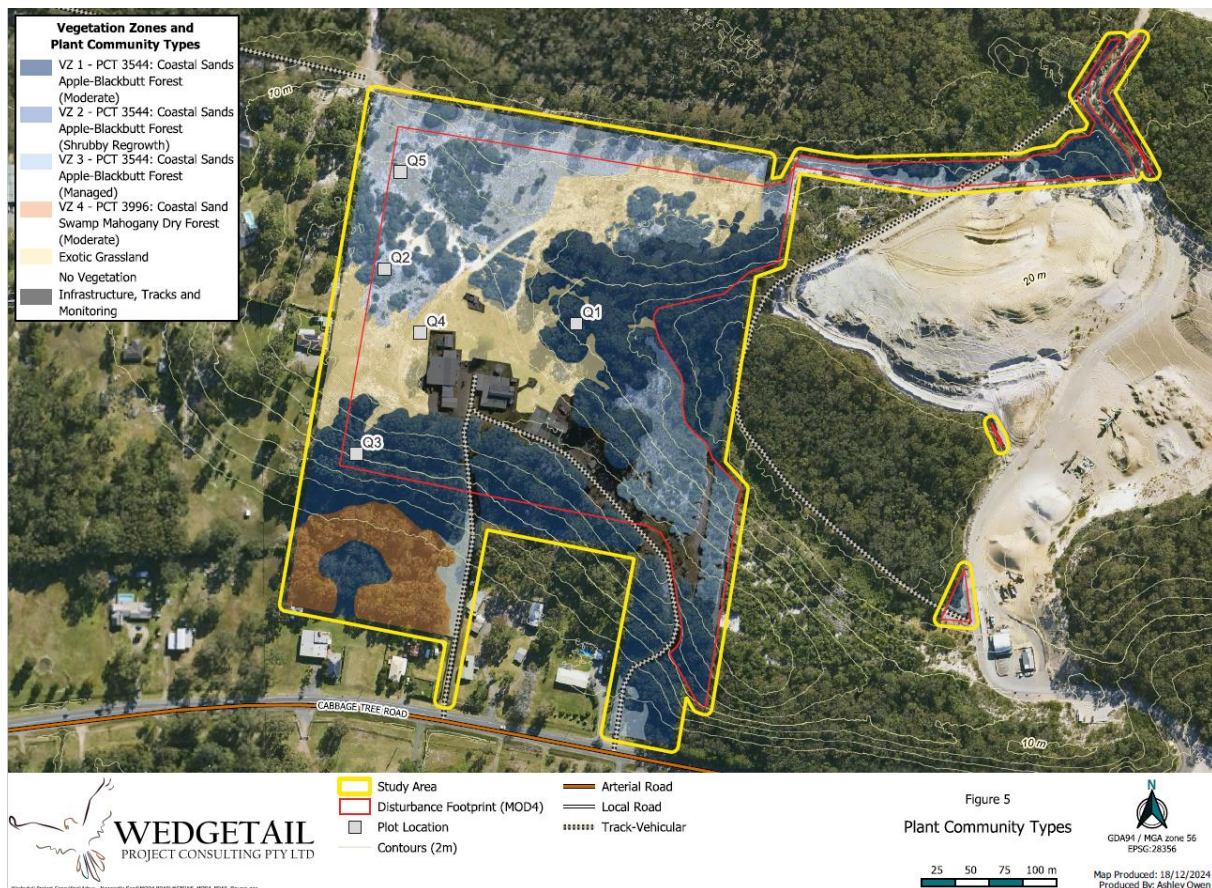


Figure 11 : Vegetation communities mapped by Wedgetail Project Consulting.

The most diverse habitat cultural bush tucker potential is located within the woodland. Here we see *Livistonia australis* (cabbage tree palm), *Macrozamia communis* (burrawang) *Xanthorrhoea australis* (grass tree) *Persoonia lanceolata* (lance leaf geebung), *Persoonia levis* (broadleaf geebung) and *Pteridium esulentum* (bracken). All of these plants were used either for food or as tools.

4.8 SURFACE WATER AND FLOOD IMPACTS

There are no existing permanent water features (i.e. creeks or rivers) within Modification 4 assessment area.

5. BACKGROUND ABORIGINAL CULTURAL HERITAGE RESEARCH & ARCHAEOLOGICAL CONTEXT

5.1 AHIMS SEARCHES

Through the NSW Office of Environment and Heritage (OEH) an extensive Aboriginal Heritage Information Management System (AHIMS) search was conducted by ARAS Pty Ltd on 20th of November 2024 (AHIMS search ID 862713). The search covered an area of approximately 2 km² that encompassed the assessment area. There are several registered Aboriginal archaeological sites that are located near the search area; approximately 13 are listed by the AHIMS search. The AHIMS search results are presented in Table 4 below and Figure 12: Appendix 1. Many of these registered Aboriginal sites are associated with existing drainage lines, coastal dunes, lagoons, wetlands, fen lands (i.e. Newcastle Bight, Stockton Beach, Fullerton Cove, Moffats Swamp, Tomago wetlands and plains, Hunter River terraces, Hexham Swamp, Wentworth Swamp,) and old gully features.

Table 4: AHIMS search results (ID#862713) for Aboriginal sites located within 5kms of the project area.

Heritage NSW Site ID No.	Site name	Eastings	Northings	Site Type
38-4-0522	Medowie 3	394000	6373825	Isolated Find
38-4-0615	MS2	394120	6374100	Isolated Find
38-4-1157	Cabbage Tree Road AS1	390107	6369212	Artefact : 2, Potential Archaeological Deposit (PAD) : -
38-4-0648	A2 - Tomaree/Tomago	384377	6368060	Isolated Find
38-4-1204	Mount Hall Road KF 1 (MHR KF1)	384445	6373835	Artefact : 59, Potential Archaeological Deposit (PAD) : 0
38-4-0676	Tomaree/Tomago A10	384867	6368228	Artefact : 9, Non-Human Bone and Organic Material : -
38-4-1140	Masonite Rd (Tomago)	385250	6370900	Artefact : -

Heritage NSW Site ID No.	Site name	Eastings	Northings	Site Type
38-4-0053	Williamtown	391373	6368896	Artefact : -, Burial : -
38-4-1031	Lagoons 5	393225	6366575	Artefact : 15
38-4-1928	HWC Pole 4300-29 IF	394423	6372357	Artefact : -
38-4-1473	Mackas Access 2	395054	6368394	Artefact : 2
37-6-4173	Cabbage Tree Road AS2	390195	6369279	Potential Archaeological Deposit (PAD) : -, Artefact : -
38-4-1221	Grahamstown WTP 5/A	383783	6369610	Artefact : 2
38-4-0237	RT 2;	383700	6373210	Artefact : -
38-4-0694	Raymond Terrace 1 (RT1)	384071	6373602	Artefact : 1
38-4-1159	Williamtown Drive IF1	391783	6369066	Artefact : 1
38-4-0331	Moffats Swamp 2	394155	6373189	Artefact : -
38-4-1597	OFOC Area 1	394288	6373114	Artefact : 1
38-4-0254	M D 4	394800	6372400	Artefact : -
38-4-1472	Mackas Access 1	395020	6368345	Artefact : 4, Shell : 1
38-4-0247	T6	384085	6369000	Artefact : -
38-4-0682	PAD 4:Tomaree to Tomago	384405	6372500	Potential Archaeological Deposit (PAD) : 0
38-4-1158	Mount Hall Road 1 (MHR1)	384432	6373729	Artefact : 1
38-4-0647	A1 - Tomaree/Tomago	384559	6368108	Shell : 2, Artefact : 2
38-4-0068	Newcastle Bight;3;	392795	6366181	Artefact : -
38-4-1904	EA Campvale 1	393033	6373353	Artefact : 1
38-4-1379	EA Williamtown 2	393033	6373353	Artefact : 1
38-4-1524	WILLIAMTOWN AS2	393142	6372986	Artefact : 40
38-4-1619	TP 7, 9 & 10 MedowiePower	393373	6369580	Artefact : 1
38-4-2029	Medowie RD AD-02	393591	6374168	Artefact : 12
38-4-0303	Williamtown 4	393601	6374071	Artefact : -
38-4-1929	RAAF Williamtown OLA Site	393600	6369400	Artefact : -, Shell : -
38-4-0532	F1	390764	6372358	Artefact : -
38-4-0678	Medowie ISF 1	393890	6373900	Artefact : -

Heritage NSW Site ID No.	Site name	Eastings	Northings	Site Type
38-4-0518	Medowie Four	393890	6373900	Artefact : 1
38-4-0245	T4	394000	6373745	Artefact : -
38-4-0681	PAD 3: Tomaree to Tomago	384200	6368980	Artefact : -
38-4-1523	WILLIAMTOWN AS1	384400	6370500	Potential Archaeological Deposit (PAD) : 0
38-4-1030	Lagoons 4	393303	6369583	Artefact : 1
38-4-0332	Moffats Swamp 3	393233	6366293	Aboriginal Resource and Gathering : 1, Artefact : 3000
38-4-0255	M D 5	393905	6373289	Artefact : -
38-4-0244	T3	383815	6369170	Artefact : -
38-4-0246	T 5;Tomago	383985	6369090	Artefact : 1
38-4-1824	NBR Williamtown 1	392269	6369371	Artefact : -
38-4-1324	Williamtown 3	393000	6367000	Artefact : -
38-4-1646	AUS1903 -01	393485	6369598	Artefact : -
38-4-1620	TP3 MedowiePower	393476	6373883	Artefact : 10
38-4-1627	TP7 9 103#####	393591	6374168	Artefact : 1
38-4-1476	NBR3/1 Shell Midden	385726	6374016	Shell : -, Artefact : -
38-4-1381	RPS Fullerton Cove 1	387736	6369106	Artefact : 64
38-4-0315	R 1	388600	6373600	Shell : -, Artefact : -
38-4-2272	RAAF WLM	391369	6372381	Artefact : -
38-4-0057	Freshwater Lagoons Mac's I	394054	6367302	Artefact : -
38-4-0521	Medowie 1	394125	6373725	Isolated Find 5
38-4-1474	Mackas Access 4	395148	6368452	Artefact : 12
38-4-0242	T 1;	383600	6368300	Artefact : -
38-4-0679	PAD 1: Tomaree to Tomago	384605	6368389	Artefact : 1, Shell : 1, Potential Archaeological Deposit (PAD) : 0
38-4-1927	HWC easement Snake Pit Trail IF	384996	6370487	Artefact : -
38-4-0414	Masonite Road;	385250	6370900	Artefact : -

Heritage NSW Site ID No.	Site name	Eastings	Northings	Site Type
38-4-0301	Williamtown 1	391300	6369000	Artefact : -
38-4-1160	Williamtown Drive AS1	391680	6369082	Artefact : 2
38-4-1906	EA Campvale 3	392988	6373353	Artefact : 1
38-4-1522	WILLIAMSTOWN IA1	393233	6369666	Artefact : 1
38-4-1527	Williamtown IA1	393233	6369666	Artefact : 1
38-4-1206	EA Williamtown 1	393381	6373626	Artefact : 2
38-4-2030	Medowie RD IF-3	393438	6373736	Artefact : -
38-4-1647	AUS1903-02	393486	6369674	Artefact : -, Shell : -
38-4-1970	Medowie PAD 01	393541	6374239	Potential Archaeological Deposit (PAD) : -
38-4-2034	Medowie RD IF-2	393621	6374079	Artefact : -
38-4-1281	Campvale AS1	389698	6373462	Artefact : 6
38-4-0302	Williamtown 2;	393800	6367500	Artefact : -, Shell : -
19-4-0019	(REFER TO 38-4-0522)	394000	6373825	Artefact : -
38-4-0614	MS1	394180	6374120	Artefact : 1
38-4-0577	Fullerton 17	394930	6366315	Shell : 1
38-4-0240	RT 1;	384080	6373770	Artefact : -
38-4-0220	Galloping Swamp	391300	6372200	Artefact : -
38-4-1380	EA Williamtown 3	392867	6371655	Artefact : 2
38-4-1032	Lagoons 3	393250	6366153	Artefact : 2
38-4-2028	Medowie RD AD-01	393629	6374138	Artefact : -
38-3-0038	Tomago 2 TK2	389100	6373550	Artefact : -
38-4-2005	CTR-AS01	390563	6369346	Artefact : -, Hearth : -, Potential Archaeological Deposit (PAD) : -
38-4-1146	DAREZ 1	391037	6369258	Artefact : 12
38-4-0519	Medowie Two	394050	6373735	Artefact : -
38-4-0517	Medowie Five	394075	6373725	Artefact : -
19-4-0020	(REFER TO 38-4-0521)	394125	6373725	Artefact : -
38-4-1475	Mackas Access 3	395081	6368429	Artefact : 10

Heritage NSW Site ID No.	Site name	Eastings	Northings	Site Type
38-4-0695	Raymond Terrace PAD 1	384010	6373750	Potential Archaeological Deposit (PAD) : 1
38-4-0243	T 2;	384400	6368700	Artefact : -
38-3-0037	Tomago 1;TK1;	385600	6369540	Artefact : -
38-4-1905	EA Campvale 2	392988	6373353	Artefact : 1
38-4-0256	M D 7	393100	6372300	Artefact : -
38-4-1648	AUS1903-03	393391	6370559	Artefact : -, Shell : -

A majority of Aboriginal sites recorded in this region are defined as either shell middens or open sites with shell midden deposits. These deposits are either shallow which are commonly recorded or deeply stratified which are rarer. Some of these sites will contain stone artefacts and hearths. Others may also contain human burials.

The above Aboriginal site distribution list is only a small portion of what is known for the entire Williamtown/Newcastle Bight region in the Lower Hunter Valley. Aboriginal occupation sites have been recorded along the following major riverine landforms, creek catchments and associated forest/wetlands but are not necessarily registered:

- Fullerton Cove;
- Freshwater Lagoons;
- Moffats Swamp;
- Stockton Beach;
- Tilligery Creek;
- Lemontree Passage;
- Anna Bay;
- Birubi Point;
- One Mile Beach;
- Oakfield;
- Majors Flat and
- Macs Track.

The land is located traditionally within the boundary area of the Worimi /Gattang Aboriginal language groups (Tindale 1974, Horton 1994). Contemporary Aboriginal communities within the Williamtown area are represented by:

- the Worimi Local Aboriginal Land Council (LALC) based in Williamtown near Nelson Bay.

Other Worimi Aboriginal groups living in the Lower Hunter region may or may not express an interest in this type of assessment and have the potential to do so through the processes outlined in the *DECCW's Aboriginal Consultation requirements for proponents 2010* (DECCW 2010).

All the above Aboriginal groups are interested in development projects within the Williamtown , Port Stephens Shire Council area and any likely impacts on land that could contain Aboriginal Sites and Objects. DECCW/OEH has advised that Aboriginal groups should be involved in any project that could impact on known Aboriginal Sites or Objects.

5.2 ABORIGINAL ETHNO-HISTORIC CONTEXT

Ethno-historical research work by Sokoloff (1973) has described first contact between Europeans and Aboriginal people in the Port Stephens area being through timber cutters in the early 1800's. W.R. Broughton was one of the first to describe contact with Aboriginal people in 1795. Robert Dawson of the Australian Agricultural Company strove to be kind and compassionate to the Aboriginal inhabitants and at Carrington relations between Aboriginal people and the first settlers were good. Alternative views of this ethnohistoric/linguistic review are also provided by R Syrons a Registered Aboriginal Party for the project who argues strongly for the acknowledgement of Guringai country (See Appendix 4).

Gordon Bennet a first settler of the Dungog area describes a growing distrust between Aboriginal people and Europeans by the early 1840's. And by the 1870's T Cook a local magistrate observed that: "initiation ceremonies had practically died out" (Cook in Bennet). European tools and material had almost replaced all the traditional natural materials used by Worimi Aboriginal people.

Prior to contact with European settlers, the Worimi people occupied land between Barrington Tops and Forster in the north and Maitland and the Hunter River in the south.

The Worimi were made up of a number of local clans who lived principally near the water's edge and utilised both land and sea resources in their everyday lifeways (Leon, 1998; P Sokoloff 1975, 1976, 1977).

The Worimi nation and land belonged to individual clans. Enright (1900) and Sokoloff (1974) have identified ten local groups ('nurras') that comprised the Worimi. These clans included the Garuagal, Maiangal, Gamipingal, Garrawerrigal, Buraigal, Warringal, Birroongal, Birrimbai, Yeerungal and Wallamba (Enright 1900; Sokoloff 1975, 1976, 1977; Leon 1998). Marriages were arranged by both kindred and parents; with a number of patrilineal totemic clans having a say on both kinship and marriage, ensuring that strict laws were maintained, preserving tribal strength and avoiding in-breeding (Sokoloff 1976). At the time of European settlement in 1788 there were about 400 Aborigines living around the estuary of Port Stephens. The Worimi spoke a dialect of the Kattang language.

Dawson describes the Worimi Tribe as utilising spears and shields, wearing belts of opossum fur, and using combs formed from the leg bones of kangaroos (Dawson 1830: 115). Bark was described as an essential material used in the production of numerous items. Notches were cut into trees "large enough only [to] place the great toe in" to enable easy climbing to strip bark "in lengths from three to six feet" (Dawson 1830: 19). This bark was used for covering huts; bark was also utilised for making string "as good as you can get in England, by twisting and rolling it in a curious manner with the palm of the hand on the thigh" to make nets, fishing lines and bags (Dawson 1830: 67).

Fishhooks were regularly used and were made from oyster and pearl shells and resin gum from the Grass Tree was used in hafting the spears disparate elements together (Dawson 1830: 67). Spears were also used for fishing, made from the flowering stem of the Grass Tree or Gynea Lily, with prongs of ironbark used on the tips. Other hunting tools and weapons were also manufactured from plants, including Boomerangs, which were made from wild Myrtle (Sokoloff 1975). The Gynea Lily's young flowering spikes were fire roasted and eaten after being soaked in water. Wild Cape Gooseberries grew on the nearby Cabbage Tree Island and were a highly prized food resource. Fern roots and daisy yams were a necessary

supplement to diet, especially when there was a scarcity of the primary food resource of fish (Sokoloff 1977).

Traditional foods favoured by the Worimi people are described in Table 5. below

Table 5: Common Aboriginal economic animal and plant foods recorded by historic researchers in New South Wales coastal region.

Species name	Source	Common name/ use
<i>Blechnum</i>	Barrallier (1802)	Rhizome/fern roots roasted in ashes
<i>Dioscorea traversa</i>	Backhouse (1843)	Yam. Often found near brooks
<i>Doryanthus excelsa</i>	Three-D (1843)	Giant lily. Stems and roots roasted cooked and made into paste /Johnny cake.
<i>Zamia spiralis</i>	Threkeld (1843) Backhouse (1843)	Cycads. Seeds soaked for several weeks in swamp. Pounded and roasted.
<i>Exocarpus cupressiformis</i>	Cunningham (1825)	Native/wild cherry
<i>Sterculia heterophyllus</i>	Cunningham (1843)	Kurrajong. Capsules roasted and made into paste.
<i>Themeda australis</i>	Cunningham (1823)	Grass seeds ground for paste like Johnny cakes.
<i>Xanthorrhoea resinosa arborea</i>	Threlkeld in Gunson (1974)	Grass tree. Nectar eaten from flower stems-stems used for spear shafts. Resin used in hafting.
<i>Acmena smithii</i>	Hunter (1793)	Lillipilli. Edible fruit.
<i>Persoonia sp</i>	Hunter (1793)	Geebung. Fruits eaten or flowers.
<i>Lomandra longifolia</i>	Threkeld in Gunson (1974)	Long leaf mat rush. Edible stems and strips for making dilly bags and reed mats.
<i>Ostrea angasi</i> <i>Anadara trapezia</i> <i>Velesunio sp</i> <i>Pyrazus ebeninus</i>	Threkeld in Gunson (1974) Ebsworth (1826)	Lakes and shallow estuaries. Mud oyster Sydney cockle Freshwater mussel Mud whelks

Species name	Source	Common name/ use
<i>Anguillidae</i>	Collins (1798)	Freshwater eels (Caught in narrow channels near lakes and rivers using basket nets)
<i>Macropus major</i> <i>Macropus robustus</i> <i>Wallabia bicolor</i>	Fawcett (1898)	Eastern grey kangaroo Eastern wallaroo Swamp wallaby (Caught by netting in forested areas. Burning patches of grass to attract new growth and game)
<i>Perameles nasuta</i>	Ebsworth (1826)	Long nosed bandicoot
<i>Trichosurus vulpecular</i> <i>Pseudocheirus laniginosus</i>	Dawson (1830) Meredith (1846)	Possums –ring tail and brush tail. Caught by cutting hole into trunk of tree. Access by cutting toe holes in tree. Important food staple. Favoured in spring.
<i>Tachyglossus aculeatus</i>	Collins (1798)	Echidna. Cooked in ovens. Eggs highly prized.
<i>Varanus varius</i>	Backhouse (1843)	Lace monitor or goanna
<i>Egernia sp.</i> <i>Agamidae sp.</i> <i>Monelix spilotes</i>	Backhouse (1843) Graham (1863) Oxley (1820)	Lizards and snakes Skinks, dragons and pythons. Cooked roasted. Cooked in pit.
<i>Dromaius novaehollandiae</i>	Collins (1798) Hunter (1793)	Emu. Hunted using boomerang and clubs.
Grubs	Backhouse (1863) Meredith (1844)	Root grubs from gum trees. Seen as luxuries.
Waterfowl various species	Mundy (1815)	Caught in nets in major wetlands. Hunted using large boomerangs.
<i>Chelonda longicollis</i>	Backhouse (1843)	Tortoise. Caught sunning on logs in rivers.

Species name	Source	Common name/ use
Fish, various species	Meredith (1844) Graham (1839)	Mullet, catfish, cod & perch. Caught using nets, snares and spears. Some nets made from stringy bark.

The most common economic shell fish species exploited by Worimi Aboriginal people in this region are both from coastal resource zones with rock platforms and estuarine mud flats are: *Mytilus obscurus* (Edible Mussel) *Anadara trapezia* (Sydney Cockle), *Pyrazus ebeninus* (Large Horned Shell), *Velacumantus australis* (Mud Whelk), *Ostrea angasi* (Mud Oyster), *Ninella torquata* (Heavy Turban) Sydney Rock Oyster (*Crassostrea commercialis*) and *Pipi* (*Plebidonax deltoides*).

When selecting occupation areas, foremost in the minds of hunter-gatherer peoples are the requirements of camp-site locations. Some ethno-historical researchers have commented that some Aboriginal cultural groups in Australia have a rule-based system for selecting camp-site locations (Fison and Howitt 1991).

Brayshaw (1986), writing on site selection factors from her ethno-historical work, only quotes the observations of J.W. Fawcett (1898) saying that in 'choosing the site [for their camps], proximity to fresh water was one essential, some food supply a second, whilst a vantage ground in case of attack from an enemy was a third' (1898: 152).

Considerable scepticism has to be applied to claims of large numbers of people at Aboriginal gatherings throughout certain landscapes. Early historic accounts are either skewed towards observer bias or a lack of understanding of the impacts of European settlement and the consequences of disease and conflict.

Many groups, including Hunter Valley Aboriginal people, would have modified their settlement patterns significantly after the early 1800s due to a negative reaction by white pastoralists who were rapidly taking over the best country in many districts. It is well known throughout the Bathurst area and Mudgee districts that groups such as the Wiradjuri and Gundungurra were combining their efforts to harass white settlers. There is some evidence that this may have been occurring with Kamilaroi and Wonnarua groups in the Hunter Valley.

Studies by Brayshaw (1986), Pearson (1981) and Vinnicombe (1980), indicate that Aboriginal use of a range of plant and animal resources in and around the Hunter Region was dependent on understanding seasonal availability. Much of this evidence comes from observation made of coastal Aboriginal populations or observations made near first settled districts (i.e. Bathurst, Mudgee, Newcastle, Parramatta etc.) rather than in remote mountainous terrain.

These ethnographic sources allow the distinction to be made that some areas of the Lower Hunter Valley were far more ecologically rich and reliable than others from a prehistoric settlement perspective. The most likely preferred lands for large scale occupation were probably land-systems with broad open catchments having substrates that could support large lagoons, freshwater swamps and rainforest habitats.

By the 1870s Worimi Aboriginal people were moved onto Aboriginal reserves (established by the Aborigines Protection Board after 1883), including reserves gazetted in Forster (1895), Karuah (1898) and Purfleet (1900). After 1909, the Aborigines Protection Board forbade the practising of traditional customs and speaking native languages. With the adoption of a 'dispersal' policy by the Board in 1918 and until 1936, fringe camps outside of gazetted reserves were frequently established and occupied by Aboriginal people.

5.3 PREVIOUS ARCHAEOLOGICAL RESEARCH AND PREDICTIVE MODELLING

A majority of archaeological investigations near Williamtown have been associated with regional Environmental Impact Assessment (EIA). Significant EIA archaeological investigations have been undertaken within areas such as Stockton Bight not far from Williamtown (e.g. Comber 1991; Smith 1987; Brayshaw 1989, 1990a, b; Dean-Jones 1990; Evans 1993; Effenberger 1996; ERM 1998, 2005a, b, 2010; RPS 2010a, b; Resource Planning 1991a, b, 1992; Sullivan 1978; Umwelt 2000, 2003, 2011a, b; MCH 2003, 2004 a-c, 2005, 2009, 2010a, b, 2011, 2012 a - c, 2015 a - c, 2017, 2018, 2019). All of these investigations have tried to predict the patterning of archaeological sites within the Coastal plain region, which is acknowledged to be of high archaeological sensitivity and significance.

A number of Environmental Impact Assessments have also been undertaken near the assessment area at Williamtown (ERM 2003a, b; Umwelt 2011a, 2012, 2014; RPS 2010). The

ERM and Umwelt studies relate to the Tomago to Tomaree Power Line, and the RPS assessment relates to the Aerolab investigation. Some of the above archaeological investigation however are limited due to the fact that they are only focussed on assessing development impacts which are often driven by minimising cost outcomes to a developer.

The local Port Stephens Aboriginal cultural landscape includes an extraordinary number of Aboriginal cultural sites that pre-date the arrival of European people to the area. Port Stephens and the wider region is home to numerous sites of cultural significance, from the area now known as the Worimi Conservation Lands of the Stockton Bight to significant sites, including canoe trees at Little Beach. In the area stretching from Wallis Lake to Newcastle there are at least 37 recorded Ceremonial Sites (stone arrangements, bora grounds, carved trees and burial sites), 115 recorded campsites (mia mia, scarred tree, open campsite, shelter with deposit, well, fish trap, abraded grooves and quarries) and 97 shell middens. Four shell middens and a burial site are located at the base of Yacaaba Head. Significant shell Middens are located at Fingal Spit, Anna Bay, Schnapper Point, Boat Harbour, Skate Bay and Fishermans Bay. There is a burial site at Skate Bay and grinding grooves at Morna Point (DECC 1990).

The local coastal environment was favourable for hunter-gatherer living. The Worimi's non-destructive lifestyle was in such sympathy with the environment that it had already lasted tens of thousands of years and would have continued long into the future if the white invasion had not taken place (DECC 1990).

5.3.1 Research Focussed Studies

Probably the best archaeological information about historic Worimi land-use comes from research focussed archaeological studies. This information is usually unbiased as it is not dependent on seeking approval to destroy sites as a result of development. Two researchers in the Newcastle/Port Stephens area including not far from Williamtown have provided useful archaeological research data for comparison purposes. These are Dyll and Dean Jones (See Figure 13: Appendix 1).

In the 1970s Dyll investigated a series of archaeological sites along the Newcastle coast line. In 1975, Dyll examined a proposed residential development at Salamander Bay. He recorded two archaeological sites. 38-5-33 -Port Stephens - this site was located in the bottom of a

sandpit and consisted of chert flakes and weathered shell. The species present were mud whelks, cockles and oysters. and (38-5-36 Port Stephens). This site was found on a sandy slope behind the waterfront. A thick scatter of shell (cockles and whelks with some oyster) was found. Stone artefactaul material included chert scrapers, cores and waste flakes. Dyall also excavated shell middens at Birubi (a location at the junction of an ocean beach with a rocky headland). The site formerly covered approximately 5 hectares in 1965 but over time much of the shell midden had been destroyed by residential developments and damage by off road vehicles has allowed the southerly gales to collapse the shell heaps (Dyall 1982:53). Dyall noted that this large base campsite is far from homogeneous in terms of the archaeological material exposed on the surface.

Dyall argued whether the variation is due to different contemporaneous activities or to the relocation of the camp during the span of its occupation. Part of the midden complex Dyall identifies as a fishing station with one area designated a 'fish hook factory'. This site is considerably more than a shell midden. Rather it appears to have been a large base camp which contained shell. One species of shell (*Ninella torquata*) appears to have been primarily a source material for the manufacture of fishing equipment.

Dyall investigated Boat Harbour (38-5-37) (Morna Point) -This site was on the south side of a sandy inlet near a creek which drains through a marsh. Triton and Turban shells are exposed on the side of the creek. There is an adjoining shell scatter across the rocks of the headland. Rakes occur in both areas. Bulldozing in 1974 uncovered more shells on the north side of the inlet.

Fishermans Bay (38-5-35) – This site is on a black soil bench overlooking the bay. In 1974 Dyall found a variety of rock platform shell species and one chert flake.

One Mile Beach (38-5-38) (Morna Point) - Three middens were recorded here.

One was located on the north face of the headland at the south of the beach. Rock platform species occurred and a limited number of flakes;

Another (38-5-17) at (Morna Point) was located in an area of sand dunes behind the beach 1km north of the southern headland ending at Middle Rock. Shell material was not present but a light a scatter of stone flakes was found. The area was rich in backed blades. Behind Middle

Rock a black midden of compacted shells was found as a result of erosion from the 1974 storm. The shell was comprised of pipi, turbans, and other rocky platform species and small mussels. Two chert flakes were found.

Boulder Bay (38-5-45) (Morna Point) -This site was on a sandy creek leading up from Fingal Bay, at a point just north of the ridge at the back of Boulder Bay, there were five chert flakes and one core. Some shells were exposed in the tracks.

At Williamtown (38-4-53) (Newcastle) shell material was exposed in the spoil heaps dug in 1942 for the construction of the air base runways. Oyster and whelk and chert flaked material were found.

At Freshwater Lagoons (38-4-56) stone material was found on sand slopes around the lagoons. Only scattered weathered pipi shell was found.

A thin scatter of pipi shell and stone flakes was found on a complex of low sand dunes behind Fullerton Cove swamps. This was Macs Track (38-4-57) (Newcastle). On one dune a compacted shell midden was found. It was 5m by 15m and 10cm thick. The surface yielded hundreds of cores waste flakes and recognizable implements. The shell consisted of 99% pipi, with the rest made up of oysters, cockles and whelk and Australian horn shells. Fish and marsupial bones were also found. Another small midden was found 100m to the south.

Boyces Beach (38-4-63) (Newcastle) was surveyed by Dyal in 1975. The area consists of 100 foot sanddunes dropping down to a chain of freshwater lagoons behind the beach. Pipi heaps, usually small and only a few centimetres thick were found at 100m intervals along the chain of lagoons almost always on the inland edge. Some shell middens were found on the dune slopes inland. Some stone artefactual material occurred.

The shell middens behind the Dark Point 38-5-52 (Port Stephens) headland were re-exposed by the 1974 storms. They consist of a light scatter of shell pipi, tritons, sand snails, oyster and winkles and some stone artefactual material.

Nearly all of these sites contained stone artefact and tools. Local raw materials represented at the sites included silcrete, white silicified tuff and yellow chert. Artefact types included

flakes, cores, backed blades, scrapers and elouras. Almost half were located adjacent to open beaches and rocky headlands and contained only rocky platform shell fish. Some sites were located on bays, lagoons and swamps containing a mix of pipi and estuarine shell like cockles and whelk. Pipi shell usually dominated the species distribution at sites in the interbarrier dune system. Freshwater in the form of creeks, lagoons or swamps were always relatively close by. Some sites e.g. Freshwater Lagoons and Mac's Track are located at the margins of two ecological zones, ie the dunes and the interbarrier depression, as well as having access to the beach.

Dean-Jones (1990) investigated parts of the Newcastle Bight for the National Parks and Wildlife Service. Her team recorded one hundred and ten (110) sites. An additional 40-50 middens were noted during the reconnaissance survey but not recorded due to time constraints. Seventy four percent (74%) of the sites were made up of thin scatters of estuarine or marine shell. Twelve (12%) percent of the shell scatters included dense concentrations of packed shell. Dense concentrations of stone artefacts were found in two types of archaeological site:

- a) shell midden complexes associated with later Holocene stable dune surfaces overlooking the deflation basin at the rear of the beach.
- b) open campsites on Pleistocene dunes associated with freshwater wetlands of Pleistocene age and also Holocene estuarine wetlands. The sites association with freshwater wetlands contained no shell.

Forty five percent (45%) of the sites were found along the deflation basin and outer margin of active transgressive dunes. The deflation basin and dunes have a very high surface visibility and middens are conspicuous. Surface visibility elsewhere is poor. Twenty percent (20%) of the sites were associated with the Interbarrier depression wetlands. The sites on the Holocene side of the Interbarrier depression include large numbers of *Plebidonax* shells, as well as oyster, *Pyrazus* and *Anadara*. Shell density on the Pleistocene dune substrate was low. Backed blades were present in the stone artefact assemblages on the Pleistocene side of the Interbarrier depression suggesting that there was a mid late Holocene occupation horizon.

Aiken (1992) undertook a study on North Coast shell middens reporting on the distribution, type and representation of middens in northern New South Wales and south east Queensland. Aiken's analysis revealed that of the 802 sites recorded only 53 (7%) had sufficient basic information to allow any form of taxonomic exercise to be undertaken. Only 53 sites contained information on content, structure and size. The limitations of the raw data in part reflect the nature of the resource itself. Shell middens were highly variable as they are the product of nomadic groups, of varying size who stay at various locations for different reasons, under different environmental conditions for different lengths of time. They are also exposed to different post-depositional forces over varying periods of time (Aiken 1992:101).

These 53 sites were defined in broadest terms as shell middens. They were then classified as either sandy shore or estuarine and presumably rocky shore. Sites were further classified as either consisting of shellfish alone or containing multiple archaeological contents (bone, stone artefacts and charcoal for example) and then as surface and subsurface deposits and finally into a range of size classes.

5.3.1.1 Shell Midden Locations

The north coast (including Port Stephens) is characterised by a high proportion of shell middens consisting either solely or largely of beach species (pipi) or estuarine species. There are relatively few rocky shore shell middens compared with the south coast. This is because the north coast shoreline is dominated by long sandy beaches and large river estuaries. Pipi middens occur widely in the sand dune systems behind the long sand beaches.

Shell middens also occur along the tidal reaches of the major rivers and creeks, often near mangrove flats where natural oyster beds now occur. The largest of the middens generally occur towards the river or estuary mouth.

In the case of rocky shore middens, but also some beach and estuarine middens, Sullivan (1976, 1982) consistently found that the most favoured location for shell middens was on the foredune adjacent to a rock platform, and commonly on the northern side of the associated headland. Sullivan (1976:68) argued such locations represented a logical compromise between readily available shellfish, access to water which is often derived from drainage off the headland, sand to sit on and shelter from the prevailing winds.

Shell middens often also occur on the headlands themselves, especially where there was easy access to the adjacent rock platforms. Extensive and sometimes rich artefact scatters representing stone flaking floors are sometimes found on and behind the headlands.

Hughes and Sullivan (1974) have shown that small, unspectacular estuarine middens which are located on Inner Barrier sand ridges close to estuaries can be as old as 5,000 years and therefore of considerable archaeological importance. Inner Barrier sand ridge complexes are extremely widespread behind the modern and Holocene beach and dune systems along much of the north coast.

Port Stephens and Newcastle Bight region contains a rich Aboriginal heritage record. The Port Stephens coast is characterised by a high proportion of shell middens consisting either solely or largely of beach species (pipi) or estuarine species. There are relatively few rocky shore shell middens compared with the south coast. This is because the Port Stephens coast shoreline is dominated by long sandy beaches and large river estuaries.

Three kinds of shell midden occur in the local Port Stephens region (Sullivan 1982, Dean-Jones 1990,1992), in the following order of frequency:

- Pipi shell middens on sand bodies behind the long sandy beaches which are characteristic of the region. These middens usually consist entirely of one species — pipi (*Plebidonax deltoides*) — with or without stone artefacts.
- Estuarine shell middens around the margins of the large river estuaries or coastal lagoons which are characteristic of this region. These middens are usually dominated by oyster (especially *Crassostrea commercialis*) and/or cockle (*Anadara trapezia*) with or without stone artefacts.
- Rocky shore shell middens on or adjacent to the generally small, widely spaced headlands along the coast. These middens usually contain a wide range of rocky shore shell species, stone artefacts and often fish and animal bones.

The Pleistocene and Holocene beach ridge/sand dune complex between Port Stephens and the Hunter River estuary has a considerable known and inferred archaeological potential (Dean-Jones 1990, Sullivan with Hibberd 1994). In addition to the three known midden complexes of high scientific significance listed below there are numerous other shell midden sites on these sand bodies, as well as on adjacent rocky headlands immediately to the north. There are also several known open sites with Pleistocene and Holocene stone artefact assemblages, some of them stratified. The scientifically most important of these are (Figure 13:Appendix 1):

- The Richardson Road site (38-4-0135) and associated complex of similar sites adjacent to Galloping (Campvale) Swamp and Moffatts Swamp(Baker 1994).
- Complex of artefact scatters sites (38-4-0242 to 0250) near the Hunter Water Corporation treatment works near Tomago.
- Sites 38-4-0301 to 0303 near Williamtown.
- Middle Ridge stone working site (38-4-0255).
- Morna Point stone working site (38-5-0255).
- The Beresfield quarry site (39-4-0248).

5.3.1.2 Identifying Shell Midden and Site Formation Processes

There are key criteria to use when determining whether shell-bearing deposits are natural in origin, created through landfill activities or landfill mixed with cultural material from elsewhere to give the appearance of a midden. These criteria are not exclusive, since some can occur as the result of natural and non Aboriginal human processes. They also vary according to the landscape unit, that is open coast, rocky headland or estuary) within which the shell midden occurs. It is apparent that a range of criteria must be used to confidently identify shell middens. No one item defines a shell midden nor does the absence of one or more of the criteria preclude the deposit from being of Aboriginal origin.

Attenbrow (1992) has summarised the most commonly used criteria. These are;

- * presence of recent non Aboriginal activities,
- * type of stratigraphy;
- * degree of selection of shell fish;

- * condition of the shell material;
- * presence of other cultural material beside shell;and
- * type of geographic location.

In general, shell middens, have the following site formation/cultural features as culturally formed deposits,:

- are located on elevated dry ground above the high tide limit;
- typically (if there has been little or no post European disturbance) consist of mounded, densely packed stratified shell with very little sediment matrix, interspersed with lenses of ash and clay or sand sediment which have a very much lower density of shell;
- may contain stone artefacts and the remains of mammal and fish bone but these are sparsely represented. The artifacts, charcoal and bones which occur in middens and the shells present are often charred;
- often contain the larger or more common, easily obtainable species, selected mostly for size and food potential and often consisting of only one or a few species. For example, only a few estuarine species were usually eaten by Aboriginal people . namely: oyster, (*Saccostrea commercialis*; *Ostrea angasi*) cockle (*Anadara trapezia*) and the hercules club whelk (*Pyrazus ebenenus*). Other shell fish may occur in small numbers but these and the shells of shellfish too small to have been eaten, usually make up <5% and rarely up to 15% of the weight of shell. Most of these two categories of shell material were brought to the site accidentally having been gathered up with or been attached to the edible shellfish;
- often exhibit shells having unworn surfaces which may show fracture marks acquired during their collection, preparation and consumption;and
- often exhibit an undisturbed stratigraphy.

In contrast to cultural deposits it is expected that, in general, natural shell beds often :

- do not contain charcoal that may be cultural in origin, burnt wood and shell, artefacts and hearth stones;
- show sedimentary features of water laid deposits;
- contain shell material of varied species and size both edible and non edible;

- often contain water worn shell material;
- often do not contain mammal bones;and
- often contain large quantities of corals and tube worms or other materials which were not used by Aboriginal people.

5.3.1.3 Reworked shell middens

- reworked shell middens may show depositional features characteristic of natural water laid deposits such as sorting or abrasion;
- reworked shell middens will have a disturbed stratigraphy
- middens that have been reworked by storm waves may include shell species and sizes not collected by Aboriginal people, shell grit (usually of a very small size range rather than the size range of fragmented shell), water worn shell, gravel and pumice;and
- reworked shell middens may contain water worn shell and artefacts.

In coastal embayments like Port Stephens sand has accumulated as beaches and dunes during much of the later Holocene. As a consequence most shell middens in coastal embayments are young and the older shell layers will have been buried beneath the accumulated sand or destroyed by marine and wind erosion. In contrast, the Holocene movement of sand onto headlands has been limited and here shell middens commonly rest on stable land surfaces of Pleistocene or older age. Once formed such shell middens would have been resistant to wholesale destruction unless affected by marine or stream erosion (Hughes and Lampert 1982:19).

5.3.2 Site Predictive Model

The best available modelling for Aboriginal site prediction at the Modification 4 assessment area comes from the work of Sullivan (1982) and Dean Jones (1990, 1992). Sullivan (1982) has identified archaeologically sensitive landform units which Dean-Jones described as those where the evidence of previous Aboriginal occupation is likely to be found. The categories identified by her and corroborated by later reports are located within the Holocene (Outer Barrier) beachridge plain. The sensitive landform units are;

- the seaward margin of the active transgressive dunes and the inland margin of the linear deflation basin behind the modern backbeach complex;

- the transgressive dune surfaces in either side of the inter-barrier depression;
- the beachridge plains of the northeastern section of the Holocene(Outer) Barrier and possibly of the Pleistocene (Inner) Barrier;
- Pleistocene transgressive dunes adjacent to Pleistocene wetlands, and modern estuarine foreshores and coastal headlands.

Three kinds of shell midden occur in the local region (Sullivan 1982, Dean-Jones 1990,1992), in the following order of frequency:

- Pipi shell middens on sand bodies behind the long sandy beaches which are characteristic of the region. These middens usually consist entirely of one species — pipi (*Plebidonax deltoides*) — with or without stone artefacts.
- Estuarine shell middens around the margins of the large river estuaries or coastal lagoons which are characteristic of this region. These middens are usually dominated by oyster (especially *Crassostrea commercialis*) and/or cockle (*Anadara trapezia*) with or without stone artefacts.
- Rocky shore shell middens on or adjacent to the generally small, widely spaced headlands along the coast. These middens usually contain a wide range of rocky shore shell species, stone artefacts and often fish and animal bones.

While shells make up the great bulk of the shell middens, these sites can also contain fish bone, charcoal and, sometimes, the bones of land mammals, showing that the people camping at such sites were drawing food from a range of environments. Stone tools and human burial remains may also be found in shell middens. Commonly recorded stone tool raw materials from the local area are Nobbys Tuff(Merewether Chert), and Silcretes.

Both landform type and site location criteria (i.e. environmental/archaeological context- and distance to wetland) are considered to be significant in determining the scale of previous prehistoric Aboriginal land-use pattern.

There are three probable site predictive location criteria:

1. Areas further than 100 metres from the creek margins or wetlands, in which a very low density distribution of artefacts consistent with background discard are present, with

the only identified evidence relating to non-specific stone flaking and no identifiable activity areas present;

2. Areas within 100 metres of creeks or wetlands, in which a low to moderate density distribution of artefacts is present, partially consistent with background discard but also with a number of discrete activity areas, some of which are related to microlith production, microlith discard and/or discard of non-microlith tools, but many for which the specific purposes cannot be identified from the test excavation sample (i.e. non-specific stone flaking);and
3. Areas containing elevated dune systems with access to beach, riverine and wetland food resources. These locations may contain larger campsites which could include burials.

Land in these areas will be relatively undisturbed (not ploughed, bulldozed or developed for intensive agricultural purposes) contain elevated sand dunes and may also contain protected woodland or forest. These areas are also likely to be protected from cold air drainage. They will also command an extensive view of the surrounding wetlands landscape and be associated with a permanent water source such as a creek. This land is likely to be within 100metres of an existing wetland and is likely to contain intact cultural deposits which may contain dense concentrations of stone artefact material and cultural features such as buried hearths.

Sites not expected to be found in the assessment area are carved trees, rock shelter deposits, stone arrangements, axe grinding grooves, or rock art sites .

5.3.3 Local Archaeological Investigations of Modification 4 Area

There have been no archaeological studies carried out within the Modification 4 assessment area. There have been two previous archaeological investigations of the land located near Newcastle Sand Quarry Modification 4 area (398 Cabbage Tree Road Williamstown). The first was carried out by RPS (2011) and the second by McCardle Cultural Heritage (2015).

RPS (2011) recorded Fullerton Cove Site 1 (38-4-1381) as part of a powerline assessment. The power-line route cross near the Modification 4 area just to its east (Figure 12: Appendix 1). Located on the mid slope of a dune blow-out, the site contained 66 artefacts including 42 flake pieces, 16 flakes, four cores, one grinding stone and one ochre nodule (manufactured from

tuff, chert and silcrete and the grinding stone from metamorphic material), the site showed numerous motorbike tracks across it.

McCardle Cultural Heritage (MCH) (2015) completed an Aboriginal Heritage Impact Assessment for a proposed rezoning for sand extraction at Williamtown, NSW. The proposed sand quarry was located over multiple lots including Lot 1 DP 224587, Lot 121 DP 556403, Lot 11 DP 629503 and Lot 1012 DP 814078 part of which lies just to the east of the Modification 4 assessment area. The sand quarry project area was located along Cabbage Tree Road, Williamtown made up of 176 hectares, of which approximately 69.85 hectares will be utilised for quarrying operations. This area was further divided into 3 Primary Extraction Areas including Area 1 (7.93ha), Area 2 (44.59ha) and Area 3 (17.33ha).

One previously identified Artefact Scatter; RPS Fullerton Cove 1 (38-4-1381) was re-located by MCH within the sand quarry project area and was located on the mid slope of a dune within an exposed area (Figure 12: Appendix 1). Located approximately 300m from an unnamed swamp. It contained 66 artefacts including 42 flake pieces, 16 flakes, four cores, one grinding stone and one ochre nodule (manufactured from tuff, chert and silcrete and the grinding stone from metamorphic material), the site showed motorbike tracks across it. The site was assessed as having poor integrity, low research potential and low scientific significance.

Hamm (2024) along with Registered Aboriginal Parties carried out a community collection salvage for site 38-4-1381 which recovered over 115 artefacts over a 57m x 55m area (4243.8 m²). The original recording only recorded 66 stone artefacts spread over a 90m x 70m area.

Several EIA studies have been carried out by RPS to the east of the assessment area as part of the Astra Aerolab development (Figure 14 below). An existing AHIP is understood to apply to a portion of the Astra Aerolab lands, known as “AHIP East”, to which the project area subject to the current proposal is adjacent. In 2018 and 2019, community collection works in accordance with that AHIP have been undertaken within the AHIP East area by RPS and the following Registered Aboriginal Parties:

- Worimi Local Aboriginal Land Council.
- Nur-Run-Gee.
- Mur-Roo-Ma.

Surface collection works resulted in the recovery of several hundred stone artefacts including flakes, cores and debitage (waste flakes). In addition to this information, it is understood that extensive archaeological excavations within the AHIP East area were completed in 2010, resulting in the recording of over 1600 stone artefacts, in addition to a number of shells and shell fragments, and the bones of some terrestrial fauna (RPS 2010).

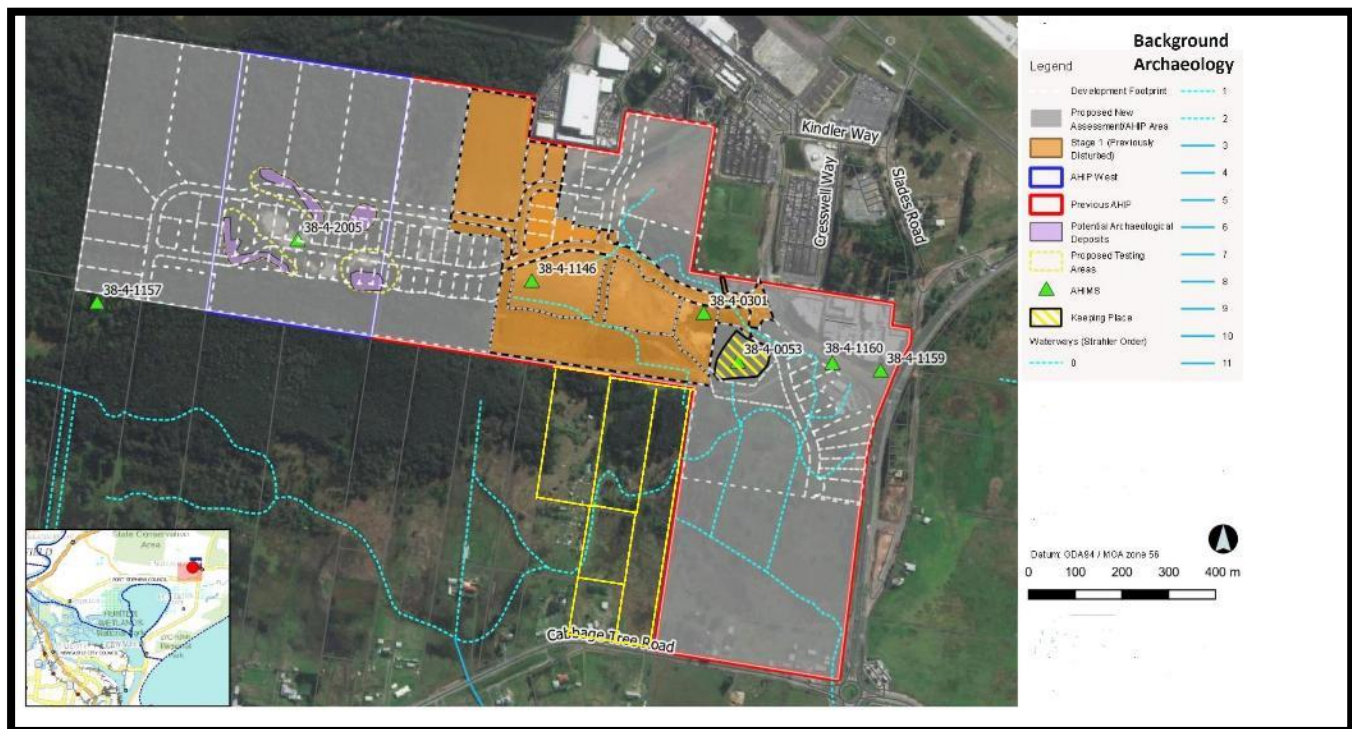


Figure 14: Astra-Aerolab development showing AHIPs and previously recorded Aboriginal sites located 3kms to the east of Newcastle Sand Modification 4 area.

5.3.4 Regional Modelling, Site Distribution and Cultural Landscape Values.

Whilst no regional or local Aboriginal heritage study is available for the Port Stephens/Lower Hunter region, it is acknowledged that evidence of Aboriginal occupation is widespread and, in some locations, particularly abundant. A regional study completed for the Upper Hunter which covers parts of the Central Lowlands land system (see ERM 2004) tried to model which areas of landscape might contain highly unique potential for Aboriginal archaeological

resources. In their base-line report on behalf of the Upper Hunter Heritage Trust (ERM) states that:

The overwhelming majority of archaeological sites recorded in the study area are stone artefact scatters and isolated artefacts. These sites are common in most regions, have been recorded and many (in the Central Lowlands) have been salvaged and the assemblages are available for archaeologists for further investigation. Most other site types are quite rare and have not been well recorded studied or salvaged (ERM 2004:74).

These rarer site types include Burials, Scarred Trees, Carved Trees, Stone Arrangements and estuarine Shell Middens.

In addition to the above site type assessment, some landscapes and geomorphic units contain potential for unique archaeology or Pleistocene Age cultural remains. Some of these landform types are also considered to be poorly understood for the region. These landform features include:

- sand dunes;
- sand sheets; and
- Hunter River terraces.

As well as these rarer landforms which could contain significant cultural resources, other local landscapes may contain cultural landscape values which are important to Aboriginal people. Examples of these cultural landscapes in the Lower Hunter region may include fringe campsites and mission sites, pristine wetlands, riverine corridors, untouched woodlands, forested landscapes and prominent scenic escarpments, all having a natural and cultural heritage quality.

5.3.5 Stone Technology and its Variability

The importance of understanding the variability in the assessment of stone artefact assemblages in the Lower and Upper Hunter Valley is critical and has involved a considerable amount of work over the last 15 years. Analysis of lithic materials can provide information about activities that occurred at a site.

The activities may involve inferences about stone tool raw material use, the specific stages of tool manufacture, use of tools and their discard. Hopefully by analysing this data the archaeologist may develop a real understanding of the range of activities present on any one site.

Hunter gatherer occupation sites or campsites (i.e. rock shelter or open space) are likely to have a broad range of tool types due to the variety of activities undertaken at a site over a certain period. These types of sites are contrasted to the more specialized sites where food gathering or hunting required a more restricted range of tool kit. Tools that were broken or exhausted are often found at these types of sites as well as resharpening flakes from a tool user carrying out tool maintenance (Kooyman 2000).

Lithic analysis can also lead to information about where a tool may have been manufactured and why it was discarded. The analysis of lithic debitage can also provide information on whether the tool was manufactured close to a quarry site or transported from a distance. Evidence such as the amount of decortification flakes, unmodified or broken flakes or flakes with specific types of platform can all lead to an understanding of the stages of tool manufacture.

Modelling of prehistoric hunter gather behaviours using lithic analysis has led some researchers to speculate on the level of sedentism or mobility. The assumption that mobility of a group limits the type of the toolkit has been put forward by a number of researches (Walker 1978, Bleed 1986, Bamforth 1986). Conversely, greater sedentism usually means groups will have a greater range of resources to choose from at one site and thus their toolkits will contain more variety (Odell 1994). The more mobile a group is the more likely the members are to standardize their core technology (Odell 1994).

Curation of tools is another important consideration in assessing lithic variability. Odell (1996) argues that curation will usually reduce the need for raw material supply. This leads on to the concept of gearing up or preparing tools in advance of use. This further raises the question of the functionality and versatility of tool types that may or may not tell us something about how prehistoric hunters maximised opportunity when using a range of landscape in the past.

As discussed previously, archaeological work in the Upper and Lower Hunter Valley has led to a number of important lithic studies being undertaken (Hiscock 1984, 1985, 1986; Haglund 1989; Baker & Gorman 1992; Koettig 1994).

These studies have led to hypotheses concerning stone tool technology (reduction sequences) and:

- chronology (Hiscock 1986, Hiscock & Attenbrow 1988);
- stone raw material uses and procurement (Hughes 1984, Hiscock 1986, Baker 1992, Koettig 1994, Haglund & Rich 1995, Rowney 1992);
- technological attributes (Hiscock 1984; Baker 1992; Koettig 1992, 1994; Kuskie & Kamminga 2000; Baker 2001 & Witter 1992, 2002);
- variability of assemblages and the activities that produced them (Koettig 1992 & 1994; Kuskie & Kamminga 2000; Baker 2001; Witter 2002); and
- limitations of sample sizes (Hiscock 2001).

5.3.6 Site detection factors

One of the most important factors in locating sites or artefacts on the ground is whether they can be detected or discovered easily. A number of discovery factors will affect how well sites or artefacts are located within a survey area. Schiffer, Sullivan and Klinger (1978) provide a useful summary of what the most important factors are likely to be in detecting sites or artefacts on the ground (see Table 5 below, taken from Dancey, 1981).

Table 5: Site detection factors that may affect an archaeological survey (after Dancey 1981)

General Factors	Definition	Specific Examples
Abundance	The frequency or prevalence of site or artefact type in the study area	Sites and artefacts occur in highly variable quantities, from rare to abundant
Clustering	The degree to which archaeological materials are spatially aggregated	Various degrees of clustering may be found between dispersed and clustered

General Factors	Definition	Specific Examples
Obtrusiveness	The probability that archaeological material can be discovered by a specific technique	Artefact size, composition, surface morphology, heat retention, and other physical, chemical and biological properties
Visibility	The extent to which an observer can detect the presence of archaeological materials at or below a given place	Site area, artefact density, artefact size, surface area of exposure, frequency of exposure
Accessibility	The effort required to reach a particular place	Climate, biotic environment, terrain, roads, land holding patterns

5.3.7 Definition of a 'site'

The Heritage NSW advises developers and consultants that the term 'site' is used to group Aboriginal Objects or define a location where an Aboriginal Object or cultural item occurs. They propose general criteria to assist in the classification of a site.

Sites can be defined as:

- exposures where archaeological evidence is revealed;
- a topographic or landform unit where occupation evidence has been recorded. This may be an entire landform unit (ridge, creek, valley) or part of a landform unit (saddle on ridge, creek bank);
- sites which have physical boundaries defined by rocks (stone arrangement), earthworks (mounds) or cleared land (ceremonial ground);
- sites defined by Aboriginal community groups as culturally significant;
- arbitrary or the assignation of a boundary for the convenience of recording (in cases where the site would probably be much larger if based on the criteria above). Arbitrary criteria include the use of a fence-line, dirt track or gully as a boundary. In

some cases, the area may simply be designated as 50m x 50m, or as a smaller sample plot, on the basis of convenience;

- artefact density. (In some cases, a site boundary may be defined by the average number of flakes per square metre.) This is a specialised type of arbitrary criterion and justification of the rules used must be made explicit; and
- the chosen definition of a site or isolated find needs to be specified for the study. It is the consultant's responsibility to decide on an appropriate definition, suited to the project, the research goals and comparability with other regional studies. OEH requires site forms to be completed for isolated finds.

5.3.8 Aboriginal Site Types likely to be found in the general assessment area.

Aboriginal site types that have been typically recorded in the general region include:

- **Open campsites** made up of stone artefacts dominated by tuff, silcrete and quartz assemblages and sometimes containing hearth material in the form of burnt or cracked sandstone heat retainers. These sites vary in complexity and density depending on their physical condition in the modern landscape and their proximity to major resource zones.
- **Isolated Find** representing a single isolated artefact located on its own in the landscape.
- **Artefact Scatter** representing a collection or scatter of stone artefacts exposed by erosion that appear to be defined by their spatial relationship to one another and the land unit they are located on.
- **Archaeological Deposit** representing a buried surface which has some soil depth and structure likely to contain archaeological remains.
- **Scarred Trees** representing Aboriginal removal of bark material to make shelters, dishes, canoes, string, shields, boomerangs and carved trees. Within the study area most Aboriginal scars are found on River Red Gum (*Eucalyptus camaldensis*) or Blakely's Red Gum (*Eucalyptus blakelyi*), White Box (*Eucalyptus albens*) and Grey Box (*Eucalyptus largiflorens*). There is a strong correlation between large canoe type scars and more permanent river.

- **Carved Trees** represent important Aboriginal ceremonial or burial marker locations. They are usually carved on high quality timber such as Red Gum. A slab of bark is removed and then the inner wood tissue is carved using a stone axe or heavy duty cutting tool. Common designs found on carved trees are diamond or linear cross hatching motifs.
- **Burial Sites** are sites that show evidence of Aboriginal burial in discrete locations. Burials in the study region are usually associated with major areas of occupation found next to rivers, lagoons, lakes, waterholes and some creeks. Skeletal material is normally discovered eroding out of sandy deposits, where interment is easiest. Burials may occur in an isolated context, or they may be part of a larger cemetery.
- **Bora Rings** are sites containing an arrangement of natural stone to represent ceremonial or ritual practice. They are often found near traditional ceremonial grounds in areas of abundant surface rock. Rocks may be arranged in a circular fashion or oval shapes signifying important ritual meaning for a ceremony. Often bora rings are found isolated on ridge tops or flat hilltops overlooking a significant stretch of country.
- **Art Sites.** These types of sites reflect Aboriginal use of sandstone outcrops for the purpose of painting, engraving or drawing traditional designs. Art sites are often found in areas where people are using country that has good sources of sandstone in the form of rock-shelters, which offer cover from the elements or may be located next to a stream or river.
- **Common Symbols** found in art sites are hand stencils, figurative art representing animal or human forms, tracks of animals and patterns of lines or circles that may represent landscape elements to a traditional story.
- **Axe Grinding Grooves.** These types of sites are associated with Aboriginal people using sandstone outcrops to sharpen stone implements and in particular stone axes. Grinding grooves are usually 5–20cm in length and 2–3cm in depth depending on how often the person is using the groove section. Grooves may be found in clusters and are usually concentrated around a surface rock pool where people use water to assist them in sharpening an edge.
- **Contact Sites.** A contact site is site where there is evidence of Aboriginal people living traditionally in close proximity to European settlement. Aboriginal people may be using European items in traditional hunting and gathering practices, for instance bottle glass as a substitute for stone, or metal as a substitute for bone or stone.

- **Sites may be associated with Aboriginal people working for European settlers**, such as gathering bark sheeting for bark slab huts. Often historic items associated with that contact would be found in certain traditional campsites.
- **Waterhole/Well.** These types of sites, as well as being important places for obtaining water, may also be sacred places and of religious significance to living Aboriginal people.

Hunter Valley researchers such Dean Jones & Mitchell (1993) argue that many of the sites recorded in the Hunter Valley have been distributed along drainage lines. They observe that far fewer sites have been recorded on landforms remote from watercourses. This, they argue is due in part to how surface erosion processes are concentrated along drainage features and the historical focus of archaeological assessment. Less is known about how Aboriginal occupation may have been structured in higher altitude locations especially areas that contain a range of relief types.

In her analysis of site location across the Hunter Valley, Koettig argues that:

“Sites in the Central Lowlands often comprise discrete concentrations of artefacts distributed in a continuous, but apparently unpatterned way across creek flats. These concentrations varied in frequency, size, content and association, possibly representing different activities (manufacturing, maintenance and or tool production)” (Koettig 1994: 7).

In the Hunter Valley, several researchers have expressed concern with the effectiveness of surveying for sites, which are constantly obscured due to a lack of ground visibility. In their overview of methodological issues for the assessment of Hunter Valley archaeological resources, Dean-Jones and Mitchell summarise the most important site detection issues as factors affecting site visibility which include:

- The original size and pattern of the deposit;
- The present vegetation cover;
- Post depositional processes causing artefact burial and/or erosion; and
- Artefact density and clustering, and presumably the increasing age of the site (Dean Jones & Mitchell 1993: 46).

6. ARCHAEOLOGICAL SURVEY

6.1 ASSESSMENT OBJECTIVES

The objective of the Aboriginal archaeological survey was to comply with the *Code of Practice* (DECCW 2010b).

6.2 SURVEY TIMING AND ASSESSMENT PERSONNEL

An archaeological survey of the assessment area was conducted on foot in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (OEH Code of Practice) on the 19th of September 2024.

The survey was undertaken by Dr Giles Hamm (ARAS) Luke Perry (Karauh Indigenous Company), Luke Knight (Murroma), David Kirk, (Worimi LALC) and Thomas Smith (Nur-Run-Gee PTY LTD).

6.3 SURVEY STRATEGY AND METHODOLOGY

The assessment area was surveyed as a number of survey transects: Transect 1-Transect 4 (See Figure 15: Appendix 1). Grass and vegetation coverage, made inspection of the ground surface in places difficult. In accordance with the *OEH Code of Practice* requirements, the sample survey targeted every landform which would potentially be impacted by the proposed quarry development, with an emphasis on landforms that were likely to have archaeological potential.

The survey team walked the survey unit in systematic transects where the terrain allowed. Dense pasture grass cover inhibited the survey assessment in places, however, the survey team assessed that as visibility was nil in these areas. Any areas of surface exposure or old growth trees were inspected in detail. Overall surface visibility was generally low in most places, meaning that the opportunity for identification of exposed stone artefacts on the ground surface was limited.

A handheld Global Positioning System (GPS) device was used to track the path of the survey team and record the coordinates of the survey transect, including the locations of any areas of archaeological potential identified in the field. The coordinate system projection used for all site recording was GDA94 MGA 56. A photographic record was kept of the survey transect unit. Photographs were taken to record aspects including surface exposures, vegetation, disturbance and areas of archaeological potential. Scales were used for photographs where appropriate.

All ground exposures were examined for Aboriginal objects (stone artefacts, or other traces of Aboriginal occupation). Old growth trees were examined for signs of cultural scarring and marking.

6.4 ASSESSMENT COVERAGE & SURVEY RESULTS

A total of four foot transects were completed and are listed below in Table 6 (Figure 15: Appendix 1, Plates 1-16: Appendix 2).

Table 6: Summary of Survey Coverage undertaken for proposed Modification 4 assessment area

Subject Area Assessment	Landforms	Area (m2)	Visibility	Exposure	Effective Coverage
Transect 1	Flats -Sand Ridge	71,000	50%	50%	255%
Transect 2	Sand ridge	5,500	50%	50%	25%
Transect 3	Sand ridge.	1,100	25%	50%	12.5%
Transect 4	Sand ridge	400	50%	50%	25%

Average visibility across the assessment area would have been approximately 50%. Foot coverage across the subject area was 100 %. Orange flags were used to mark potential cultural features for detailed recording (i.e. Aboriginal objects). The total area assessed on the ground is 78,000 m2 (Total area of project assessment area=78,000m2).

Field conditions were fine, and all areas were accessible by four-wheel drive. The main method of survey assessment was foot transects. The survey team consisted of three people walking slowly across the assessment area. Areas that contained evidence of ground surface exposure were investigated thoroughly. The original vegetation community can be described as open forest/woodland with spotted gum and iron-barks dominant. There are no outcrops of sandstone present within the subject area. There are no obvious outcrops of flakeable stone within the assessment area.

A total of 2 Aboriginal objects making up two Isolated Finds sites were identified as a result of this archaeological survey assessment. The Aboriginal objects are concentrated along the northern portion of the assessment area (in T1) on slightly elevated sandy rises (See Figure 16: Appendix 1). The Aboriginal objects were eroding from A1 horizon sandy soils. The newly recorded open sites are described in detail below (See Table 7 below). These sites were likely within the area disturbed by former RZM mining activities.

Table 7: Aboriginal Site Descriptions for modification 4 Archaeological Survey 2024 (Figure 16: Appendix 1)

Site Name	Site Features	Aboriginal Object Descriptions
Site 1 38-4-2338	Isolated Find. Site is N/S: 1m x E/W: 1m. Site location can be defined as Flat with Simple Slope, eroding from A1 horizon sandy soils. There is no archaeological deposit, the area having been dredged is heavily disturbed. There is no hearth or visible bone material associated with the site's contents. There is no shell material. The site is in poor condition.	Artefact Type: Broken Flake (Distal) Raw Material: Silcrete (grey/cream) L: 55mm W: 27mm T: 17mm (no retouch, no cortex feather termination, possible usewear along two margins)

Site Name	Site Features	Aboriginal Object Descriptions
Site 2 38-4-2337	Isolated Find. Site is N/S: 1m x E/W: 1m. Site location can be defined as Flat with Simple Slope, and blowout eroding from A1 horizon sandy soils. There is no archaeological deposit, the area having been dredged is heavily disturbed. There is no hearth or visible bone material associated with the site's contents. There is no shell material. The site is in poor condition.	Artefact Artefact Type: Complete Flake Raw Material: Tuff (cream) L: 12mm W: 20mm T: 4 +mm (Broad platform, no retouch, no cortex, hinge termination)

6.5 SURVEY RESULTS.

The above newly recorded sites are expected in their current topographical setting. As cultural features, they represent low level Aboriginal occupation of a local open swamp/forest environment. It is likely that these sites represent small satellite camping locations and low-level hunting activity probably the result of episodic local land-use and territorial movement over time.

From the survey results, the greatest concentration of occupation evidence within the assessment area is located in the northern portion of the assessment area what would have been a series of sand ridges. Sites 1 (38-4-2338) and Site 2 (38-4-2337) are all found within an 100m radius of each other suggesting they may be part of an open artefact site located on a low sandy ridge. They are likely to represent an open site which has been badly disturbed by European land-use (RZM sand mining).

6.5.1 Site Location

All the sites are located on slightly elevated sandy rises which have been disturbed. None of the sites are located near a wetland. They may have been focussed on a local plant resource area that was being exploited by people on a seasonal basis. There are no obvious permanent water sources within the assessment area for focussed occupation.

6.5.2 Site Type

All sites recorded are open sites made up of isolated finds of stone artefacts. There are no formal shell middens with evidence of stratified midden deposit. There are no hearth sites or sites showing insitu charcoal remains.

There is no bone material associated. There are no specific stone reduction sites (or quarries) for the making of stone tools.

6.5.3 Site Contents

The main archaeological evidence recorded for all sites is isolated stone artefact material. A total of two Aboriginal objects (stone artefacts) have been recorded as a result of the assessment. The average site density is 0.002 artefacts /m² area surveyed.

Of the artefacts recorded, one is a Complete Flakes the other a Broken Flake. There are no specialized tools such as backed artefacts or Worimi Cleavers found on these surface sites. There are no anvils or grindstones. One artefact is made from Nobby's Tuff, the other from Silcrete.

A lack of mature native eucalypt trees (River Red gum or box trees) may also reflect a lack of scarred trees found in the assessment area. However, it is well known that Aboriginal people in this part of the Lower Hunter region may have exploited Cabbage Tree Palm (Aboriginal people used parts of this tree for food, medicine and shelter. Fibres were also used to make string, rope and fishing line) or Swamp Oak (these trees traditionally would have been used the wood for shields, clubs and boomerangs). No mature trees within Modification 4 assessment area showed signs of cultural scarring. However, broadscale historic land-use clearing on the Modification 4 site has meant that any scarred trees are likely to have been removed from the landscape sometime in the past.

6.5.4 Land-use Disturbance.

Clearing and earthworks associated with sand dredging in the late 1970s over much of the area of Modification 4 has meant that any surface archaeological evidence has been either buried or redeposited causing an area of significant disturbance (See Figure 10: Page 39).

MacDonald provides a workable model for determining the likelihood of intact archaeology to have survived (see Table 8 below).

Table 8. Land use disturbance definitions and their effect on surviving archaeology (after JMcDCHM 2004).

Level of Disturbance	Definition	Archaeological Potential
High	Areas with constructed landforms, buildings and constructed surfaces. Areas which include late twentieth century buildings and roads which generally involve significant earthmoving during construction; as well as grading, levelling, introduction of road base and installation of services such as water, power and sewage.	Archaeological evidence such as artefacts may be present here, but it would not be possible to determine their origin or context. Many artefacts occurring in this zone may have been destroyed in the processes.
Moderate	Areas with natural landforms but with disturbed soils.	Archaeological evidence such as artefacts may be present but may have been moved from their original locations.
Low	Areas with natural landforms, which appear from current aerial photographs to be original land surfaces.	Archaeological deposits may be present in undisturbed physical condition.

All the above disturbance especially in the western section of Modification 4 (Figure 10: Page 39) shows that there are no insitu cultural features associated with the assessment area. This means that there is no intact potential archaeological deposit worthy of further archaeological testing under the Code of Practice.

7. PREDICTIVE MODELLING

In terms of predictive modelling as argued by Sullivan (1982), and Dean-Jones (1990,1992), the surface archaeological evidence shows that collectively Isolated Find sites: 38-4-2337 and 38-4-2338 are regarded as being of low potential and are likely to have landform elements such as flats and some flat mid slope land units.

There are no retouched stone artefacts associated with any of these open sites suggesting that occupation was sporadic and may have only been episodic and seasonal in nature. These sites represent a continuum of surface occupation evidence between the Northern dune complex (associated with the Newcastle Astrolabe Freshwater complex and Fullerton Cove beach landforms). None of the above sites show potential for any subsurface investigation.

However, there is little exposed evidence of intact archaeological deposits on this land. However, more intact buried archaeological remains could be found further east within elevated areas on undisturbed dunes.

The Archaeological Survey Assessment has made the following recommendations:

- Overall, the assessment area is considered to have low Aboriginal heritage potential.
- Due to the high level of historic land-use disturbance across the assessment area however there are no archaeological deposits worthy of test excavation under OEH's 'Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales' (DECCW 2010).
- Consultation with the project's Registered Aboriginal Parties shall continue throughout the project.
- The proposed development should not commence until the project has been issued with an SSD approval in accordance with the SSD approval conditions.
- An Aboriginal Cultural Heritage Management Plan should be complied for the project documenting the mitigation measures recommended for the project's Aboriginal heritage management recommendations. Update of the existing plan to include this area should be completed to maintain simplicity of management across the quarrying area.

- The identified Aboriginal objects comprising open sites 38-4-2337 and 38-4-2338 should be collected after the SSD project approval has been granted and prior to commencement of the proposed development.

8. DISCUSSION

8.1 AHIMS SITES 38-4-2337 AND 38-4-2338 IN COMPARISON WITH OTHER OPEN SITES LOCATED TO THE EAST WITH MORE INTACT POTENTIAL ARCHAEOLOGICAL DEPOSITS AND CULTURAL EVIDENCE

38-4-2337 and 38-4-2338 open sites are regarded as being of low archaeological potential from a sub-surface point of view and are likely to have landform elements such as flats and some flat mid slope land units. Most of the archaeological material is not concentrated but spread out as if it had been disturbed due to historic land-use activities. No insitu archaeological material was observed at any of these open sites.

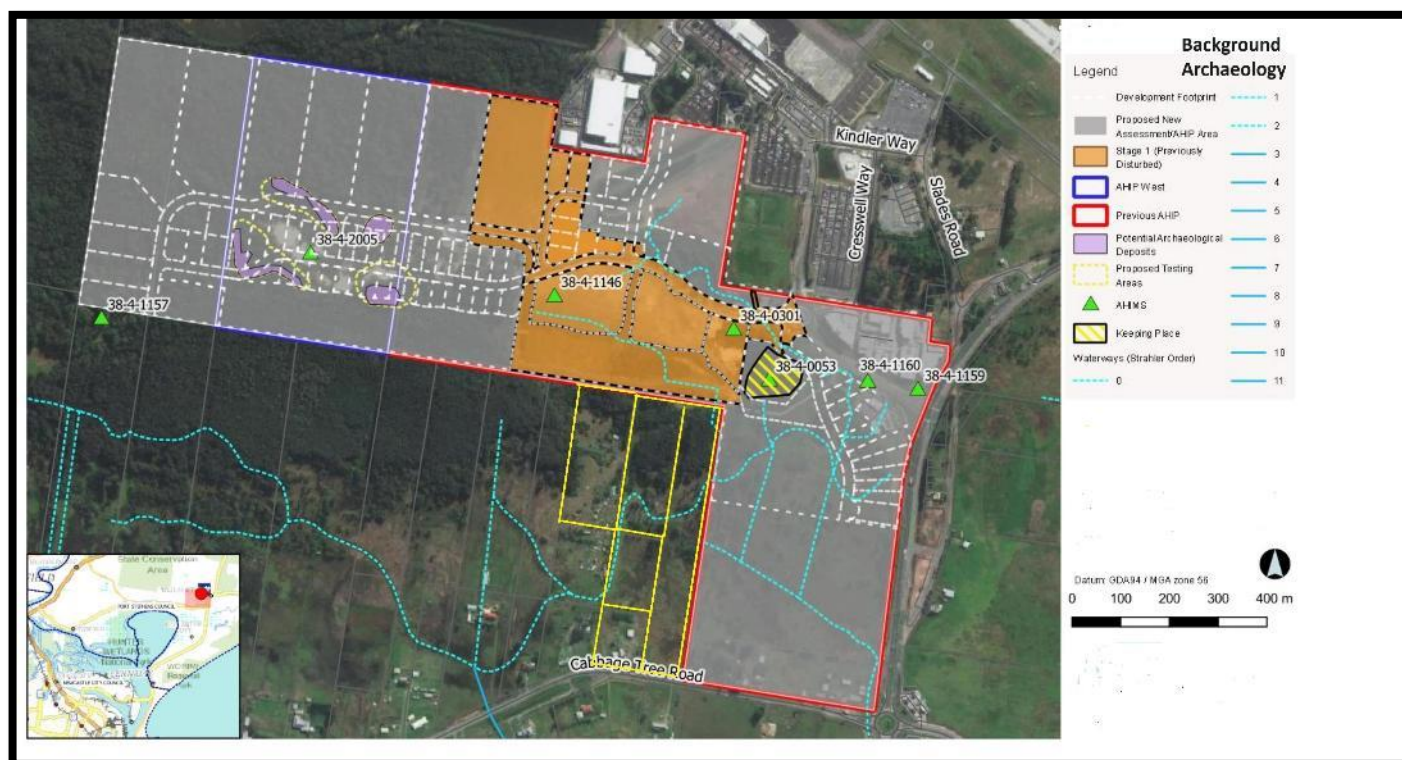


Figure 17: Registered open sites located to the east (3kms) of Modification 4 on the crests of a local stabilised dune system, adjacent to the interbarrier depression.

8.1.1 Other open sites located to the east of Modification 4 land.

Over the last 20 years a series of open sites have been recorded to the east of Modification 4 within a remnant sand dune complex which runs from west to east (See Figure 17 above). These sites are located on a remnant stabilised dune system, adjacent to the interbarrier depression. This area is significantly higher in terms of elevated landform, being between 3-10m AHD compared to the Modification 4 landforms which are only 1-2m AHD.

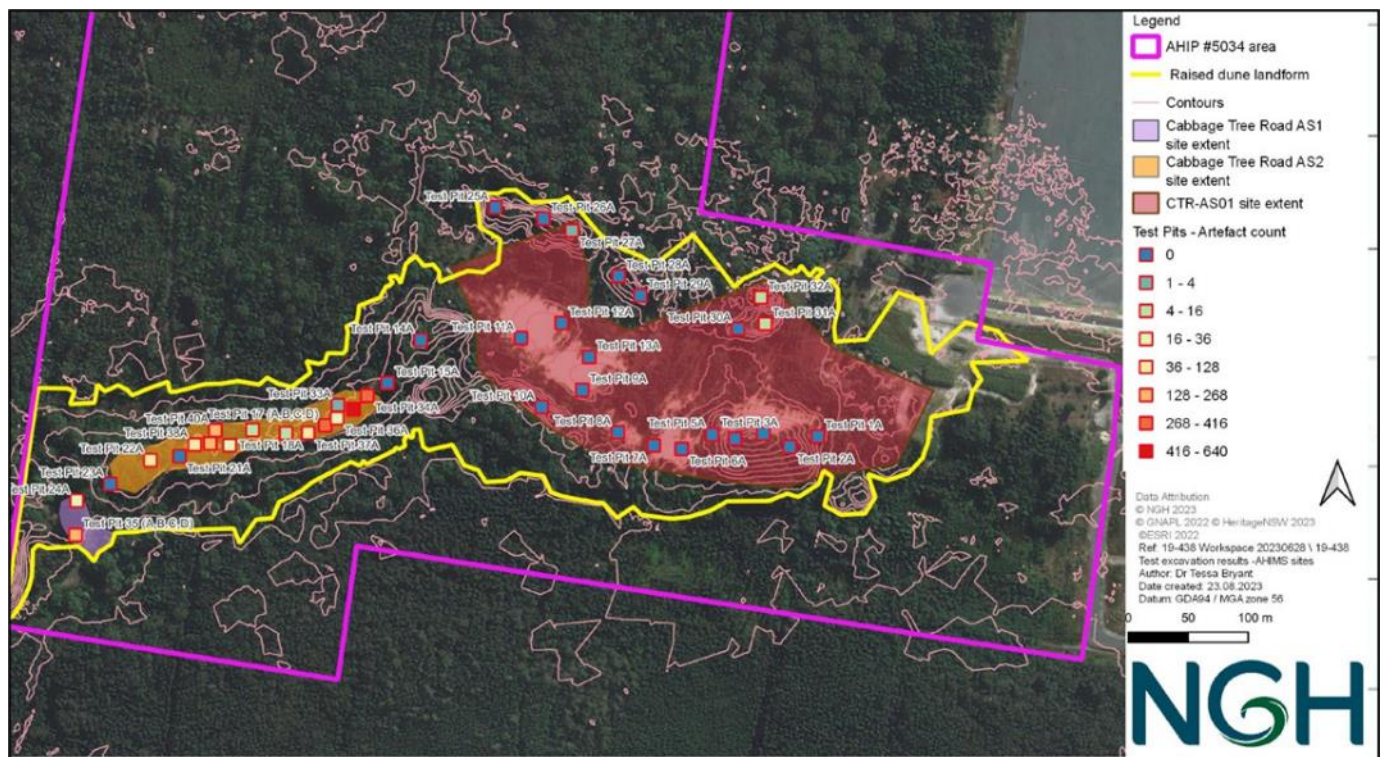


Figure 18: Test excavation programme from NGH for AHIP Permit 5034 east of Modification 4 (After NGH Pty Ltd 2023).

8.1.1.1 Open Site 38-4-1157 (Cabbage Tree Rd AS1)

This Artefact Scatter site was originally recorded in 2009 by RPS Harpers Somers O'Sullivan. It is described as an artefact scatter is located on the crest of a stabilised dune system, adjacent to the interbarrier depression. The site was made up of three stone artefacts covering a 15m x 20m area. There was no description whether this site contained Potential Archaeological Deposit.

In 2023, Barber from NGH Environmental re-recorded this site in preparation for an AHIP application 5034 (NGH Pty Ltd 2023). He identified a 50m x 25m Potential Archaeological Deposit. This area was tested under the Code of Practice as part of a bigger sub surface testing programme (Figure 18 above).

Two test pits were excavated, for 38-4-1157; one 1 x1m (TP 35) and one 0.5 x 0.5m (TP24a). NGH recovered 186 stone artefacts from the two test pits. Nine artefacts were recovered from TP24a and 177 artefacts were recovered from TP 35. The recovered artefacts were primarily Nobbys tuff and silcrete flakes and flake fragments with lesser quantities of chert, IMT and quartzite artefacts. Two tuff cores, one chert Bondi point and one silcrete distal thumbnail scraper were also recovered. Stone artefacts were recovered from up to 60cm depth (NGH 2019). No insitu hearths were found. The site was defined by Barber as having high archaeological research potential and significance and a high overall significance.

8.1.1.2 Open Site 38-4-2005(CTR AS 1).

This Artefact Scatter site was originally recorded in 2018 by Biosis. It is described as an CTR-AS01 as an open site complex containing an extensive artefact scatter > 100 stone tools (predominantly Nobbys Tuff, however some heat treated silcrete was also noted) and three hearth sites. Cores, flakes, and retouched artefacts along with debitage/angular frags noted. A Potential Archaeological Deposit was recorded measuring 250m x 150m on an area of remnant dune. Artefacts and hearths were eroding throughout. In the southern and eastern portions of the site contain up to 2 m of remnant dune, with distinct stratigraphic layers. The centre of the dune has been impacted on by aeolian erosion and 4wd access tracks however presence of intact hearths indicates PAD.

In 2023, Barber from NGH Environmental re-recorded this site in preparation for an AHIP application 5034 (NGH Pty Ltd 2023). He identified a 260m x 150m Potential Archaeological Deposit. This area was tested under the Code of Practice as part of a bigger sub surface testing programme. 21 Twenty-one test pits (0.5 x 0.5 m) were excavated in two transects (transect 1 and transect 3) within site #38-4-2005 under AHIP#5034 (See Figure 18 above).

Five artefacts were recovered from TP 27a (one Nobbys tuff angular fragment), 31a (Nobbys tuff flake and chert distal flake) and 32a (two Nobbys tuff flakes). The test pits containing stone

artefacts were on the northern remnant dune. No subsurface artefacts were recovered from the deflated central part of the dune or the southern remnant dune. The test excavation confirmed area of Potential Archaeological Deposit in remnant dune on northern site boundary. A low-density subsurface scatter present in northern dune. No subsurface artefacts identified in central deflated dune area or southern remnant dune in test excavation under AHIP #5034. Barber defined the site as having low to moderate archaeological significance with moderate to high overall significance.

8.1.1.3 Open Site 38-4-0301 (Williamtown 1).

This open site was originally recorded by Pam Dean Jones as part of the Newcastle Bight Aboriginal Sites Study (Dean-Jones 1990). Cultural material was recorded on the crests and upper slopes of a Pleistocene transgressive dune. The local area is described as Banksia woodland within an interbarrier depression estuary (saltmarsh-freshwater meadow). The site area was 100m x 60m. Over 1000 artefacts were observed especially on the crest of the dune.

Dean Jones describes the site as an open campsite with a high density of flaked stone artefacts but very low shell density. Shell species represented are *Anadara* and *Plebidonax*. The presence of pipi shell indicates the shell was transported at least 4.6km from the beach. Dean-Jones noted the high number of specialized tools such as backed artefacts. Also important was the high number of stone raw materials recorded at the site (9 identified). The most common raw material at the site was weathered pale cream/white weathered tuff. According to Dean-Jones this stone raw material is likely to be the weathered Nobby's Tuff. Although the site has been partially disturbed by sand mining there is still significant enough sub surface potential to argue that it does contain Potential Archaeological Deposits.

8.1.1.4 Intersite comparisons

All three open sites discuss above can be described as campsites. They all are located on a series of sand-dune crests or the edge of crests and within access to some local freshwater swamp. They all contain intact sub surface deposits with some containing high densities of stone artefacts and some with identified hearths (e.g. 38-4-1157 & 38-4-0301). Some of the sites also contain specialized tools and larger concentration of worked stone indicating local

tool manufacture and maintenance. There is also an historic burial (38-5-53) located near the air base runways which was recovered from the 1940s. Some of these dune complex sites retain insitu cultural features such as hearth and stratified deposits.

In contrast to the open sites recorded above, the Modification 4 sites contain low densities of stone artefacts with few recognised stone tools. None of the sites can be defined as shell middens. There are clearly no insitu archaeological deposits or cultural features associated with open sites located at Modification 4 assessment area.

Sites 38-4-2337 and 38-4-2338 have been registered as Isolated Finds (see section 9.1).

8.2 GENERAL DISCUSSION

The archaeological evidence recorded for open sites 38-4-2337 and 38-4-2338 represents a low level of Aboriginal land-use for the Modification 4 assessment area. Geographically the land is not located near any major ecological resource zones, especially shellfish resources which would indicate a seasonal focus on marine and estuarine zones. Instead, the evidence shows a highly disturbed surface landscape with cultural material whose origins are called into question.

There are no stratified archaeological deposits on this land, and it is likely that there were few if any long-term basecamp locations compared to sites located to the east of Modification 4 area on established dune systems. Most of the artefactual evidence shows no diversity in stone tool use or discard also indicating that these stone assemblages have not formed because of repeated human activity.

8.3 SITE DISTURBANCE

The *Code of Practice* archaeological survey evidence revealed that 38-4-2337 and 38-4-2338 open sites have been subject to high to moderate levels of disturbance associated with historic land-use on the Modification 4 land between the 1960s and late 1970s, geomorphic processes (i.e. bioturbation), land clearing and excavation for mineral sand mining. Much of Modification 4 land has been subject to intense sand mining activities such as dredging for mineral sands.

This significant surface disturbance has meant any intact archaeological resource would have been destroyed because of these intense historic land-use activities.

8.4 ARCHAEOLOGICAL POTENTIAL

Based on the results of the *Code of Practice* archaeological survey it was found that:

- AHIMS 38-4-2337 and 38-4-2338 have been subject to high to moderate levels of disturbance. Artefacts and cultural material associated with this portion of land are found to be within a secondary disturbed context due to historic land-use impact, bioturbation and some historic tree clearing.
- There are no natural outcrops of local stone available in the subject area that would be useful in the manufacture of stone tools, the grinding of axe material or to produce engraved art.
- Areas associated with Moffats' Swamp, Tilligery Creek, Fullerton Cove, Woodberry Swamp, and Heckham's Swamp have previously demonstrated to contain a much richer suite of ecological resources for Aboriginal people in the past to exploit and the subject area is not considered to have a high ecotone variability.
- The overall archaeological research potential for this subject area has been assessed as low.

9. SIGNIFICANCE ASSESSMENT

The consultant has based his Significance Assessment of Lot 9 (DP 239608) and Lot 100 (DP 1263921) 398 Cabbage Tree Rd Williamtown) cultural resource on the following criteria:

- The Burra Charter.
- NSW Office of Environment & Heritage Guidelines, (i.e. Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW).
- Australian Heritage Commission National Estate criteria.
- Archaeological significance assessment.
- Aboriginal cultural significance.
- Educational.
- Cultural Landscape.

It is important to state that not all cultural heritage sites or places are equally significant or important and consequently worthy of long-term preservation. A detailed discussion of significance criterion and how it has changed over time has been undertaken by Byrne et al (2001). The most important criteria for the assessment of the Lot 9 (DP 239608) and Lot 100 (DP 1263921); 398 Cabbage Tree Rd Williamtown (AHIMS 38-4-2337 and 38-4-2338) Aboriginal cultural resources are: Aboriginal social significance, scientific archaeological significance and educational significance. Excluding Aboriginal social significance, these specific criteria will be defined.

9.1 SCIENTIFIC SIGNIFICANCE

Scientific significance is defined as: “The scientific or research value of a place. This will depend upon the importance of the data involved, on its rarity, quality or representativeness and on the degree to which the place may contribute further substantive information” (Byrne et al 146:2002).

In the Lower Hunter Valley context, the consultant has used the following archaeological assessment criteria concerning Aboriginal history and past land-use, which are represented by the following headings:

- Information and Research Potential.
- Regional Research Priorities.
- Representativeness.
- Rarity.
- Educational Potential.
- Cultural Landscape Value.

9.2 INFORMATION AND RESEARCH POTENTIAL

This criterion is relevant to assessing an area's research potential in understanding Australia's cultural history or human occupation of Australia. An area's cultural resource may have the potential to provide information that will contribute to understanding past human behaviour. Three factors are considered important in assessing a site, suite of sites or Aboriginal cultural object as having research potential:

- A place or site's intactness or integrity (this may include the state of preservation of a site or cultural remains). An intact site or place may reveal a greater amount of cultural evidence for past human behaviour. Sites in poor condition may be limited in what they can contribute to further research;
- Whether a site or Aboriginal cultural object may demonstrate connectedness to other sites within a landscape or within a regional context; and
- The chronological potential of a site or suite of sites to provide dates of human history for that particular evidence of occupation. This includes whether the site or place has potential for dateable deposits or strata.

9.3 REGIONAL RESEARCH PRIORITIES

This research criterion is important for assessing the significance of when information will contribute on a regional level and assist other researchers in the understanding of past human behaviour. It is usually understood in the context of regional research priorities. Some priorities may be focused on chronology, others on technological variability, while others may be looking at site function.

9.4 REPRESENTATIVENESS

This archaeological assessment criterion is based on a conservation objective. It is relevant when assessing what a site or place may contribute if it were to be preserved for future generations. The concept must be assessed in a regional and local context. If very little of this type of site or suite of sites has been conserved, then it becomes a conservation priority. The aim for cultural resource managers is to conserve a representative sample of sites or places for future generations and research.

The main problem of this criterion is that much of the comparative data for site conservation, especially on a regional scale, has not been systematically gathered by many conservation agencies. Defining variability may be an aim for cultural resource managers, but if nothing is known about what has been destroyed or lost due to natural or human development processes then comparisons concerning representativeness are meaningless.

Without the above information, archaeologists are encouraged to assess representativeness based on their field experience and on their reading of the representative literature.

9.4.1 Rarity

This concept of significance criteria concerns the issue of how distinct a site or cultural object may be compared to other similar sites or objects. Rare implies that sites or objects of this nature have not been readily reported or assessed in a local or regional context before. The criterion of rarity may be assessed at a range of levels including local, regional, national, state or international.

9.4.2 Educational Potential

Sites or places that help educate the broader public about Worimi Aboriginal history are a valuable resource. It is usually the level of information retrieved from sites or objects that can really assist in enlightening the public about what happened at a particular place in the past. This educational potential comes from the work of the archaeologist in translating their findings or research results into everyday language that people can understand.

The educational outcomes may be presented in newspaper articles, books, video presentations, lectures, radio broadcasts and information brochures. The information may be displayed as part of a local or regional museum. A mining company may use the research results to inform their employees about Aboriginal cultural history and occupation of a local area. The Aboriginal community may take the information and use it in local schools to teach and educate children about Worimi Aboriginal history and culture.

9.4.3 Cultural Landscape Value

This value combines the concept of aesthetic and social significance in the broader context of how living Worimi Aboriginal people perceive the local landscape and their sites or cultural objects within it. This Aboriginal concept may be connected to the understanding of religious and scenic values where places and natural features may contain inherent Worimi cultural landscape values.

Sites or cultural objects found within a landscape which is “untouched” or has natural scenic beauty may be important when assessing cumulative impact or broader landscape disturbance. Aboriginal people will place a value on an entire landscape (with all its natural features) and how that may be affected by development impact.

9.4.4 Site Age and Subsurface potential

Without evidence of buried hearths (i.e. ancient fireplaces) rock-shelter deposits containing dateable carbon material are the only evidence that could be dated directly, none of the open sites recorded in the assessment area can be directly dated. This obviously means that true age cannot be known. Another technique of indirect dating is seriation. Hiscock (1986) has set out the main stone tool reduction sequence for the Hunter Region and is further refining this through research looking (Eastern Sequence Project) to identify the nature and directionality of technological changes in stone artefact assemblages in Aboriginal sites within the Sydney Basin. It is also looking to compare temporal trends between and within sub-regions of the Hunter Region and the Sydney Basin.

The surface stone artefact assemblages recovered because of the Code of Practice Archaeological survey; AHIMS 38-4-2337 and 38-4-2338 (Figure 16: Appendix 1) are regarded as being too low to determine whether it is specifically associated with a backed technology sequence principally designed for geometric and Bondi point production. It is likely, that the sub surface assemblages recorded in sites AHIMS 38-4-2337 and 38-4-2338 area, can be generally described as part of the Eastern Regional Sequence of backed technology, first proposed by Fred McCarthy in the 1940s (Hiscock & Attenbrow 2002).

In terms of direct dating, the surface evidence is likely to be only a few hundred or thousand years old. One can only speculate, given the extent of erosion and likely disturbance along the ridge crest and surrounding landforms that most sites are probably not more than 1000–2000 years old.

9.4.5 Landscape Setting

AHIMS 38-4-2337 and 38-4-2338 are expected in their current topographical setting. Archaeological material is spread across several discrete areas of a sandy ridges and flats landform. As a cultural features, AHIMS 38-4-2337 and 38-4-2338 represents low to moderate level Aboriginal occupation adjacent (See Figure 16: Appendix 1).

The recorded open artefact assemblages represent potential occupation and artefacts found in discrete patches which are likely to have represented historic discard events associated with short-medium term fringing occupation. This may have been associated with a small campsite or site-specific activity events (i.e. stone tool manufacturing and discard events). Due to the level of soil disturbance across the subject area, the possibility of dating individual artefacts has been lost.

Within a broader context AHIMS 38-4-2337 and 38-4-2338 open sites in their landscape setting are not identified as being rare or significant when compared with other poorly understood geomorphic or archaeological landscape features in the Lower Hunter (i.e. sand dunes, sand sheets, Hunter River terraces, see Section 5.8 discussion).

9.4.6 Aboriginal Cultural Significance

Consultation with Registered Aboriginal Parties (RAPs) groups for the subject area has been ongoing from 2024 (See Section 3). It is clear that registered AHIMS 38-4-2337 and 38-4-2338 open sites are of low cultural significance to all RAPs consulted (Appendix 4). However their broader landscape context is important and given the rich cultural landscape surrounding the assessment area (to the east within airport precinct) their heritage value should be considered within that overall context.

10. SIGNIFICANCE RESULTS

10.1 INFORMATION AND RESEARCH POTENTIAL

Aboriginal objects found associated with AHIMS 38-4-2337 and 38-4-2338 open sites are considered to have low research potential based on their contents and condition.

10.2 REGIONAL RESEARCH VALUES AND REPRESENTATIVENESS

None of the Aboriginal objects recorded as part of the AHIMS 38-4-2337 and 38-4-2338 open sites are considered to have any regional research value based on their contents or condition.

10.3 RARITY

None of the Aboriginal objects recorded AHIMS 38-4-2337 and 38-4-2338 open sites are rare based on their content, landscape aspect and research potential.

10.4 EDUCATIONAL POTENTIAL

None of the Aboriginal sites or objects recorded are considered to have educational potential.

10.5 CULTURAL LANDSCAPE VALUES

None of the Aboriginal objects associated with AHIMS 38-4-2337 and 38-4-2338 open sites are considered to have any cultural landscape values.

10.6 ABORIGINAL CULTURAL SIGNIFICANCE

All the project RAPs consulted regarded AHIMS 38-4-2337 and 38-4-2338 open sites as being of low cultural significance.

11. SCIENTIFIC SIGNIFICANCE RATING

Based on the above significance criteria, Table 9 below summarizes the main scientific significance rating for AHIMS 38-4-2337 and 38-4-2338 open sites. It does not include Aboriginal cultural significance assessment which needs to be incorporated into the project's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the preparation of an SSD approval process.

The assessment of significance rating for sites can be define using the following general criteria as follows:

- **High Scientific Significance:** A site that demonstrates the potential to provide new information not normally obtained from any other resource to answer current and/or future research questions (may contain unique or rare contents and display high level of representatives and integrity at a regional level. The site may display high cultural significance for local Aboriginal people).
- **Medium Scientific Significance:** A site that demonstrates the potential to contribute significant additional information to answer current and/or future research questions (the site may have good site integrity and show some intactness for archaeological deposits and objects at a local level).
- **Low Scientific Significance:** A site that demonstrates no potential to contribute significant information to answer current or future research questions (usually physically disturbed and contains no rare or unique contents. Regarded as commonly represented on a local and regional level).

Table 9: Level of scientific significance assessed for AHIMS 38-4-2337 and 38-4-2338 open sites

Low	Medium	High
AHIMS 38-4-2337and 38-4-2338 open sites	No sites or objects	No sites or objects

11.1 STATEMENT OF SIGNIFICANCE

Based on the above assessment of significance, the Modification 4 assessment area (398 Cabbage Tree Rd Williamtown) is considered to have no educational value, no historic significance, limited research significance, no regional representative significance (the site is not considered rare within the regional landscape context) and low scientific significance. The assessment area contains two Aboriginal objects principally located within a sandy ridge landform which has been subject to high -moderate disturbance in the past. None of this landscape shows any sub surface artefactual potential worthy of further archaeological investigation.

12. IMPACT ASSESSMENT AND ASSESSMENT OF HARM

12.1 PROPOSED DEVELOPMENT, POTENTIAL ABORIGINAL HERITAGE IMPACT AND LEVEL OF HARM

Newcastle Sand Pty Ltd proposes the construction and operation of a sand quarry extension development at Williamtown.

The proposed Modification 4 project seeks to extend the boundary of the approved southern resource area in a westerly direction to support the extraction of an additional estimated 500,000 tonnes of sand resources over an area of 7.3 ha. The extension area would be located to the west of approved Section 8B, 9A and 9B in the southern resource area. It would impact an existing 20m wide extension to portions of approved resource in Lot 100 DP1263291, with the majority of the proposed extension footprint impacting the neighboring lot, Lot 9 in DP239608.

Lot 9 DP239608 has an area of approximately 10.66 ha and currently supports a rural residential dwelling, sheds and native and exotic vegetation. If approved, extension of the quarry resource will require demolition of existing infrastructure and vegetation clearance. It is noted that the proposed extension area was subject to RZM mining activities in the 1970's, with native vegetation having been cleared at that time. Vegetation on the site at present therefore consists of regrowth on rehabilitated land, which is possible to minimize soil disturbance.

These activities will harm AHIMS 38-4-2337 and AHIMS 38-4-2338 (see Table 10 below).

Table 10: Summary of Impact and Harm for AHIMS 38-4-2337 and AHIMS 38-4-2338

Site Name	Type of Harm	Degree of harm	Consequence of harm
AHIMS 38-4-2337 and AHIMS 38-4-2338	Direct	Total	Total loss of value

12.2 MITIGATION AND MANAGEMENT MEASURES

12.2.1 Mitigation of Impacts, Conservation and Avoidance Measures.

The sand quarry extension is limited by elevation of the sand dunes and the proximity to property boundaries. The lower extent of excavation is limited by the water table, where extraction is limited to no deeper than 0.7m above the maximum predicted water table.

The overriding principle for cultural resource management is that where possible projects should conserve Aboriginal heritage. If the development impacts cannot be avoided (which is the case with the Modification 4 Sand Quarry Western Extension area), then measures to mitigate impacts should be put forward as an alternative to conservation. The most common mitigation methods involve detailed scientific recording of Aboriginal objects (through survey assessment), artefact analysis and where appropriate reburial of Aboriginal objects in a location determined by the registered Aboriginal parties.

Mitigation measures will vary depending on the assessment of the scientific significance of a particular Aboriginal site and are based on its research potential, rarity, representativeness, educational value and cultural landscape value. The significance of the site would influence the choice of preferred conservation outcomes and appropriate mitigation measures are usually based on the following criteria:

- **Low Scientific Significance:** A site that demonstrates no potential to contribute significant information to answer current or future research questions (usually physically disturbed and contains no rare or unique contents. Regarded as commonly represented on a local and regional level). Conservation where possible, but usually no mitigation required if impacts are unavoidable.
- **Medium Scientific Significance:** A site that demonstrates the potential to contribute significant additional information to answer current and/or future research questions (the site may have good site integrity and show some intactness for archaeological deposits and objects at a local level). Conservation where possible, if

conservation is not practicable, salvage excavations or similar mitigation measures are to be determined in consultation with the RAPs.

- **High Scientific Significance:** A site that demonstrates the potential to provide new information not normally obtained from any other resource to answer current and/or future research questions (may contain unique or rare contents and display high level of representatives and integrity at a regional level. The site may display high cultural significance for local Aboriginal people). Conservation should be the highest priority. Only if all practical alternatives have been exhausted would impacts be considered justified. A combination of surface collection and cultural offsets may be considered as appropriate mitigation if RAPs are agreeable.

The proposed Modification Western Extension 4 development works are likely to impact much of the geographic extent of AHIMS 38-4-2298, and AHIMS 38-4-2299. Some monitoring of vegetation clearing will take place onsite and be part of an ongoing Aboriginal Heritage Plan of Management process with the direct involvement of RAPs (See Appendix 4 for comments).

Community collection is recommended as the most appropriate mitigation measure for all surface material located within the subject area (i.e. Figure 19: Appendix 1).

It is recommended that all Aboriginal objects associated with AHIMS 38-4-2337, and AHIMS 38-4-2338 and community collection be reburied within the proposed Western Keeping Place a protected area located to the east of the Modification 4 lands. The recommended mitigation measures are summarised in Table 11 below.

Table 11: Summary of Impact and Mitigation Measures for AHIMS AHIMS 38-4-2337, and AHIMS 38-4-2338

Site Name	Significance	Type of Harm	Degree of harm	Consequence of harm	Mitigation
AHIMS 38-4-2337, and AHIMS 38-4-2338	Low	Direct	Total	Total loss of value	Community collection. Submit site impact recording form to AHIMS following impact.

12.2.2 Community Collection Methodology

The Registered Aboriginal Parties (RAPs) will be provided with an opportunity to collect Aboriginal objects within the land identified as the collection area (Figure 19: Appendix 1) in accordance with the conditions of the SSD approval.

The Community Collection will proceed in accordance with the following methodology:

- The location of each Aboriginal object will be recorded by GPS and each Aboriginal object will be individually bagged for cataloguing.
- The attributes of each Aboriginal object will be recorded as specified in the OEH AHIMS Feature Recording Form and Feature Recording Table –Artefact category.
- Aboriginal Objects will be bagged, labelled and catalogued in accordance with Requirement 28 of the Code of Practice for archaeological Investigation of Aboriginal objects in NSW.
- Completed AHIMS site impact forms will be submitted to Heritage NSW AHIMS for each site subject to the completion of community collection.

12.2.3 Reburial Area

It has been agreed by all RAPs who have responded to the ACHAR recommendations that all recovered artefacts shall be reburied in the Western Keeping located on Port Stephens Council land (Figure 19: Appendix 1), that is ultimately part of a Biodiversity Stewardship Site with in perpetuity conservation.

12.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPALS

In accordance with the guide, Ecologically Sustainable Development principles have been considered in preparation of this ACHAR, including options to avoid impacts to Aboriginal cultural heritage, assessment of unavoidable impacts, identification of mitigation and management measures, and taking account of Aboriginal community views. The principles of

Ecologically Sustainable Development are detailed in the NSW Protection of the Environment Administration Act 1991.

Ecologically Sustainable Development principles relevant to assessment of the current proposal as it relates to Aboriginal cultural heritage are considered below.

12.3.1 The Integration Principle

Decision-making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations (the 'integration principle'). This ACHAR demonstrates regard for the integration principle by considering Aboriginal heritage values and impacts from the project.

12.3.2 The Precautionary Principle

If there are threats of serious or irreversible environmental damage, lack of full scientific confidence should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle').

Following an archaeological survey, newly recorded AHIMS 38-4-2337 and 38-4-2338 open sites were assessed within the Modification 4 assessment land. To ameliorate the uncertainty associated with areas of surface archaeological potential within AHIMS 38-4-2337 and 38-4-2338 open sites; a detailed archaeological survey assessment was conducted. The combination of applying predictive models and the evaluation of the results of the archaeological survey have been used to assess the probable nature and extent of the archaeological record within the assessment area.

12.3.3 The Principle of Intergenerational Equity

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'principle of intergenerational equity').

The results of the *Code of Practice* archaeological survey have shown that there are artefact scatters, minor archaeological deposit and Isolated Finds within the assessment area. There is evidence of Aboriginal cultural material represented by AHIMS 38-4-2337 and 38-4-2338 open sites however this type of site is commonly represented within the local and regional area of the Lower Hunter Valley.

13. RECOMMENDATIONS

The following recommendations are made considering the *Code of Practice* Archaeological survey results and are based on the existing and proposed legal requirements of the *NSW National Parks and Wildlife Act (1974)*, and the type of archaeological evidence found within Modification 4 assessment area; 398 Cabbage Tree Road Williamtown.

Based on background research, register searches, Aboriginal community consultation and archaeological survey, the following recommendations are made:

- Newcastle Sand values Aboriginal community consultation should commit to ongoing consultation with Aboriginal stakeholders for the Mod 4 Cabbage Tree Road Sand Quarry Project.
- Newcastle Sand should update its existing Aboriginal Cultural Heritage Management Plan (ACHMP) for the Modification 4 development to the satisfaction of the Secretary. This plan must:
 - be prepared by a suitably qualified and experienced person whose appointment has been endorsed by the Secretary.
 - be prepared in consultation with Heritage NSW and RAPs and be submitted to the Secretary for approval prior to commencing ground disturbing activities on the site, unless the Secretary agrees otherwise; and
 - include a description of the measures that would be implemented to:
 - protect, monitor and manage known sites of archaeological and cultural significance.
- The above mitigation proposals be discussed with RAPs to seek their views and an assessment of the cultural significance of the assessment area.
- Any identified surface Aboriginal objects comprising open sites AHIMS ID 38-4-2338 and 38-4-2337 should be collected under a Community Collection method after the ACHMP is issued and prior to commencement of the proposed development.
- This work should be carried out under a Care & Control Agreement.
- The existing Aboriginal Cultural Heritage Management Plan should be modified to include these specific mitigation measures.

- If changes are made to the proposed works which could impact locations outside of the current assessment area, further archaeological investigation may be required.
- All cultural material recovered from Mod 4 assessment area should be reburied within Western Keeping Place located on Port Stephens Council Land.
- The proposed development should not commence until the SSD project approval is issued and should then be undertaken in accordance with the SSD project approval conditions.

14. ACKNOWLEDGEMENTS

The Consultant would like to thank the following people for their support and positive attitude in preparing this document: Mr Elliott Laver, Mr Jonathan Berry, Mr Lennie Anderson, Mr Anthony Anderson, Mr David Feeney, Mrs Bec Young, Mr Robert Syron, Dr Elizabeth McIntrye, Mr Luke Knight, Mr David Kirk, Mr Thomas Smith, Mr Luke Perry and Mr Jamie Merrick.

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APPENDIX 1: FIGURES



Figure 1: General location map showing the regional location of the assessment area.

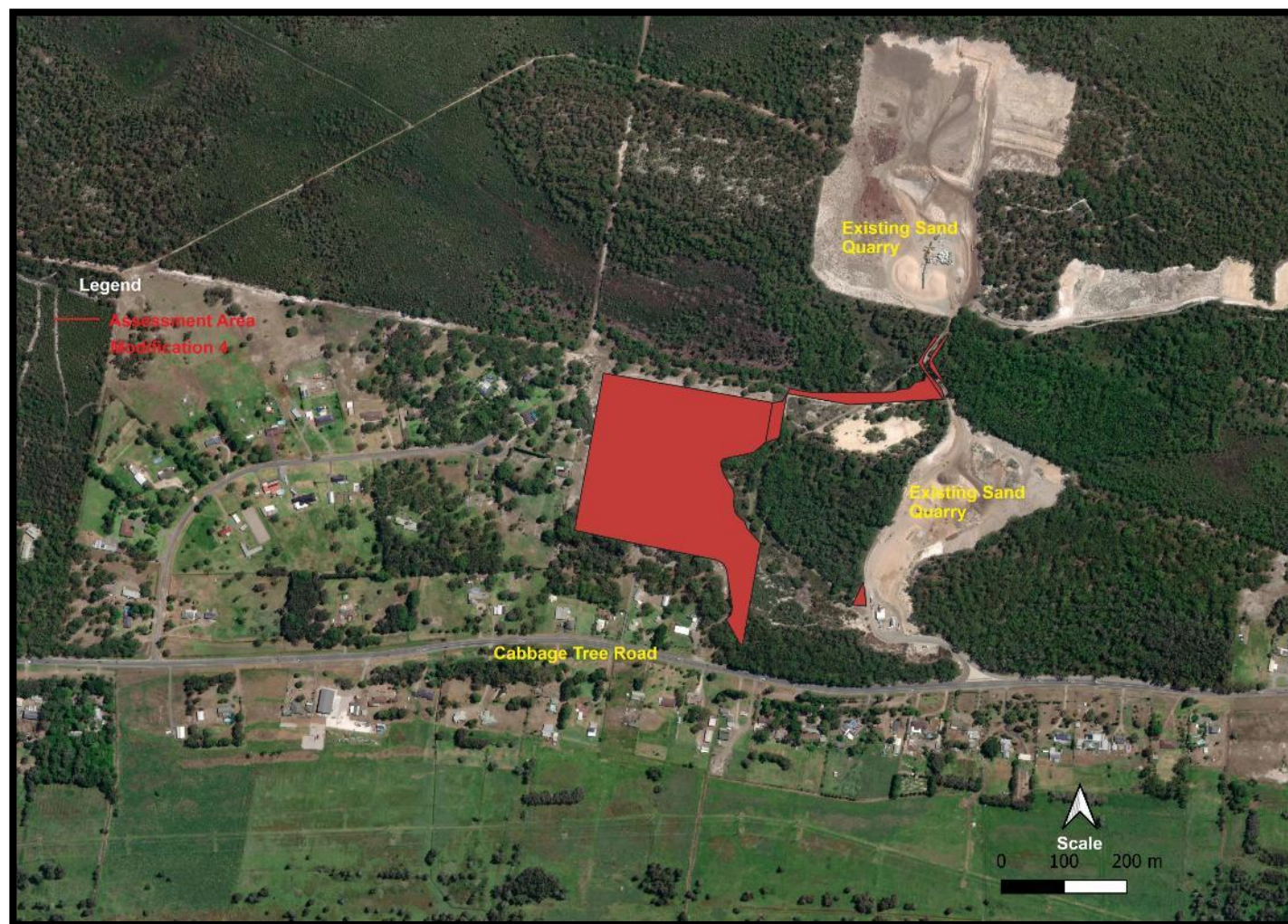


Figure 3: Modification 4 Assessment Area.

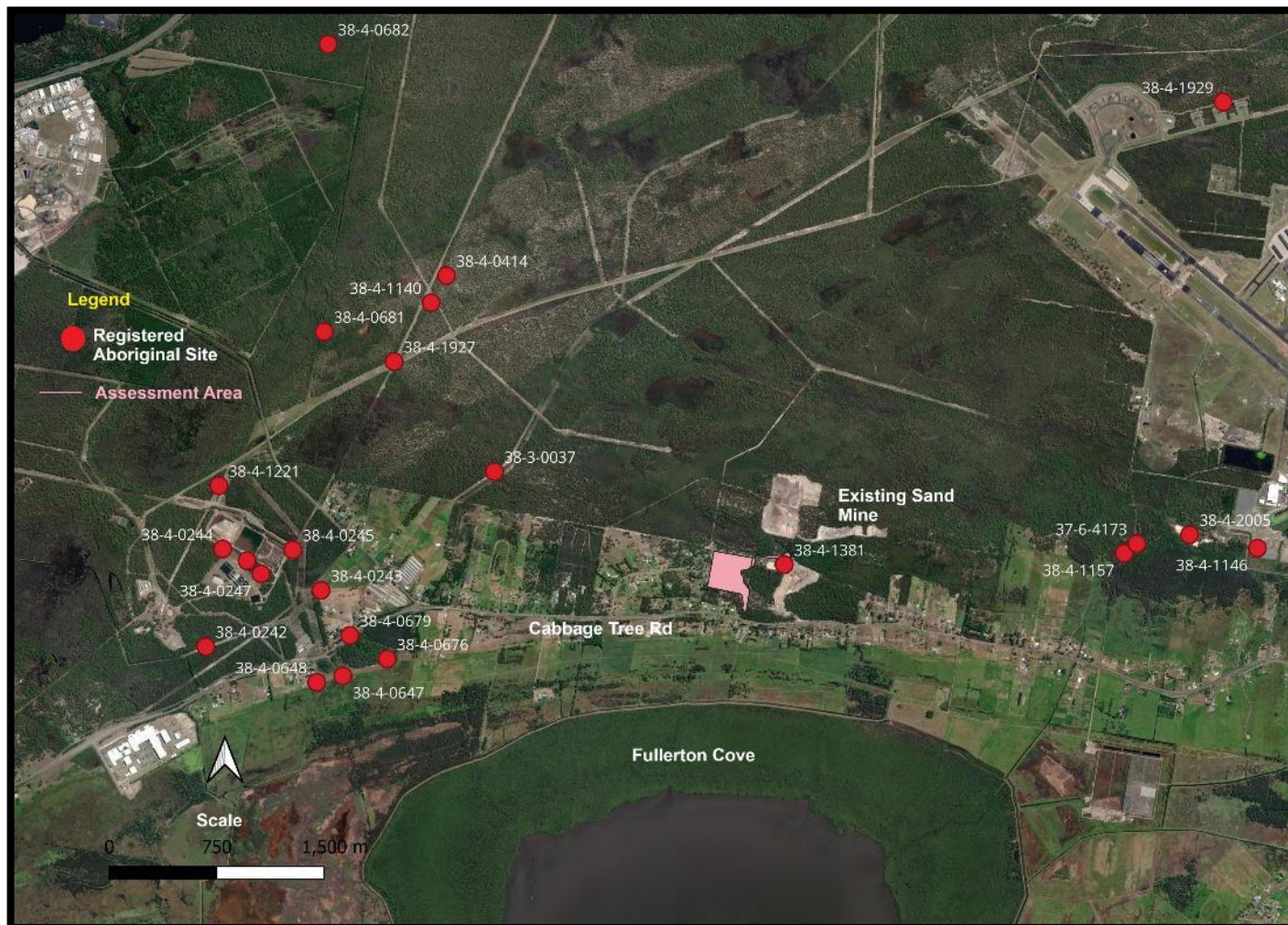


Figure 12: AHIMS Site Distribution surrounding the Modification 4 Assessment Area.

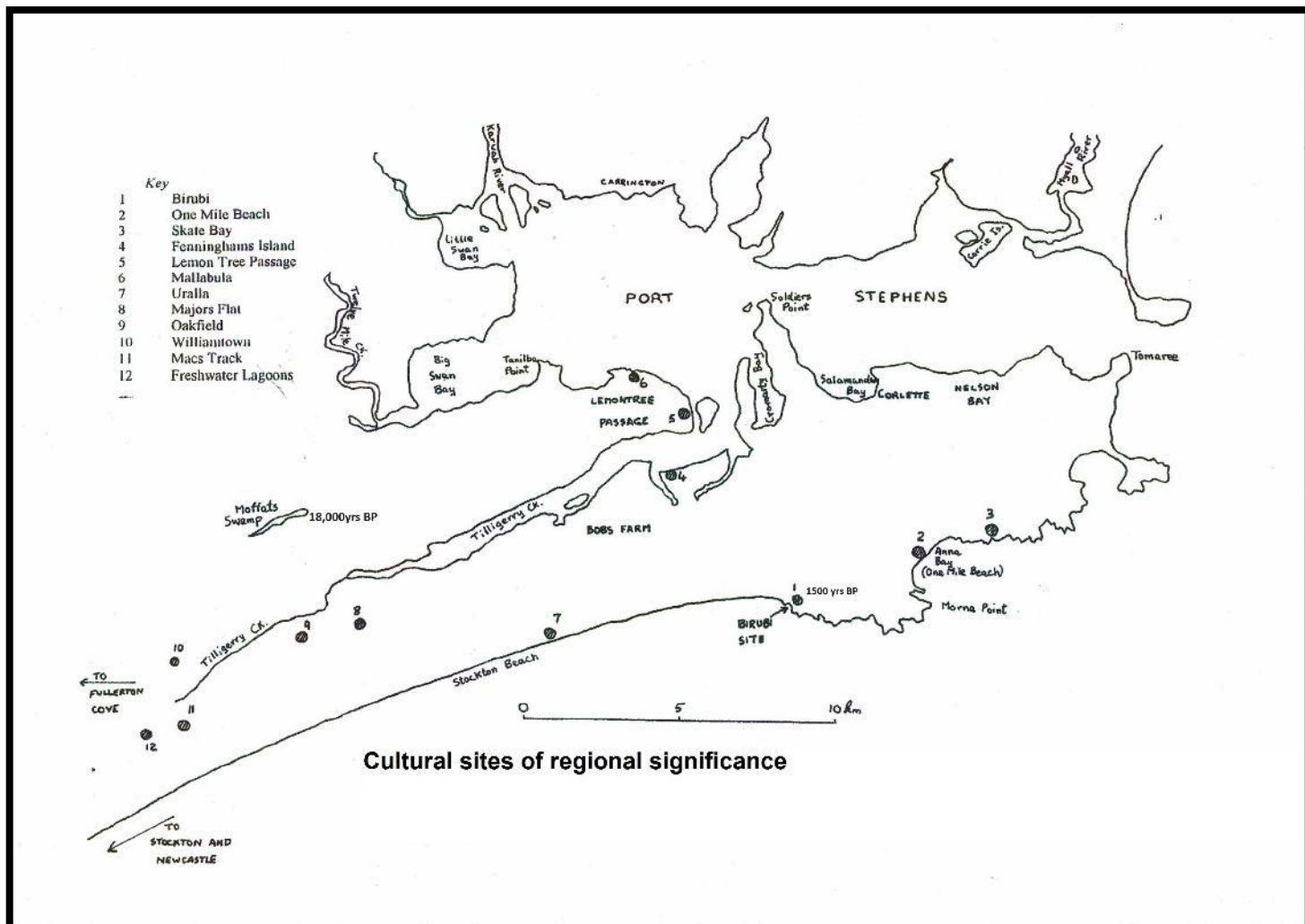


Figure 13: Sites of regional cultural and archaeological significance.

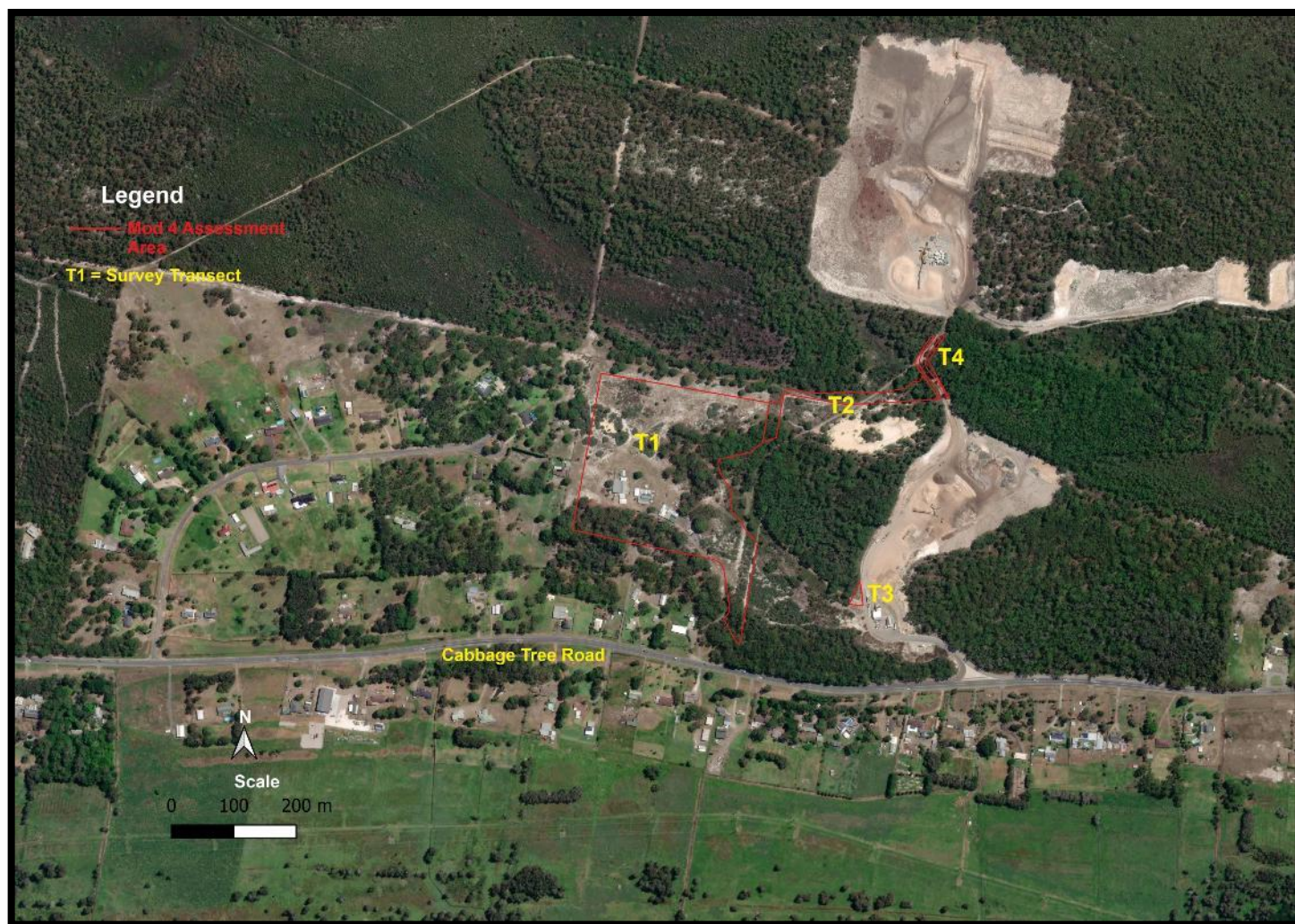


Figure 15: Survey Transects completed as a result of the assessment.

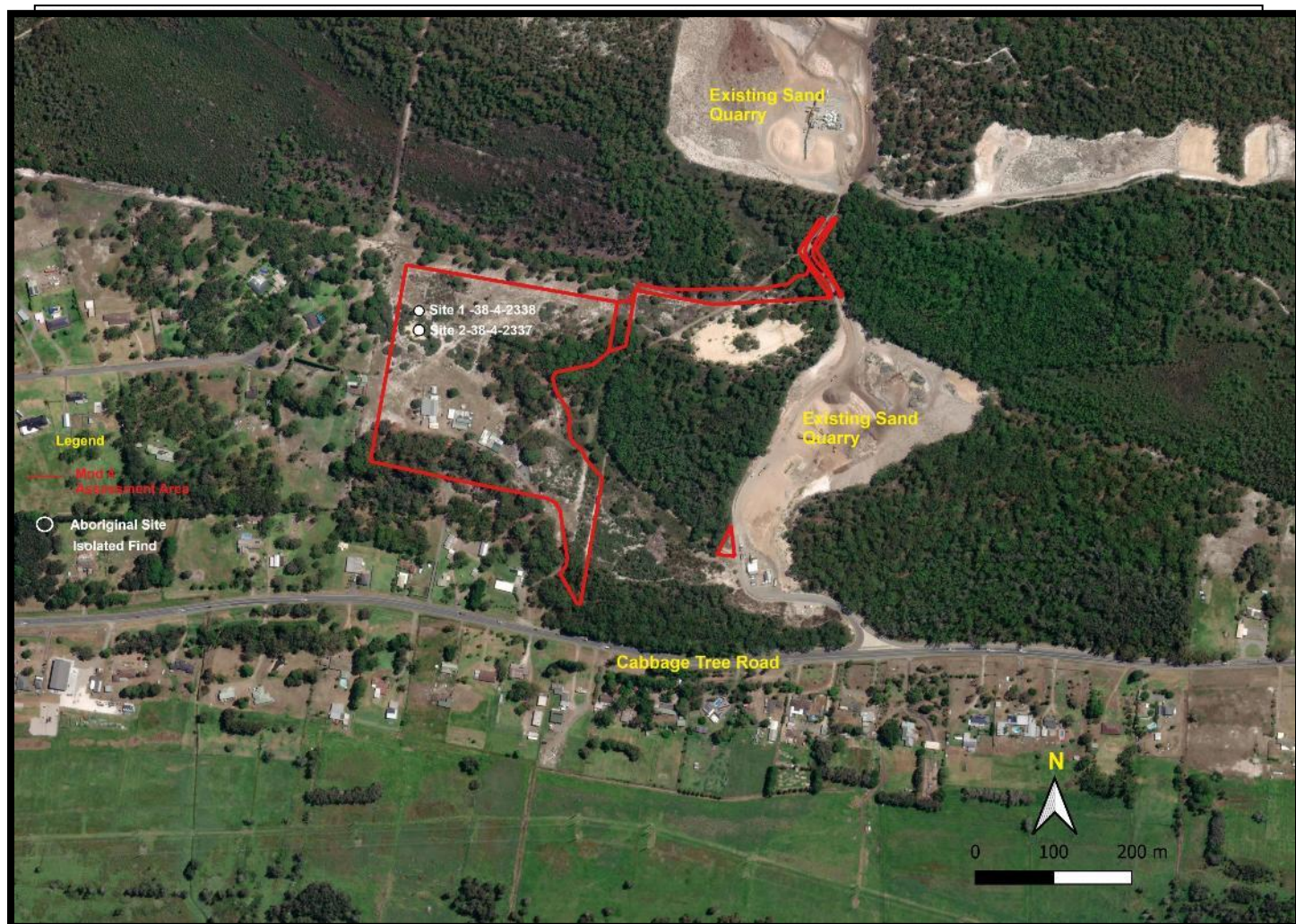


Figure 16: Modification 4 Area Archaeological Survey Results.

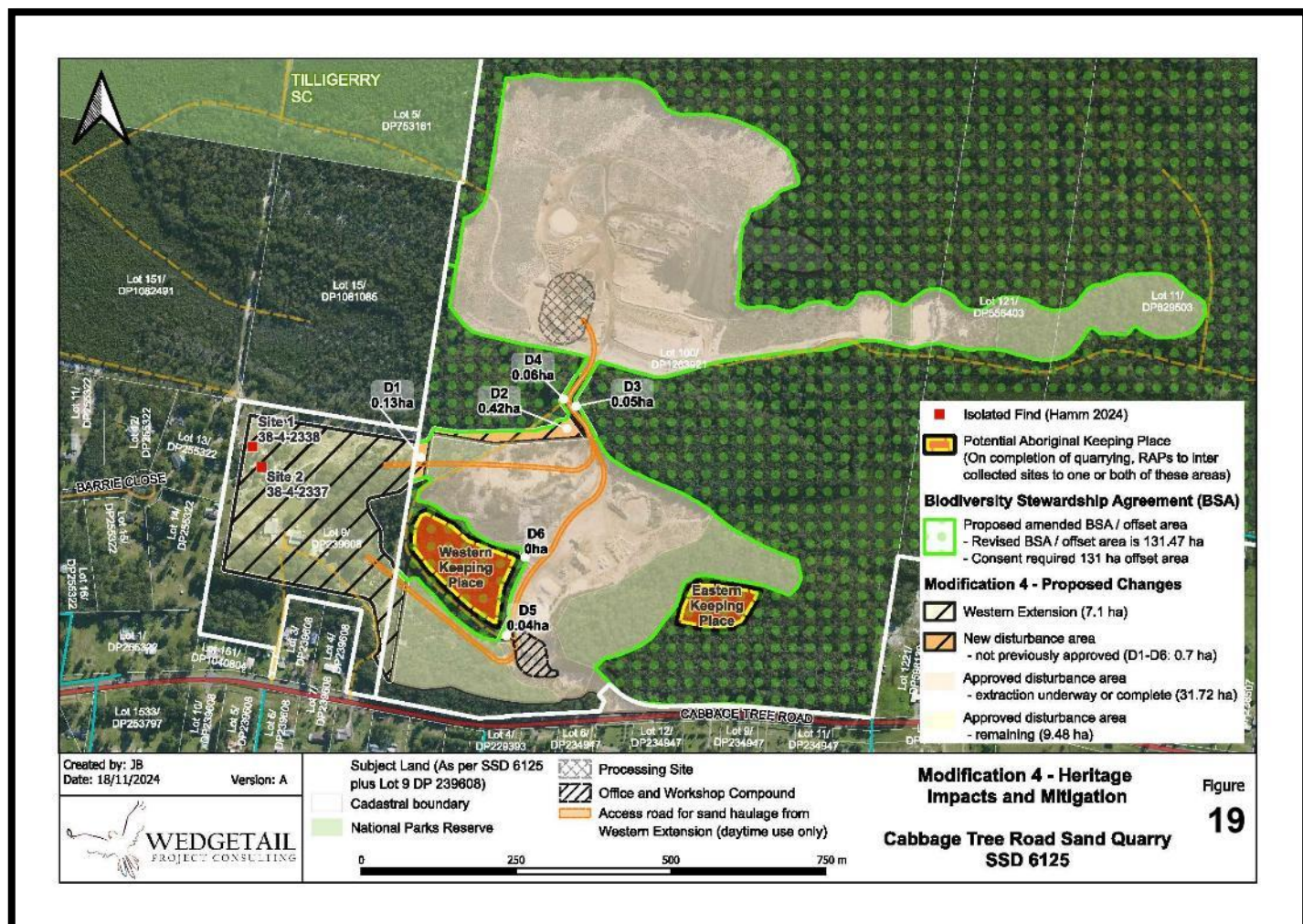


Figure 19: Modification 4 area likely potential for harm/impacts to identified Aboriginal heritage includes proposed mitigation measures (source Wedgetail Consulting).

APPENDIX 2: PLATES



Plate 1: T1 Modification 4 assessment area looking north-west.



Plate 2: T 1 showing cleared landscape on eastern boundary.



Plate 3: T1 showing typical ground surface visibility.



Plate 4: T 1 looking west along cleared landscape on elevated sandy ridge.



Plate 5: T1 showing survey team looking for potential sites in the Modification 4 assessment area.



Plate 6: T 1 in north-west section of assessment area on vehicle track and disturbed sandy ridge.



Plate 7: Site 1 Isolated Find in T1 in area of good surface visibility. Orange flag marks artefact location.



Plate 8: Isolated Find located in blowout. Orange flags marks artefact location.



Plate 9. Site 2 Isolated Find Silcrete Complete Flake



Plate 10. Site 1 Isolated Find Nobby's Tuff Complete Flake.



Plate 11: Cleared dune area in the T2 northern section of Modification 4 woodland.



Plate 12. Survey team walking T 2 survey transect.



Plate 13: T1 looking at eucalyptus woodland and regrowth area.



Plate 14. T4 transect looking north

APPENDIX 3: AHIMS REGISTER SEARCH RESULTS



AHIMS Web Services (AWS) Search Result

Your Ref/PO Number : Precinct 52

Client Service ID : 862713

Archaeological Risk Assessment Services (ARAS)

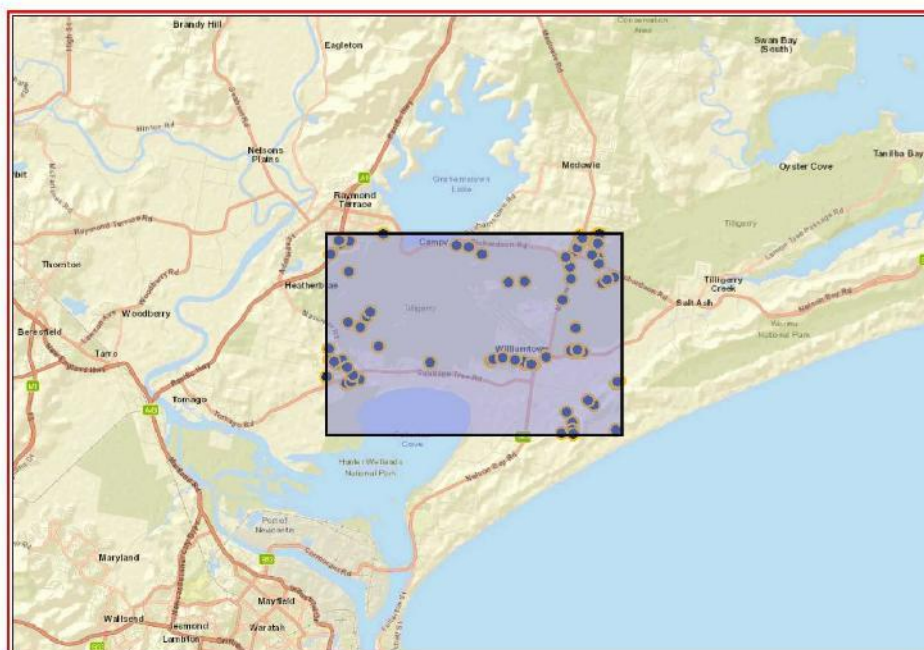
Date: 09 February 2024

Po Box 67
Katoomba New South Wales 2780
Attention: Giles (Dup Id#12832) Hamm
Email: arasgileshamm@gmail.com

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808, conducted by Giles (Dup Id#12832) Hamm on 09 February 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:

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



AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Precinct 52
Client Service ID : 062713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
38-4-0372	Meadowie 3	AGD	56	394000	6373825	Open site	Valid	Artefact : -	Isolated Find	9/25/35
	Contact							Permits	16/31	
38-4-0615	MS2	AGD	56	394120	6374100	Open site	Valid	Artefact : 1		
	Contact							Permits	13/8	
38-4-1157	Cabbage Tree Road AS1	GDA	56	390107	6369212	Open site	Partially Destroyed	Artefact : 2, Potential Archaeological Deposit (PAD) : -		
	Contact							Permits	50/34	
38-4-0648	A2 Tomaree/Tomago	AGD	56	384377	6368060	Open site	Valid	Artefact : 1		102116
	Contact							Permits	1/9/7	
38-4-1204	Mount Hall Road KF 1 (MHR KF1)	GDA	56	384445	6373835	Open site	Valid	Artefact : 59, Potential Archaeological Deposit (PAD) : 0		
	Contact							Permits	3240,3269,3272	
38-4-0676	Tomaree/Tomago A10	AGD	56	384867	6368228	Open site	Valid	Artefact : 9, Non Human Bone and Organic Material :		102116
	Contact							Permits		
38-4-1140	Masonite Rd (Tomago)	GDA	56	385250	6370900	Open site	Valid	Artefact : -		3572,102116
	Contact							Permits		
38-4-0053	Williamstown	AGD	56	391373	6368896	Open site	Valid	Artefact : -, Burial : -	Burial/s, Open Camp Site	315,102114
	Contact							Permits	3137,3034,5221	
38-4-1031	Lagoons 5	AGD	56	393225	6366575	Open site	Valid	Artefact : 15		
	Contact Searle							Permits		
38-4-1928	HWC Pole 4300-291F	GDA	56	394423	6372357	Open site	Valid	Artefact : -		
	Contact							Permits	41/77	
38-4-1473	Mackas Access 2	GDA	56	395054	6368394	Open site	Valid	Artefact : 2		
	Contact							Permits		
37-6-4173	Cabbage Tree Road AS2	GDA	56	390195	6369279	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -, Artefact : -		
	Contact							Permits	50/34	
38-4-1221	Grahamstown WTP S/A	GDA	56	383783	6369610	Open site	Destroyed	Artefact : 2		
	Contact							Permits	33/35	
38-4-0237	RT 2;	AGD	56	383700	6373210	Open site	Valid	Artefact : -	Open Camp Site	1916,1983,219 9,102116

Report generated by AHIMS Web Service on 09/02/2024 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808.

Number of Aboriginal sites and Aboriginal objects found is 92

This information is not guaranteed to be free from error or omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

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Aboriginal Cultural Heritage Assessment Report
Newcastle Sand Modification 4 Cabbage Tree Road Sand Quarry: 398 Cabbage Tree Road Williamtown

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Precinct 52
Client Service ID : 862713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	Site Types	Reports
	Contact	Recorders						Permits		
38-4-0694	Raymond Terrace 1 (RT1)	AGD	56	384071	6373602	Open site	Valid	Artefact : 1		98594,99082,102116
	Contact	Recorders						Permits	1975	
38-4-1159	Williamtown Drive IF1	GDA	56	391783	6369066	Open site	Not a Site	Artefact : 1		
	Contact	Recorders						Permits	3152,3159,3386	
38-4-0331	Moffats Swamp 2	AGD	56	394155	6373189	Open site	Partially Destroyed	Artefact : -	Open Camp Site	2578,102218
	Contact	Recorders						Permits	3621	
38-4-1597	OFOC Area 1	GDA	56	394288	6373114	Open site	Partially Destroyed	Artefact : 1		
	Contact	Recorders						Permits	3621	
38-4-0234	MD 4	AGD	56	394800	6372400	Open site	Valid	Artefact : -	Open Camp Site	1043,102218
	Contact	Recorders						Permits		
38-4-1472	Mackays Access 1	GDA	56	395020	6368343	Open site	Valid	Artefact : 4, Shell : 1		
	Contact	Recorders						Permits		
38-4-0247	T6	GDA	56	384085	6369000	Open site	Valid	Artefact : -	Open Camp Site	1845,102116
	Contact	Recorders						Permits	3335	
38-4-0682	PAD 4:Tomaree to Tomago	AGD	56	384405	6372500	Open site	Valid	Potential Archaeological Deposit (PAD) : 0		90386,98307,102116
	Contact	Recorders						Permits	1882,1883,1886	
38-4-1130	Mount Hall Road 1 (MHR1)	AGD	56	384432	6373729	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits	3241,3272	
38-4-0647	A1 -Tomaree/Tomago	AGD	56	384559	6368108	Open site	Partially Destroyed	Shell : 2, Artefact : 2		102116,102652
	Contact	Recorders						Permits	1797,3382	
38-4-0068	Newcastle Bight,3	AGD	56	392795	6366181	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders						Permits		
38-4-1904	EA Campvale 1	GDA	56	393033	6373353	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits	4143	
38-4-1379	EA Williamtown 2	GDA	56	393142	6372986	Open site	Valid	Artefact : 40		102390
	Contact	Recorders						Permits	3271,3444,4143	
38-4-1524	WILLIAMTOWN AS2	GDA	56	395373	6369580	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits		
38-4-1619	TP 7, 9 & 10 MeadowPower	GDA	56	393591	6374160	Open site	Partially Destroyed	Artefact : 12		
	Contact	Recorders						Permits	3644	
38-4-2029	Medowie RD AD-02	GDA	56	393601	6374071	Open site	Valid	Artefact : -		

Report generated by AHIMS Web Service on 09/02/2024 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808.

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Aboriginal Cultural Heritage Assessment Report
Newcastle Sand Modification 4 Cabbage Tree Road Sand Quarry: 398 Cabbage Tree Road Williamstown

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Precinct 52
 Client Service ID : 062713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	Site Types	Reports
38-4-0303	Williamstown 4	AGD	56	393600	6369400	Open site	Valid	Artefact :-, Shell :-	Midden, Open Camp Site	1845
	Contact	Recorders						Permits		
38-4-1929	RAAF Williamstown OLA Site	GDA	56	390764	6372358	Open site	Valid	Artefact :-		
	Contact	Recorders						Permits		
38-4-0532	F1	AGD	56	393890	6373900	Open site	Valid	Artefact :-	Open Camp Site	97535
	Contact	Recorders						Permits		
38-4-0670	Meadowie ISF 1	AGD	56	393890	6373900	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits		
38-4-0518	Meadowie Four	AGD	56	394000	6373745	Open site	Valid	Artefact :-	Open Camp Site	97535
	Contact	Recorders						Permits		
38-4-0245	T4	AGD	56	384200	6368980	Open site	Valid	Artefact :-	Open Camp Site	1845, 102116
	Contact	Recorders						Permits		
38-4-0681	PAD 3: Tomaree to Tomago	AGD	56	384100	6370500	Open site	Valid	Potential Archaeological Deposit (PAD) : 0		90306, 90307, 100959, 102116
	Contact	Recorders						Permits		
38-4-1523	WILLIAMTOWN AS1	GDA	56	393303	6369383	Open site	Valid	Artefact : 1		
	Contact	Recorders						Permits		
38-4-1030	Lagoons 4	AGD	56	393233	6366293	Open site	Valid	Aboriginal Resource and Gathering : 1, Artefact : 3000		
	Contact	Recorders						Permits		
38-4-0332	Moffats Swamp 3	AGD	56	393903	6373289	Open site	Partially Destroyed	Artefact :-	Open Camp Site	2578, 102218
	Contact	Recorders						Permits		
38-4-0255	M D 5	AGD	56	394500	6372300	Open site	Valid	Artefact :-	Open Camp Site	1845, 102218
	Contact	Recorders						Permits		
38-4-0244	T3	GDA	56	383815	6369170	Open site	Valid	Artefact :-	Open Camp Site	1845, 102116
	Contact	Recorders						Permits		
38-4-0246	T 5, Tomago	GDA	56	383983	6369050	Open site	Partially Destroyed	Artefact : 1	Open Camp Site	1845, 100499, 102116
	Contact	Recorders						Permits		
38-4-1824	NBR Williamstown 1	GDA	56	392269	6369371	Open site	Valid	Artefact :-		
	Contact	Recorders						Permits		
38-4-1324	Williamstown 3	AGD	56	393000	6367000	Open site	Valid	Artefact :-		1845
	Contact	Recorders						Permits		
38-4-1646	AUST903-01	GDA	56	393485	6369598	Open site	Destroyed	Artefact :-		

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Precinct 52
Client Service ID : 062713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
30 4 1620	Contact	Recorders	Mr.Peter Saad,Ms.Alison Lamond							
	TP3 MeadowiePower	GDA	56	393476	6373883	Open site	Valid	Artefact : 10	3729	
30 4 1627	Contact	Recorders	Ms.Alison Lamond							
	TP7 9 103#####	GDA	56	393591	6374168	Open site	Partially Destroyed	Artefact : 1	3644	
38-4-1476	Contact	Recorders	Umwelt (Australia) Pty Limited							
	NB13/1 Shell Midden	AGD	56	385726	6374016	Open site	Valid	Shell : -, Artefact : -		102630,103447
30 4-1381	Contact	Recorders	Ms.Penny McCardle							
	RPS Fullerton Cove 1	GDA	56	307736	6369106	Open site	Valid	Artefact : 64	3564	
30 4 0315	Contact	Recorders	RPS AAP Consulting Pty Ltd - Hamilton,Ms.Laraine Nelson							
	R 1	AGD	56	308600	6373600	Open site	Valid	Shell : -, Artefact : -	Midden	1845
38-4-2272	Contact	Recorders	Andrew Ross,Pam Dean Jones,Mr.Luke Godwin,M.Heath							
	RAAF WLM	GDA	56	391369	6372381	Open site	Valid	Artefact : -		
38-4-0057	Contact	Recorders	BGIS,Mr. Stephen Shaw							
	Freshwater Lagoons Mac's I	AGD	56	394054	6367302	Open site	Destroyed	Artefact : -	Open Camp Site	315,703
38-4-0521	Contact	Recorders	Len Dyall							
	Meadowie 1	AGD	56	394125	6373725	Open site	Valid	Artefact : -	Isolated Find	97535
30 4 1474	Contact	Recorders	Mrs.Angela Besant							
	Mackas Access 4	GDA	56	395148	6368452	Open site	Valid	Artefact : 12	1631	
30 4 0242	Contact	Recorders	Umwelt (Australia) Pty Limited - Individual users, Miss: Nicola Roche							
	T 1,	AGD	56	383600	6368300	Open site	Valid	Artefact : -	Open Camp Site	1845,102116
38 4-0679	Contact	Recorders	Helen Clemens,Andrew Ross,Pam Dean Jones							
	PAD 1:Tomaree to Tomago	AGD	56	384605	6368389	Open site	Partially Destroyed	Artefact : 1, Shell : 1, Potential Archaeological Deposit (PAD) : 0		98386,98387,102116,102652
30 4 1927	Contact	Recorders	Umwelt (Australia) Pty Limited - Individual users,MCH - McCardle Cultural Heritag							
	JRWC easement Snake Pit Trail IP	GDA	56	384996	6370487	Open site	Valid	Artefact : -	1807,3382,3842	
30 4 0414	Contact	Recorders	Umwelt (Australia) Pty Limited - Individual users,Ms.Alison Lamond							
	Masonic Road;	AGD	56	385250	6370900	Open site	Valid	Artefact : -	Open Camp Site	102116
30 4 0301	Contact	Recorders	Sue Hffenberger							
	Williamtown 1	AGD	56	391300	6369000	Open site	Valid	Artefact : -	Open Camp Site	1845,102114
30 4 1160	Contact	Recorders	Andrew Ross,Pam Dean Jones							
	Williamtown Drive AS1	GDA	56	391680	6369082	Open site	Not a Site	Artefact : 2	3157,3159,3386	
38-4-1906	Contact	Recorders	RPS AAP Consulting Pty Ltd - Hamilton							
	KA Campvale 3	GDA	56	392988	6373353	Open site	Valid	Artefact : 1	3157,3159,3386	
	Contact	Recorders	AMAC Group P/L,Mr.Benjamin Streat							
									4143	

Report generated by AHIMS Web Service on 09/02/2024 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808.
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Aboriginal Cultural Heritage Assessment Report
Newcastle Sand Modification 4 Cabbage Tree Road Sand Quarry: 398 Cabbage Tree Road Williamstown

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Precinct 52
Client Service ID : 862713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	Site Types	Reports
38-4-1522	WILLIAMSTOWN IAL	GDA	56	393233	6369666	Open site	Valid	Artefact : 1		
	Contact							Permits		
38-4-1527	Williamstown IAL	GDA	56	393233	6369666	Open site	Valid	Artefact : 1		
	Contact							Permits		
38-4-1206	EA Williamstown 1	GDA	56	393381	6373626	Open site	Valid	Artefact : 2		102390,10431 6,104679
	Contact							Permits	3271,3444,3644	
38-4-2030	Medowie RD IF 3	GDA	56	393438	6373736	Open site	Valid	Artefact : -		
	Contact							Permits		
38-4-1647	AUS1903-02	GDA	56	393486	6369674	Open site	Destroyed	Artefact : -, Shell : -		
	Contact							Permits	3729	
38-4-1970	Medowie PAD 01	GDA	56	393541	6374239	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : -		
	Contact							Permits		
38-4-2034	Medowie RD IF-2	GDA	56	393621	6374079	Open site	Valid	Artefact : -		
	Contact							Permits		
38-4-1281	Campsite AS1	GDA	56	389698	6373462	Open site	Valid	Artefact : 6		
	Contact							Permits	4143	
38-4-0302	Williamstown 2;	AGD	56	393800	6367500	Open site	Valid	Artefact : -, Shell : -	Midden,Open Camp Site	1845
	Contact							Permits		
19-4-0019	(RRFR TO 38-4-0522)	AGD	56	394000	6373825	Open site	Valid	Artefact : -	Isolated Find	102718
	Contact							Permits		
38-4-0614	MS1	AGD	56	394180	6374120	Open site	Valid	Artefact : 1		
	Contact							Permits		
38-4-0577	Fullerton 17	AGD	56	394930	6366315	Open site	Valid	Shell : 1		
	Contact							Permits		
38-4-0240	RT 1;	AGD	56	384080	6373770	Open site	Valid	Artefact : -	Open Camp Site	1916,1903,219 9,102116
	Contact							Permits	225,406	
38-4-0220	Galloping Swamp	AGD	56	391300	6372200	Open site	Valid	Artefact : -	Open Camp Site	
	Contact							Permits		
38-4-1380	RA Williamstown 3	GDA	56	392867	6371655	Open site	Valid	Artefact : 2		102390
	Contact							Permits	3444,4143	
38-4-1032	Lagoons 3	AGD	56	393250	6366153	Open site	Valid	Artefact : 2		
	Contact							Permits		
38-4-2028	Medowie RD AD 01	GDA	56	393629	6374130	Open site	Valid	Artefact : -		

Report generated by AHIMS Web Service on 09/02/2024 for Giles (Dup Id# 12832) Hamm for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808.
Number of Aboriginal sites and Aboriginal objects found is 92

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 5 of 6



AHIMS Web Services (AWS) Extensive search - Site list report

Your Ref/PO Number : Precinct 52
Client Service ID : 062713

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
30-3-0038	Tomago 2 TK2	AGD	56	389100	6373550	Open site	Valid	Artefact : -	Open Camp Site	1339,1964,102420
38-4-2005	CTR-AS01	GDA	56	390563	6369346	Open site	Partially Destroyed	Artefact : ,Hearth : , Potential Archaeological Deposit (PAD) : -	3466	
38-4-1146	DARBY 1	GDA	56	391037	6369258	Open site	Valid	Artefact : 17	5034,5221	102114
38-4-0319	Medowie Two	AGD	56	394050	6373735	Open site	Valid	Artefact : -	Open Camp Site	97535,102218
38-4-0517	Medowie Five	AGD	56	394075	6373725	Open site	Valid	Artefact : -	Open Camp Site	97535,102218
19-4-0020	(REFER TO 38-4-0521)	AGD	56	394125	6373725	Open site	Valid	Artefact : -	Isolated Find	
38-4-1475	Mackas Access 3	GDA	56	395081	6368429	Open site	Valid	Artefact : 10		
30-4-0695	Raymond Terrace PAD 1	AGD	56	394010	6373750	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		90594,102116
38-4-0743	T 7;	AGD	56	384400	6368700	Open site	Valid	Artefact : -	Open Camp Site	1845,102116
30-3-0037	Tomago 1,TK1;	AGD	56	385600	6369540	Open site	Valid	Artefact : -	Open Camp Site	1339,102116,102420
30-4-1905	EA Campvale 2	GDA	56	392988	6373353	Open site	Valid	Artefact : 1		
38-4-0256	MD 7	AGD	56	393100	6372300	Open site	Valid	Artefact : -	Open Camp Site	1845,102390
38-4-1648	AUST 903-03	GDA	56	393391	6370559	Open site	Destroyed	Artefact : -, Shell : -		

** Site Status

Valid - The site has been recorded and accepted on to the system as valid.

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes as a result of natural events. There is nothing left of the site on the ground but permission 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 on to 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 09/02/2024 for Giles (Dup Id#12832) Hamm for the following area at Lat, Long From : -32.8361, 151.7572 - Lat, Long To : -32.7639, 151.8808.

Number of Aboriginal sites and Aboriginal objects found is 92

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Page 6 of 6

APPENDIX 4: ABORIGINAL CONSULTATION LOG, EVIDENCE OF CONSULTATION, NOTIFICATIONS AND RESPONSES

Table 2: Aboriginal Consultation Log

Step	Task Requirement	Action	Action Date	Outcome
4.1.1	Identify if native title exists in relation to the project area.	National Native Title Tribunal requested for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements via Letter dated 6/05/2024	6/05/2024	Response received on 9/05/2024 – via email-Geospatial search shows 14/05/2024 email Results: No Registered Native Title Claims No Registered ILUAs No Native Title
4.1.2	Ascertain, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places. Compile a list of Aboriginal people who may have an interest for the proposed project area and hold knowledge relevant to determining the cultural	The following organisations were written to seeking the names of any Aboriginal people or organisations who may hold cultural knowledge on 6 th of May 2024: -Heritage NSW. -Worimi LALC. -Registrar, Aboriginal Land Rights Act 1983 -National Native Title Tribunal. -Office of the Registrar of the Indigenous Corporations. -NTS Corp. -Port Stephens Council. -Hunter Local Land Services. -ORIC.	6/5/2024	Responses were received from the following organisations: -Heritage NSW Letter – 9.05.2024. Stakeholders list received via email. -Office of Registrar, Aboriginal Land Rights Act 1983 letter via email – 7.05.2024. Worimi LALC identified as well as Nadine Russell Joint Management Co-ordinator from Worimi Conservation Lands. -National Native Title Tribunal – emails 9.05.2024 and 13/05/2024. No registered native title claims exist. -Port Stephens Council automated response-no follow up-email 6/05/2024.

Step	Task Requirement	Action	Action Date	Outcome
	significance of Aboriginal objects and/or places			-ORIC 6.05.2024 response received from Tobie Gilmore. Advised that Oric's website be used as well of the NSW Aboriginal Land Council website to search for relevant organisations. -NTS Corp -6.5.2024. No response received. -Hunter LLS received email from Louise Cassidy email 7 /05/ 2024 who advised we should use LALC and state land council search. Worimi LALC notified on 6.5.2024. Response received 8-5-2024.
4.1.3	Written notification and advertisement: Write to the Aboriginal people whose names were obtained in step 4.1.2 and the relevant LALC(s) to notify them of the proposed project. Place a notice in the local newspaper circulating in the general location of the proposed project,	Names of persons written to: -Andrew Smith CEO, Worimi Local Aboriginal Land Council, Nelson Bay Rd Williamtown, NSW 2318 -Des Hickey, Manager, Wattaka Wonnarua CC Service, Singleton, NSW -Jeffrey Mathews, Crimson-Rosie, Muswellbrook, NSW -Richard Edwards, Wonnarua Elders Council Cessnock NSW 2325. -Ryan Johnson, Murra Bidgee Mullangari Aboriginal Corporation, Seven Hills, NSW	Letters sent 14/05/2024 End date for responses due 28/05/2024 Advertisement placed in Port Stephens Examiner 9/05/2024	Responses were received from the following RAPs on the following dates: -Steven Hickey Widescope Indigenous Services-14/05/2024-Email -Candy-Lee Towers, 14/05/2024.Email. -Lillie Carroll, Didge Ngunawal Clan, 14/05/2023 Email. --Mu-Roo-Ma Inc. Anthony Anderson, 21/05/2024. Email. -Lennie Anderson, Nu-Run-Gee Pty Ltd, 15/05/2023. Email. -David Feeney, Karuah Indigenous

Step	Task Requirement	Action	Action Date	Outcome
	explaining the project and its exact location. Notification by letter and newspaper must include: the name and contact details of the proponent a brief overview of the proposed project that may be the subject of an application for an AHIP, including the location of the proposed project a statement that the purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP and to assist the Director-General of OEH in his or her consideration and determination of the	-Steve Hickey, Widescope Indigenous Group, Emu Plains -Steve Talbott, Gillieston Heights, NSW -Tania Matthews, Hunters & Collectors, Gunnedah, NSW. - Carolyn Hickey ,A1 Indigenous Services, Glenmore Park, NSW, 2745. -AGA Services,Ashley, Gregory & Adam Sampson, Woodberry NSW 2322. -Donna and George Sampson, Cacatua Culture Consultants,Woodberry NSW. - Carol Ridgeway-Bissett,Nelson Bay NSW 2315. - Corroboree Aboriginal Corporation, Marilyn Carroll-Johnson, Lithgow NSW 2790--Didge Ngunawal Clan, Lillie Carroll; Paul Boyd,Cambridge Gardens NSW 2747 -Gomery Cultural Consultants, David Horton Muswellbrook 2333 NSW. - Kamilaroi Yankuntjatjara Working Group,Phil Khan, Emu Plains, NSW 2750. - Karuah Indigenous Corporation, David Feeney, Karuah NSW 2324.	End date for responses due 31/05/2024	Company Pty Ltd, 28/05/2024.Email. -Steve Johnson-Woka Aboriginal Corporation -14-05-2024: Email. -Robert Syron-14-05-2024-Email. -Dr. Liz McEntyre-20-05-2024-Email. -Josua Matthews-3-06-2024.Email. -Brent Matthews- 2-06.2024.Email

Step	Task Requirement	Action	Action Date	Outcome
	application an invitation for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation with the proposed applicant regarding the proposed activity (e) a closing date for the registration of interests	- Karuah Local Aboriginal Land Council,CEO Karuah NSW 2324. - Kawul Pty Ltd trading as Wonn1 Sites,Arthur Fletcher,Glendale NSW 2285 - Lakkari NTCG,Mick Leon, Forster NSW 2428. - Lower Hunter Aboriginal Incorporated,David Ahoy, Cardiff South NSW 2285. - Lower Hunter Wonnarua Cultural Services, Lee- Ann Ball, Kurri Kurri NSW 2327. - Mindaribba Local Aboriginal Land Council,CEO, Maitland NSW Metford NSW 2323. - Mur-Roo-Ma Inc. Anthony Anderson, Fern Bay NSW. - A&K Cultural Heritage Berkeley NSW 2506. - Nur-Run-Gee Pty Ltd, Lennie Anderson, Fern Bay. - Robert Syron, Gawler East SA 5118. - Tamara Towers, Mayfield NSW 2304. - Thomas Dahlstrom, Glebe NSW 2037. - Worimi Traditional Owners Indigenous Corporation, Candy Lee Towers, Mayfield. - Girragirra Murun Aboriginal Corporation, Diana Astin, Wellington NSW 2820.		

Step	Task Requirement	Action	Action Date	Outcome
		- Wingarra Wilay Aboriginal Corporation, Raymond Moon, Wellington NSW 2820. - Guthers Aboriginal Corporation, Trystan Treloar, Werrington Downs.		
4.1.4	A minimum of 14 days from the date the letter was sent or notice published in the newspaper to register an interest.	Closing date for registration of interest included in the notification letters and notice in the newspaper was at least 14 days from the date the letters were sent, and notices appeared in the newspapers. Closing date for registration of interest on 31/05/2024 for letters 14/05/2024 for advertisement.		Copy of notification letters and newspaper advertisement in Appendix 4.
4.1.5	Must advise Aboriginal people who are registering an interest that their details will be forwarded	RAPs informed by letter /email dated 3/07/2024 as well as project scoping meeting held on 31/07/2024 in Fern Bay Community Hall.		No RAPs advised they did not want their details forwarded to Heritage NSW or Worimi LALC.

Step	Task Requirement	Action	Action Date	Outcome
	to Heritage NSW and the LALC unless they specify that they do not want their details released.			
4.1.6	Make a record of the names of each Aboriginal person who registered an interest. Provide a copy of that record and copy of the notification from step 4.1.3 to the relevant Heritage NSW regional office and LALC	List of RAPs compiled as listed in point 4.1.3 No RAPs specified that they did not want their details released.		List of RAPs attached in Appendix 4. Letters sent to Heritage NSW and LALC with list of RAPs – Sent via email (see Appendix 4).
4.1.7	LALCs holding cultural knowledge relevant to determining the significance of Aboriginal objects and places in the proposed project area who wish to register an interest to be involved in consultation must register their interest as an	Worimi registered interest to be involved in consultation (refer to 4.1.3)		Jamie Merrick, Email 11/05/2024.

Step	Task Requirement	Action	Action Date	Outcome
	Aboriginal organisation rather than individuals.			
4.1.8	Where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge has registered an interest, a contact person for that organisation must be nominated. Aboriginal cultural knowledge holders who have registered an interest may indicate they have appointed a representative to act on their behalf. Where this occurs, the registered Aboriginal party must provide written confirmation and contact details of those individuals to act on their behalf.	Responses from organisations and individuals registering interest in the project.		See list of organisations and individuals in point 4.1.3 and Appendix 4.

Step	Task Requirement	Action	Action Date	Outcome
4.2	Presentation of information about the proposed project.	Information regarding the proposed project was provided to RAPs by letter and maps via an email on the 3/07/2024 and through a project scoping meeting held on the 31/05/2024, where written material and maps were presented. Dr. Giles Hamm (ARAS), Mr Jonathan Berry (Wedgetail) Mr Elliot Laver and Mr Darren Williams representing Newcastle Sands provided project briefing information on the project's scope, assessment process and development approval process.	Meeting held 31/05/2024	Copy of register of meeting attached in Appendix 4 and written material provided.
4.3.1 - 4.3.2	Notification of proposed assessment methodology	Copy of the proposed survey methodology sent to all RAPs with an invitation to provide comment.	Letters emailed on 3/07/2024 End date for responses due 20/07/2024.	Following notification by email (3.07.2024) Code of Practice Survey methodology for Modification 4 assessment. No responses received.
4.3.3	Gathering information about cultural significance	RAPs invited to provide information about cultural significance of study area by letter and in meeting.		RAPs and representatives who attended the information meeting on the 31/07/2024 in Fern Bay provided no

Step	Task Requirement	Action	Action Date	Outcome
				culturally significant information regarding the assessment area. RAPs who were notified by letter also provided no culturally significant information about the assessment area. The survey assessment for Modification 4 was carried out with 4 RAPs on the 19 th of September 2024.
4.4	Review of draft cultural heritage assessment report	Draft Aboriginal Cultural Heritage Assessment Report (ACHAR) provided to RAPs for review and comment with a 28-day review period.	Letter and report sent by the 5/12/2024 End date for responses due 10/01/2025	Responses received from following organisations: Three responses were received from the RAP organisations in response to the final Modification 4 ACHAR sent by USB with a 28 day period :

Step	Task Requirement	Action	Action Date	Outcome
				No other responses were received from any other RAP by the 2025 deadline.

aras
risk assessment services

Consultation Requirements Stage 4.11 & 4.1.2 Notification to Government Agencies and Prescribed Bodies



6th of May 2024

Heritage NSW
Parramatta Head Office Locked Bag 5020
Parramatta NSW 2124

Dear Sir/Madam,

Section 4.16 Notification: Compilation of an Aboriginal Stakeholder Register for land described as 398 Cabbage Tree Road Williamtown.

Archaeological Risk Assessment Services Pty Ltd (ABN: 71 106 520 290) has been engaged by Williamtown Sand Syndicate Pty Ltd (the proponent) to prepare an Aboriginal Stakeholder Register and compile a list of local Aboriginal people who may have cultural knowledge about land located at 398 Cabbage Tree Road Williamtown. Williamtown Sand Syndicate Pty Ltd, trading as Newcastle Sand is proposing to modify the existing approved sand quarry at 398 Cabbage Tree Road by extending the extraction area west into Lot 9, DP 239608 (Western Extension - Mod4).

The proposed project extension land is located in the **Port Stephens Shire Council area**. We are seeking advice from your organization about any local Aboriginal community group, native title body, organization or individual you may know of who could have an interest in the above proposed project or land.

It is our intention to comply with the requirements Section 4.16 of the NSW Office of Environment and Heritage guide-lines: Aboriginal cultural heritage consultation requirements for proponents 2010. The project is State Significant Development and requires the proponent to notify and advertise in local print media an expression of interest in a development that may be subject to an Aboriginal Heritage Permit Impact (AHIP) application under section 90 of *NPW Act 1974*.

We provide a plan of the proposed SSD Western Extension -Mod 4 Area for your information (see attached). Should you wish to discuss this matter further, please feel free to contact me by telephone on 0438 757 606.

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
M: 0423 046 208 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

Hunter Local Land Services
816 Tocal Road
Private Bag 2010
Paterson NSW 2421
admin.hunter@lls.nsw.gov.au

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M 0423 046 208 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

Native Title Registrar
Level 5, Harry Gibbs Commonwealth Law Courts
119 North Quay
Brisbane QLD 4000
NTservice@nntt.gov.au

Dear Sir/Madam,

Section 4.16 Notification: Compilation of an Aboriginal Stakeholder Register for land described as 398 Cabbage Tree Road Williamtown.

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ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

General Manager
NST Corp: NSW Native Title Services
PO BOX 2105
STRAWBERRY HILLS NSW 2021
information@ntscorp.com.au

Dear Sir/Madam,

Section 4.16 Notification: Compilation of an Aboriginal Stakeholder Register for land described as 398 Cabbage Tree Road Williamtown.

Archaeological Risk Assessment Services Pty Ltd (ABN: 71 106 520 290) has been engaged by Williamtown Sand Syndicate Pty Ltd (the proponent) to prepare an Aboriginal Stakeholder Register and compile a list of local Aboriginal people who may have cultural knowledge about land located at 398 Cabbage Tree Road Williamtown. Williamtown Sand Syndicate Pty Ltd, trading as Newcastle Sand is proposing to modify the existing approved sand quarry at 398 Cabbage Tree Road by extending the extraction area west into Lot 9, DP 239608 (Western Extension - Mod4).

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M 0423 046 208 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

The Office of the Registrar
PO Box 787
Parramatta NSW 2124
adminofficer@oralra.nsw.gov.au

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ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

General Manager
Port Stephens Council
PO Box 42,
Raymond Terrace, NSW, 2324
council@portstephens.nsw.gov.au

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M 0423 046 208 | ✉ aras@ishamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



6th of May 2024

Andrew Smith
CEO
Worimi Local Aboriginal Land Council
2163 Nelson Bay Rd,
Williamtown NSW 2314
reception@worimi.org.au

Dear Andrew,

Section 4.16 Notification: Compilation of an Aboriginal Stakeholder Register for land described as 398 Cabbage Tree Road Williamtown.

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M 0423 046 208 | ✉ aras@ishamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780

03/12/2024, 10:09

Gmail - Section 4.16 : Newcastle Sand Modification Project No 4



Giles Hamm <arasgileshamm@gmail.com>

Section 4.16 : Newcastle Sand Modification Project No 4

LLS Admin Hunter Mailbox <admin.hunter@lls.nsw.gov.au>
To: Giles Hamm <arasgileshamm@gmail.com>

7 May 2024 at 11:21

Dear Giles

I am responding to your email dated 06.05.2024. Hunter LLS do not have a full list of all of the relevant Aboriginal Traditional Custodians that are within your project area. Could you please contact the relevant Local Aboriginal Land Council (LALC) for the list of Aboriginal Traditional Custodians that have interest within the project site area. See following link to LALC contact details: https://alc.org.au/land_council/

Also, please check the National Native Title Tribunal and search for Registered Native Title Claims for your area, to view list of Claims please access the following link: <http://www.nntt.gov.au/searchRegApps/NativeTitleRegisters/Pages/Search-Register-of-Native-Title-Claims.aspx>

For further questions please contact Toby Whaleboat on details below.

toby.whaleboat@lls.nsw.gov.au

0429 303 765

Kind Regards

Louise Cassidy

Emergency Management Project Support & Customer Service Officer

Hunter

Local Land Services

T 0249 384 900 M 0428 936 765 E louise.cassidy@lls.nsw.gov.au

lls.nsw.gov.au

816 Tocal Rd, Paterson NSW 2421

Working Hours: Monday - Friday 8:30 to 4:30

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-f:1798354921866453177&simpl=msg-f:1798354921866...> 1/2

03/12/2024, 10:04

Gmail - RE: Section 4: 16 Newcastle Sand Western Modification 4 [SEC=OFFICIAL]



Giles Hamm <arasgileshamm@gmail.com>

RE: Section 4: 16 Newcastle Sand Western Modification 4 [SEC=OFFICIAL]

1 message

ORIC Info <info@oric.gov.au>

6 May 2024 at 12:14

To: Giles Hamm <arasgileshamm@gmail.com>

OFFICIAL

Good afternoon Giles,

Thank you for your email.

Please note in order to get inContact with a corporation in this area, you can use our 'FIND A CORPORATION (CORPORATION REGISTER)' which can be found [here](#) on our home page.

It is located on the left-hand side of the page in an orange coloured box.

To narrow down your search to location, please click the 'more search options' button and this will allow further filters for your search, including town, postcode and state.

If you have any questions please call and speak to any of our officers on 1800 622 431.

Kind Regards,

Tobie Gilmore

Regional Officer – Southern Region



Freecall: [1800 622 431](tel:1800622431)

Ngunnawal Country,

Charles Perkins House, [16 Bowes Place Phillip ACT 2606](#)

PO Box 29 Woden ACT 2606

Email: info@oric.gov.au

oric.gov.au



ORIC acknowledges the Traditional Custodians of country throughout Australia and their continuing connection to land, waters and community. We pay our respect to them and their cultures and to their Elders both past and present.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1798267649442693939&simpl=msg-f:1798267649442...> 1/3

OFFICIAL



07 May 2024

By email: arasgilescomm@gmail.com

Dr, Giles Hamm
Archaeological Risk Assessment Services Pty Ltd
PO Box 67
KATOOMBA NSW 2780

Dear Georgie,

Aboriginal Cultural Heritage Assessment – 398 Cabbage Tree Road, Williamtown.

We refer to your email and letter to this Office, dated 06 May 2024 requesting contact information for Aboriginal organisations, stakeholders and/or people who may have cultural knowledge relevant for the proposed sand quarry modification at 398 Cabbage Tree Road, Williamtown, NSW.

Under Section 170 of the Aboriginal Land Rights Act 1983 (NSW), the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO) for New South Wales. The works you are proposing, and location are in proximity to an area for which there are registered Aboriginal Owners: Worimi Conservation Lands.

We suggest you contact the Joint Management Coordinator for the Worimi Conservation Lands, Nadine Russell (to ascertain whether the Boards of Management are interested in the project).

- Email: nadine.russell@environment.nsw.gov.au
- Ph: 02 4984 8221
- M: 0484 643 337

We also suggest you contact Worimi Local Aboriginal Land Council on the details provided below, as they may wish to participate.

Yours sincerely

Rachel Rewiri
Project Officer
Office of the Registrar, Aboriginal Land Rights Act 1983

Worimi Local Aboriginal Land Council

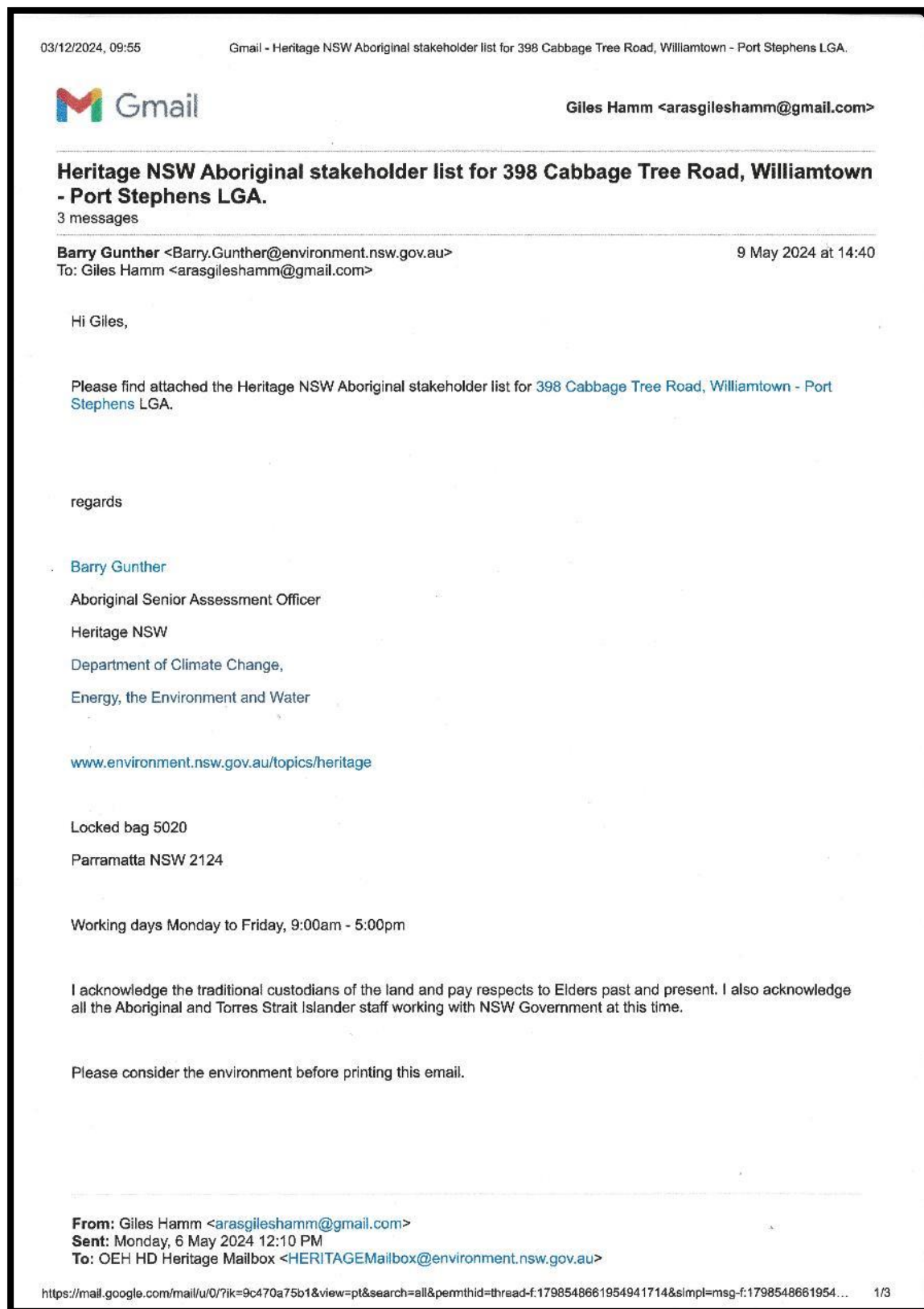
- A: PO Box 56 TANILBA BAY NSW 2319
- T: 02 4033 8800
- E: andrew@worimi.org.au

Address: Level 3, 2 – 10 Wentworth Street, PARRAMATTA NSW
2150

Post: P.O Box 5068, PARRAMATTA NSW 2124

Phone: 02 8633 1266

OFFICIAL



03/12/2024, 09:50

Gmail - RE: SR24/827 - Newcastle Sand 398 Cabbage Tree Rd Williamtown Geospatial Search Request [SEC=OFFICIAL]

Gmail

Giles Hamm <arasgileshamm@gmail.com>

RE: SR24/827 - Newcastle Sand 398 Cabbage Tree Rd Williamtown Geospatial Search Request [SEC=OFFICIAL]

1 message

Geospatial Search Requests <GeospatialSearch@nntt.gov.au>

To: Giles Hamm <arasgileshamm@gmail.com>

1

OFFICIAL

Your ref: Western Extension Mod 4 Newcastle Sand

Our ref: SR24/827

Dear Dr.Giles Hamm

Thank you for your search request, please find your results below.

Search Results

The results provided are based on the information you supplied and are derived from a search of the following Tribunal databases:

0. Schedule of Native Title Determination Applications

1. Register of Native Title Claims

2. Native Title Determinations

3. Indigenous Land Use Agreements (Registered and notified)

Results for overlapping native title matters in NSW:

Feature ID	Tenure	Cadastral Data As At	Feature Area SqKm	Overlapping Native Title Feature				
9/DP239608	FREEHOLD	8/03/2024	0.1066	NNTT File Number	Name	Category	Overlap Area SqKm	% Si
				No overlap				

For more information about the Tribunal's registers or to search the registers yourself and obtain copies of relevant register extracts, please visit our [website](#).

Information on native title claims and freehold land can also be found on the Tribunal's website here: [Native title claims and freehold land](#).

Please note: There may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed with the Federal Court may not appear on the Tribunal's databases.

The search results are based on analysis against external boundaries of applications only. Native title applications commonly contain exclusions clauses which remove areas from within boundary. To determine whether the areas described are in fact subject to claim, you need to refer to the "Area covered by claim" section of the relevant Register Extract or Schedule Extract maps attached.

Search results and the existence of native title

Please note that the enclosed information from the Register of Native Title Claims and/or the Schedule of Applications is not confirmation of the existence of native title in this area. This is confirmed until the Federal Court makes a determination that native title does or does not exist in relation to the area. Such determinations are registered on the National Native Title Register.

The Tribunal accepts no liability for reliance placed on enclosed information

The enclosed information has been provided in good faith. Use of this information is at your sole risk. The National Native Title Tribunal makes no representation, either express or implied, as to the accuracy or suitability of the information enclosed for any particular purpose and accepts no liability for use of the information or reliance placed on it.

If you have any further queries, please do not hesitate to contact us via GeospatialSearch@NNTT.gov.au

Regards,

Geospatial Searches

National Native Title Tribunal | Perth

Email: GeospatialSearch@nntt.gov.au | www.nntt.gov.au

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1798982609605185589&simpl=msg-f:1798982609605185589>

1/2



archaeological risk assessment services

171

STAGE 5.1.1 & 5.1.2 EXPRESSION OF INTEREST RESPONSES RECEIVED FROM POTENTIAL REGISTERED ABORIGINAL PARTIES

03/12/2024, 15:03

Gmail - Re: Registering - Section 4.16 Notification 398 Cabbage Tree Rd Williamtown



Giles Hamm <arasgileshamm@gmail.com>

Re: Registering - Section 4.16 Notification 398 Cabbage Tree Rd Williamtown

2 messages

Steven Johnson <wokacorp@yahoo.com>
To: Giles Hamm <arasgileshamm@gmail.com>

14 May 2024 at 22:05

Woka Aboriginal Corporation
Preservation of Aboriginal Culture & Heritage
Mob: 0406991221
Email: wokacorp@yahoo.com

Attention: Giles Hamm - Director
Archaeological Risk Assessment Services

**Re: Interest in an Aboriginal Cultural Heritage Assessment - Section 4.16
Notification [398 Cabbage Tree Rd Williamtown](#): EOI RAP**

Registration of our interest in the subject area. I note that I have cultural knowledge within the area and have cultural connections via my family.

I note that we are all Aboriginal people, from all over NSW. Our representatives are from different clans which give us more insight to our history's and culture's.

We provide employment to all knowledgeable Indigenous people and provide training to enhance skills. We are all experienced Aboriginal Cultural Heritage Site Officers.

We have worked on number of projects in the surrounding areas.

We have liaised with many developers including. Some of the bigger company's we have engaged with are Lendlease, NBN, Transgrid, Camellia project, The Metro, etc. We have worked with the National Parks & Wildlife, WaterNSW, RMS/TFNSW on for over a decade on projects.

We have our history & stories passed down to us by our Elders to which we share with our people.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1799029609780731577&simpl=msg-f:1799029609780...>

1/3

03/12/2024, 15:03

Gmail - Re: Registering - Section 4.16 Notification 398 Cabbage Tree Rd Williamtown

We have assisted in surveys, test excavations, salvage; consulting with archaeologists over a vast number of years.

We are experienced in the field of identifying potential PADS, artefacts, Including our learned history and knowledge passed down to us. We appreciate the opportunity to be part of protecting and preserving our Aboriginal heritage and Culture. We are very proud of our heritage and culture passed to us by our Ancestors and our own histories . We are therefore pleased with being a part of this research and to provide our experience and knowledge.

Our organisation has the current Public liability insurance and is WHS compliant, with all member's holding white cards and required PPE.

All our members are extremely experienced in the identification of Aboriginal artefacts and have worked with numerous Archeologists in field surveys, including test and salvage excavations on fieldwork. We are very passionate about our ancestral land and our conservation of our history matters the upmost to us. We hold strong links to our ancestors, our culture and our heritage and lore. We are motivated to share our history with our current generation and future generations to pass down to our Mob.

Please note we do not want our details forwarded to LALC, please do not release our correspondence. Please register Woka Aboriginal Corporations name for this project. My number is listed below.

Sincerely
Steve
Aboriginal Heritage Custodian
Mob: 0406991221
Email: wokacorp@yahoo.com

Giles Hamm <arasgileshamm@gmail.com>
To: Steven Johnson <wokacorp@yahoo.com>

20 May 2024 at 07:45

Thanks Steven,

Thanks for your interest. You are now a Registered Aboriginal Party for the project. I have noted your concerns about not forwarding your details to Worimi LALC.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1799029609780731577&simpl=msg-f:1799029609780...> 2/3

03/12/2024, 15:11

Gmail - Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP



Giles Hamm <arasgileshamm@gmail.com>

Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP

WIDESCOPE . <widescope.group@live.com>

14 May 2024 at 18:22

To: Giles Hamm <arasgileshamm@gmail.com>

Hi Giles,

Hope your keeping well. Thanks for the project information. I would like to register my interest in the project.

My involvement: I would like to attend meetings and be involved in any site field works.

Preferred method of contact is via email or Mob.

Thanks.

Regards

Donna and Steven Hickey
Widescope Indigenous Group

Admin +61425232056 or Steven 0425230693
73 Russell Street, Emu Plains, NSW 2750

Email:widescope.group@live.com

From: Giles Hamm <arasgileshamm@gmail.com>

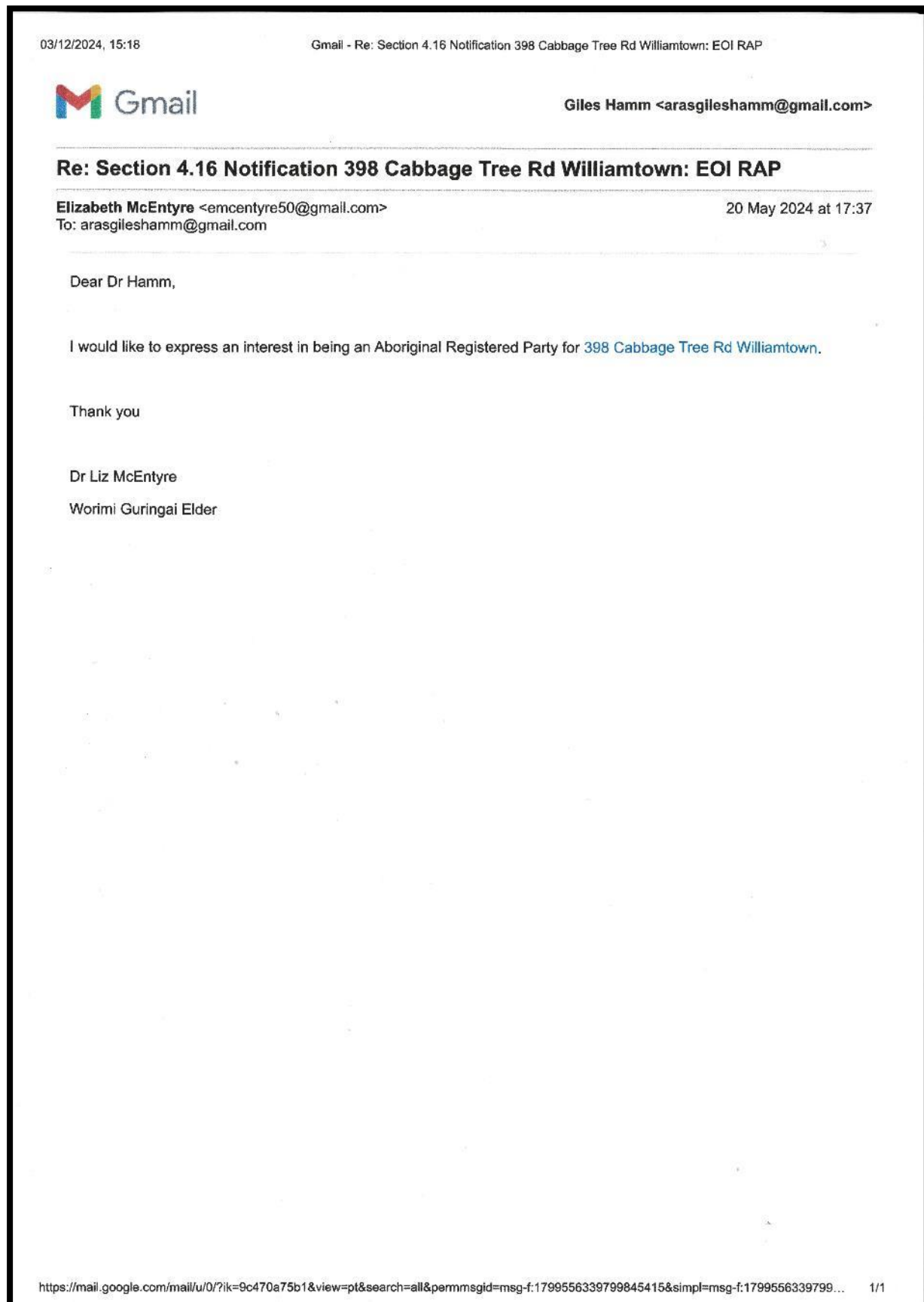
Sent: Tuesday, May 14, 2024 1:28:32 PM

To: WIDESCOPE . <widescope.group@live.com>

Subject: Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP

[Quoted text hidden]

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-f:1799015561484016116&simpl=msg-f:1799015561484...> 1/1



03/12/2024, 15:24

Gmail - Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP



Giles Hamm <arasgileshamm@gmail.com>

Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP

bobsam1@bigpond.net.au <bobsam1@bigpond.net.au>
To: Giles Hamm <arasgileshamm@gmail.com>

14 May 2024 at 14:34

Dear Dr. Giles Hamm Director Archaeological Risk Assessment Services

My name is Bob Syron Registered Aboriginal Owner of Worimi Guringai lands "through the legal process" Office of The Register Aboriginal Land Rights Act 1983 NSW and Australian Rwandan war veteran 1994-95.

Ref : Section 4.16 Notification 398 Cabbage Tree Rd Williamtown: EOI RAP I would like to register please.

We just had a big win in the native title courts "Dungog City Council" land mark outcome represented by Tony McAvoy KC and funded by NTSCORP see attachment Dungog V Attorney. My name is not mentioned but was party to the claim Scott Franks and Tony McAvoy can verify.

https://benchmarkinc.com.au/benchmark/weekly_environmental_law/benchmark_08-03-2024_weekly_environmental_law.pdf

<https://www.dungogchronicle.com.au/story/8566654/dungog-council-lost-a-non-claimant-application/>

The Office of the Register Aboriginal Land Rights Act 1986, National Portrait Gallery ACT, National Parkes NSW, 7 Aboriginal land councils, Destination NSW- Government, Lend Lease Australia, Erina Fair, City Councils including the Wonnarua Plains Clan Native title claim group and many more have acknowledged **Guringai are not from the East coast from Sydney to Newcastle all have removed reference to Kuringgai -AKA Guringai now AKA -Guri-Ngai.** Also See letters PDF (Attached Premier NSW), Australian Newspaper 'Bloodlines, letter from Aboriginal Affairs and Six City's Commission.

The East coast from Sydney to Newcastle is not Kuring-gai - AKA Guringai – AKA- Gur-Nagi Nation, Tribe, Language or sub tribe of the East Coast and are not a sub tribe of the Wonnarua .

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-f:1799001358621707008&simpl=msg-f:179900135862...> 1/31

03/12/2024, 15:27

Gmail - Re: Section 4.16 Notification 398 Cabbage Tree Rd Williamtown : EOI RAP



Giles Hamm <arasgileshamm@gmail.com>

Re: Section 4.16 Notification 398 Cabbage Tree Rd Williamtown : EOI RAP

Worimi Yorta Yorta <worimitoc@hotmail.com>
To: Giles Hamm <arasgileshamm@gmail.com>

14 May 2024 at 14:05

Guudji Giles,

I would like to register for this project as my people are traditional owners of the project area my people the Worimi my Nurras from the Worimi are Gummerpingal Mullobinba dhaalnyaa buna gundimarr my people hold the rights to cultural knowledge

From Candy on behalf of my 3 surviving Elders
Sent from my iPhone

On 14 May 2024, at 1:31 pm, Giles Hamm <arasgileshamm@gmail.com> wrote:

Dear Candy Lee,

Please see notification for this project attached.

Regards

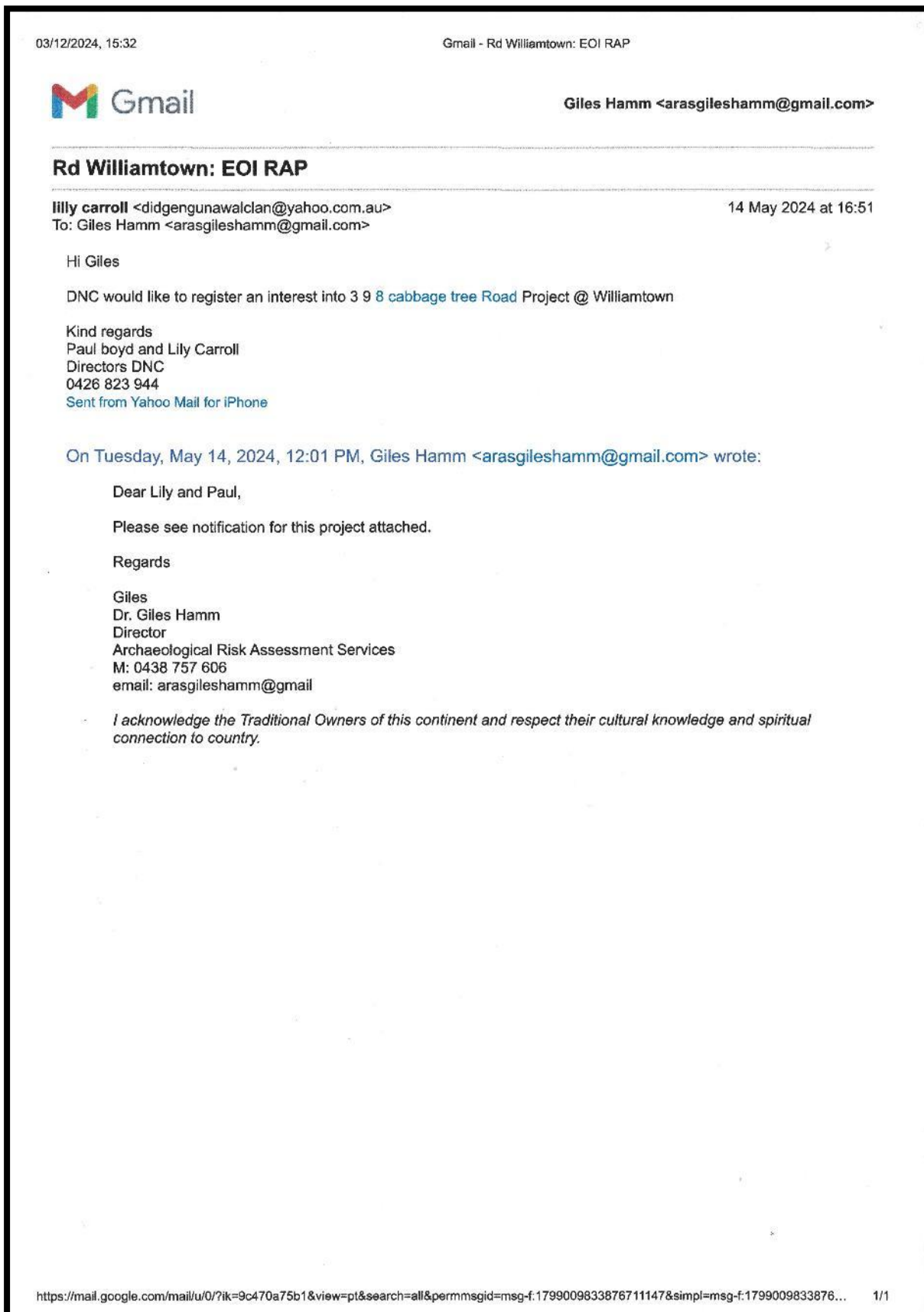
Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<Worimi Traditional Owners Indigenous Corporation .pdf>

<Mod4 Western Extension Notification Figure_240430-Final Figure.pdf>

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-f:1798999416313778477&simpl=msg-f:1798999416313...> 1/1



MURROOMA



INCORPORATED

9 Vardon Road Fern Bay 2295 NSW
0421078695
0402827482
Murroomainc1@gmail.com
ABN: 97 807 719 484

Tuesday 21st of May 2024

Archaeological Risk Assessment Services

Att: Giles Hamm

Re; Section 4.16 Notification: Compilation of an Aboriginal Stakeholder Register for land described as 398 Cabbage Tree Road Williamtown.

To Giles,

Please find enclosed application for Murrooma Incorporated to register our interest to be a part of the community consultation process for this proposed project and ACHA.

Anthony Anderson and Bec Young are representatives of Murrooma who both hold specific cultural knowledge and education relevant to determining the significance of Aboriginal objects and places in the Williamtown/Worimi region. We are both Traditional Custodians of the Worimi area and are in a position to speak for country.

We have extensive knowledge of this area and have been working closely with Williamtown Sand Syndicate for many years in development of CHMP's for this land and best protection methods for our local sites- including being a part of completing cultural heritage auditing within this area over many years, Community Collections and assisting in the creation of Keeping Places. We have also completed other works close to the proposed project area giving us holistic landscape knowledge and hold relevant cultural information which can be discussed onsite.

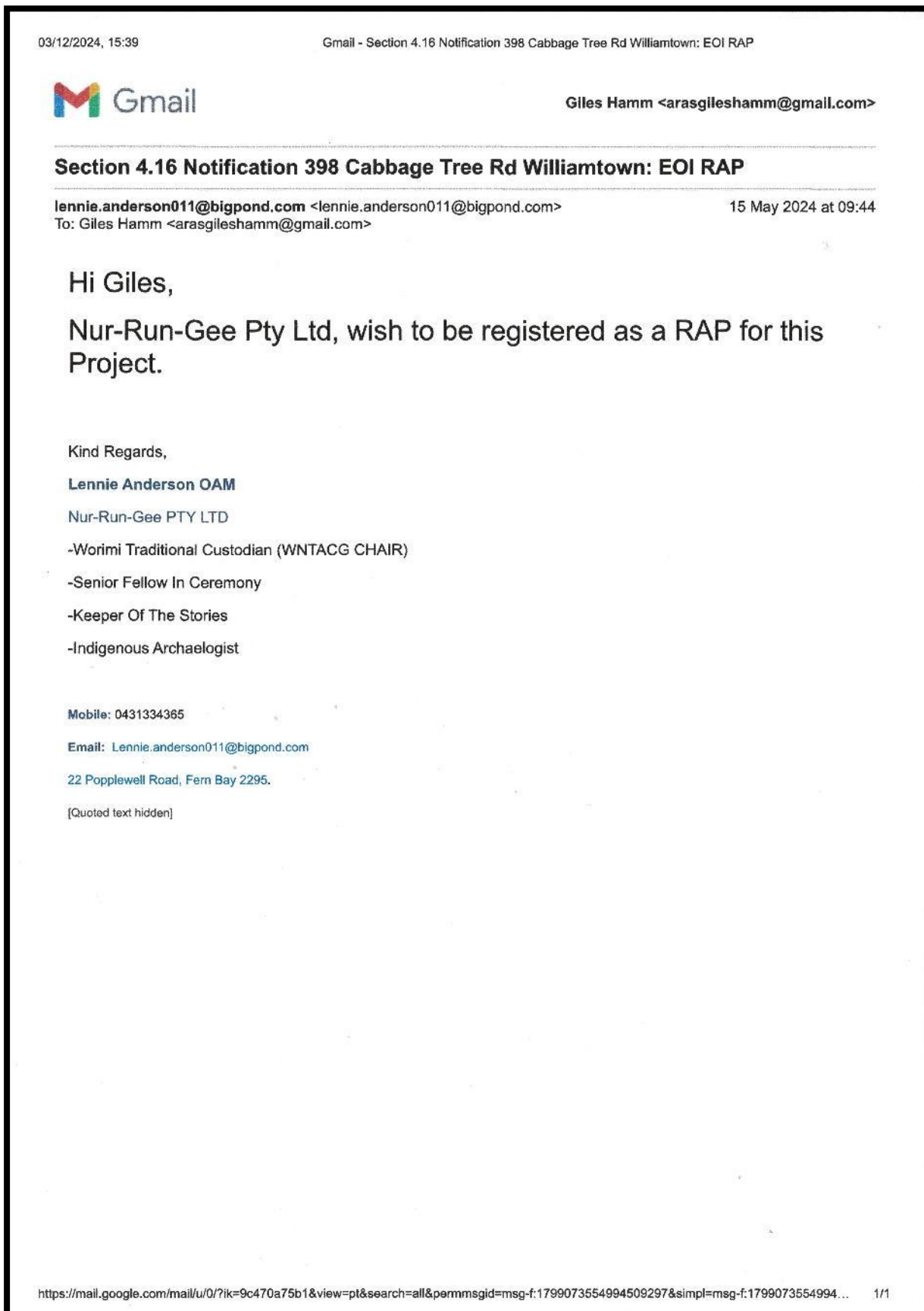
Williamtown is an extremely important area for the Worimi, meeting places, ceremony, travel transects and strong connection to our storylines, sand dunes and resources.

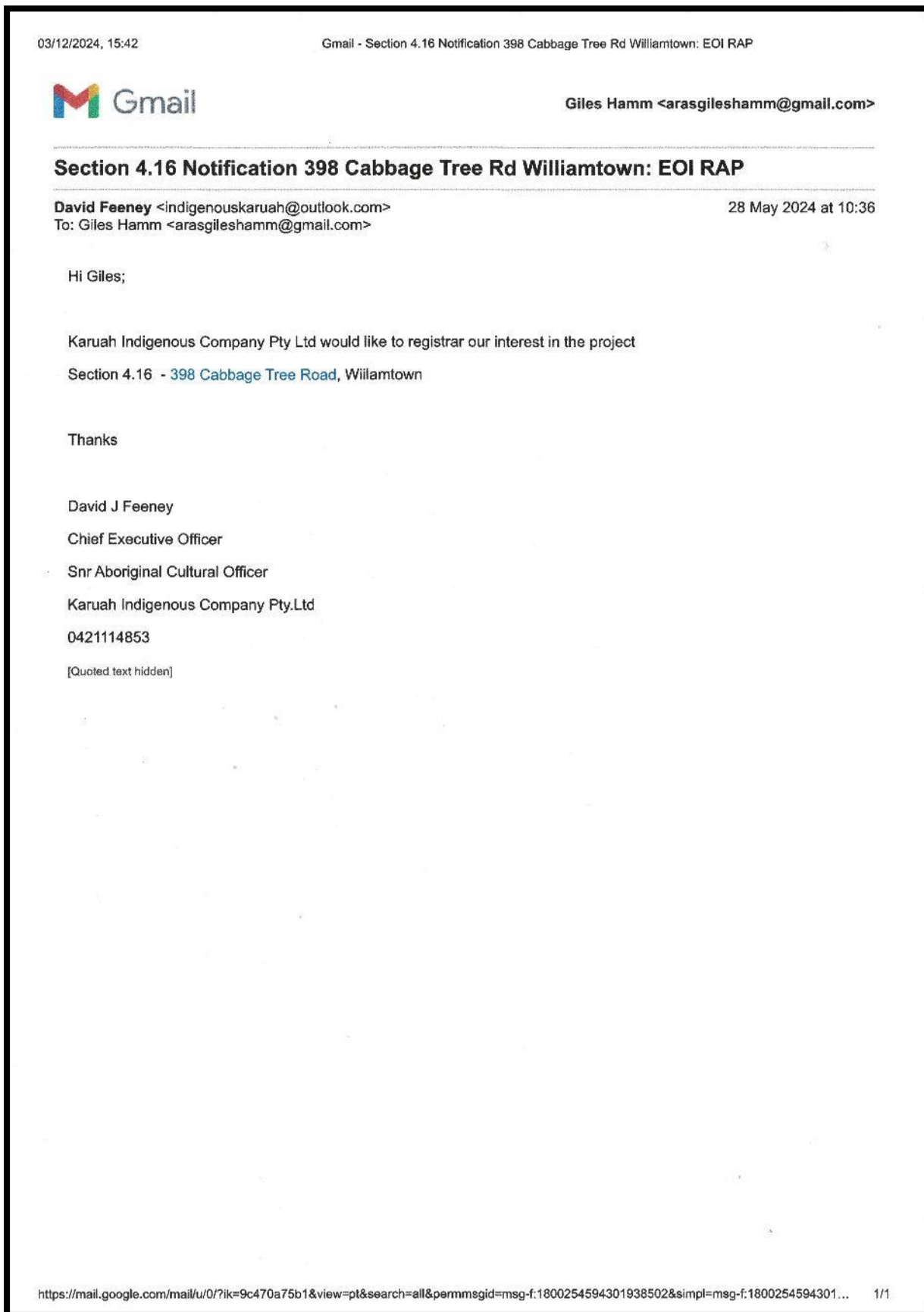
We believe that in order to gain the specific information that will be required for this area, it must be sorted through *Local Knowledge Holders* and this is what we can offer in the consultation process.

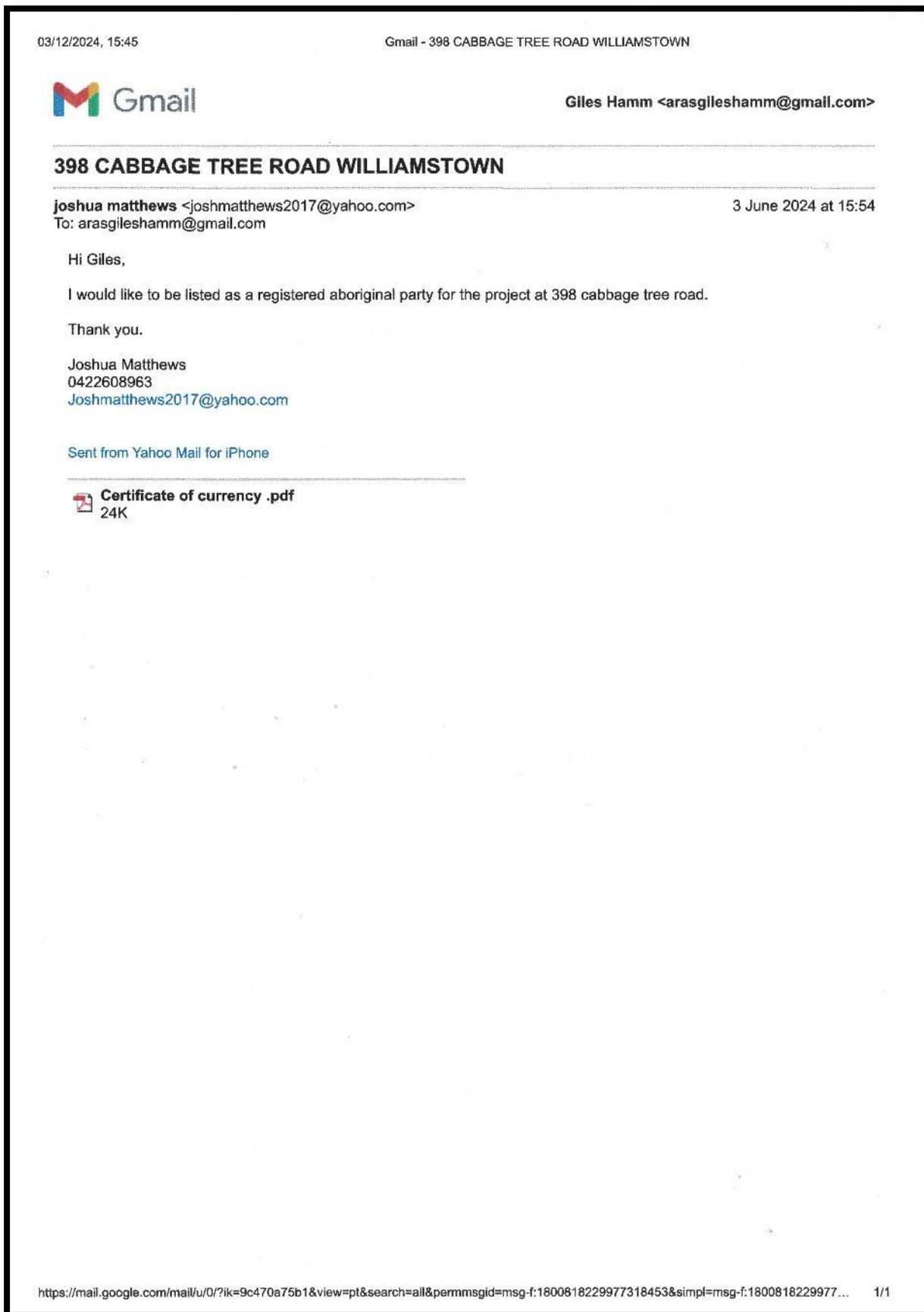
Thank You

Bec Young- Operations Manager

Anthony Anderson - CEO







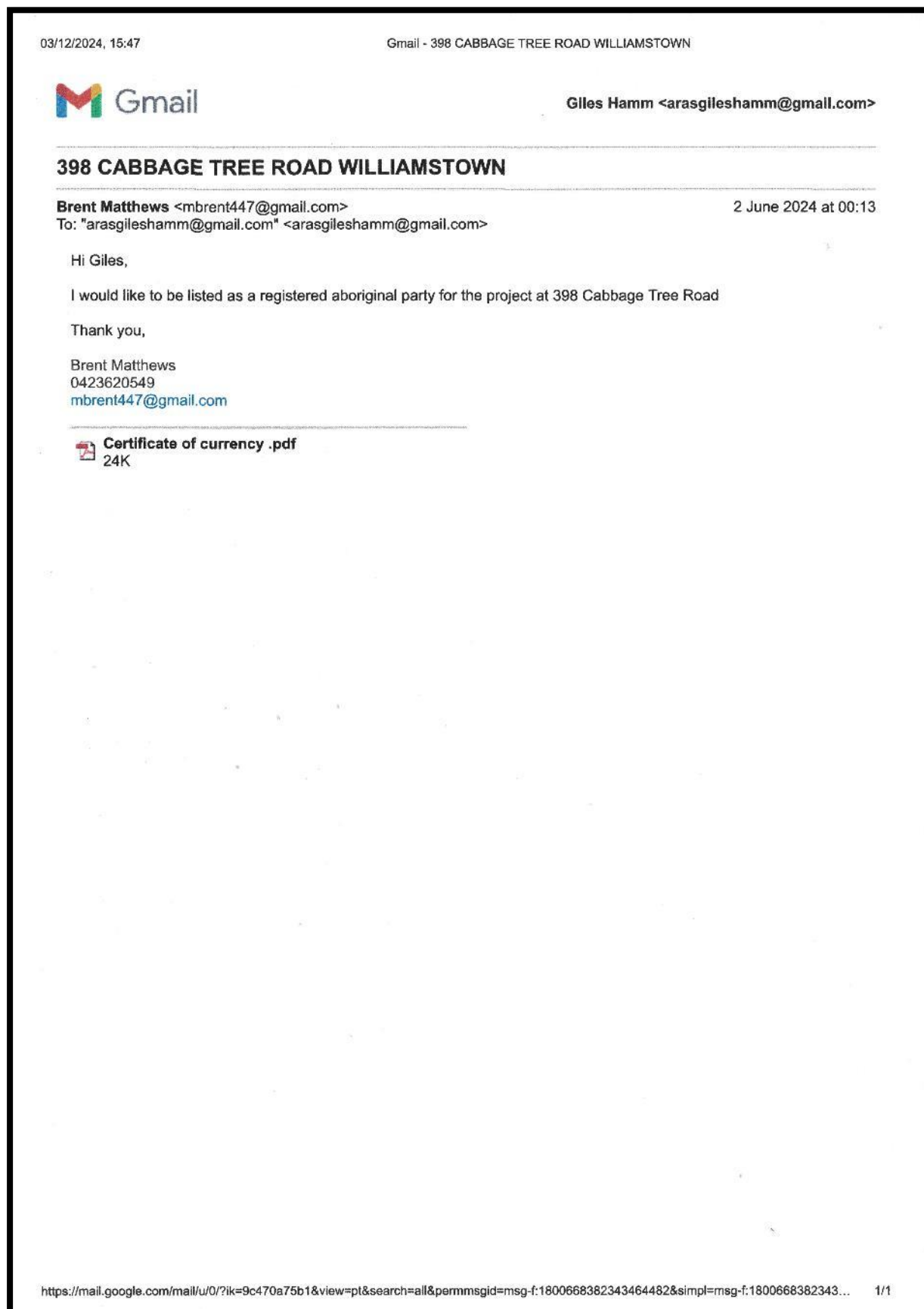


Table 1: Part 4.1. OEH Consultation Guidelines: Registered Aboriginal Parties for Newcastle Sand Mod 4 389 Cabbage Tree Road Williamtown (as of 11.06.2024).

RAP Organisation	Contact Person	Email, Postal Address and Contact Number.	Date Registered and Method
Dr Liz McEntyre	Dr Liz McEntyre	Emcentyre50@gmail.com	20 th May 2024-Email
Robert Syron	Bob Syron	Bobsam1@bigpond.net.au	14 th of May 2024-Email
Candy-Lee Towers	Candy-Lee Towers	worimitoc@hotmail.com	14 th of May 2024-Email
Widescope Indigenous Services	Steven Hickey	73 Russell Street EMU PLAINS NSW 2750 widescope.group@live.com	14 th of May 2024 –Email
Didge Ngunawal Clan(DNC)	Lillie Carroll; Paul Boyd	didgengunawalclan@yahoo.com.au	14 th of May 2024-Email
Mur-Roo-Ma Inc.	Anthony Anderson	murroomainc1@gmail.com	21 st May 2024-Email and Letter
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM	lennie.anderson011@bigpond.com	15 th of May 2024-Email
Karuah Indigenous Company Pty Ltd	David Feeney	indigenousskaruah@outlook.com	28 th of May 2024-Email
Joshua Matthews	Joshua Matthews	Joshmatthews2017@yahoo.com	3 rd of June 2024-Email
Brent Matthews	Brent Matthews	mbrent447@gmail.com	2 nd of June 2024-Email.
Woka Aboriginal Corporation	Steven Johnson	wokacorp@yahoo.com	14 th of May 2024: Email.

STAGE 4.2 & 4.3 PROJECT SCOPING MEETING, CODE OF PRACTICE – NOTIFICATIONS AND RESPONSES



3.07.2024

Our Ref: GH-PSM-N8

Dr Liz McEntyre c/o Emcentyre50@gmail.com

Dear Dr McEntyre,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed sand quarry development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Giles Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



Newcastle Sand: 398 Cabbage Tree Road Williamstown-Project Scoping Meeting

Attendance Log, 31st July 2024 Fern Bay Community Hall.

Name Print	Organisation	Date	Sign In	Contact Phone	Email
GILES HAMM	ARAS PTY LTD	31.07.24		0438 757666	aras.giles.hamm@gmail.com
Darren William	NEWCASTLE SAND	31.7.24		0429877104	
Elliott Ivan	Newcastle Sand	31.7.24		0444183551	elliott@newcastlesand.com.au
JONATHAN BERRY	WEDGE TAIL	31.7.24		0421440139	jberry@wedgetail.com.au
LENNIE ANDERSON	NON-RUN-GEE	31-Jul-24		0431-334-35	lennie.anderson@nonrungee.com.au
ANDREW ANDERSON	MURDOCK	31-Jul-24		0402-771-07	MURDOCK INC



3.07.2024

Our Ref: GH-PSM-N3

Widescope Indigenous Group
Steven Hickey
73 Russell Street
EMU PLAINS
NSW 2750

Dear Steven,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Sand quarry extension development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'G. Hamm', with a long horizontal stroke extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



3.07.2024

Our Ref: GH-PSM-N6

Mur-Roo-Ma Inc.
Anthony Anderson
7 Vardon Road
FERN BAY NSW 2295

Dear Anthony,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Sand quarry extension development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Giles Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



3.07.2024

Our Ref: GH-PSM-N2

Nur-Run-Gee Pty Ltd
Leonard Anderson OAM
22 Popplewell Road
FERN BAY NSW 2295

Dear Lennie,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Sand quarry extension development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'G. Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 88 225 280 255 | PO Box 67, Katoomba NSW 2780



3.07.2024

Robert Syron
6a Cockshell Drive
GAWLER EAST SA 5118

Our Ref: GH-N7

Dear Robert,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Aerospace development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

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Yours sincerely,

A handwritten signature in black ink, appearing to read 'Giles Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgilehamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



3.07.2024

Our Ref: GH-PSM-N10

Brent Matthews c/o mbrent447@gmail.com

Dear Brent,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Sand quarry extension development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Giles Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



3.07.2024

Our Ref: GH-PSM-N9

Joshua Matthews c/o Joshmatthews2017@yahoo.com

Dear Joshua,

RE: Project Scoping meeting for Registered Aboriginal Parties for land described as 398 Cabbage Tree Road Williamtown 2318 (Lot 9, DP 239608 -Western Extension – Modification 4).

As a Registered Aboriginal Party, Archaeological Risk Assessment Services Pty Ltd (Dr. Giles Hamm) and Newcastle Sand Pty Limited (Mr Jonathan Berry representing Newcastle Sand) would like to invite your organisation to attend a project scoping meeting for the assessment and preparation of an Aboriginal Cultural Heritage Assessment Report for this project. Based on past archaeological survey results in the local area we are initially seeking to undertake an archaeological and cultural survey of the proposed project area under (DPIE) OEH's **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW**. This work will determine the extent and sub surface potential of Aboriginal objects that may be impacted by the proposed project development. The purpose of the meeting is to explain the proposed Aerospace development and present a draft research design for the proposed *Code of Practice* survey work. We are also seeking advice from your organisation about whether you may have any specific cultural knowledge about the land in question (i.e. Lot 9 DP 239608: 398 Cabbage Tree Road Williamtown).

The meeting is scheduled for 2.00pm-3.30pm Wednesday 31st of July at The Fern Bay Community Hall, 8 Vardon Road Fern Bay. If you wish to attend the meeting, could you please write or email me at the address given below. Should you wish to discuss this matter further, please feel free to contact me by telephone on my mobile 0438 757 606.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Giles Hamm', with a long horizontal flourish extending to the right.

Dr. Giles Hamm
Director

ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD
| M 0438 757 606 | ✉ arasgileshamm@gmail.com
ABN: 71 106 520 290 | PO Box 67, Katoomba NSW 2780



Newcastle Sand 398 Cabbage Tree Road Williamtown-Western Extension Mod 4 Archaeological Survey

Sign In and Sign Out Sheet: 20th of September 2024

Name Print	Organisation	Date	Sign In Time	Sign Out Time	Contact Phone /Email
DAVID KIRK	WORMI LALC	19/9/24	8.00 AM	4.00 PM	
Luke Knight	MURROOMA	19/9/24	8.00 AM	4.00 PM	
Luke Perry	K.I.C	19/9/24	8.00 AM	4.00 PM	
Thomas	Smith	19/9/24	8:00 am	4:00 PM	0450 421 695
GILES HAMM	ARAS	19.9.24	8.00 am	4.00 pm	0438 757 600
JONATHAN BERRY	WEDGETAIL	19.9.24	8:00 am	4.00 pm	0421 440139

05/12/2024, 08:28

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>
To: Worimi Yorta Yorta <worimitoc@hotmail.com>

24 October 2024 at 06:25

Dear Candy-Lee,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r5001541057101272718&simpl=msg-a:r50015410571...> 1/1

05/12/2024, 08:27

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>
To: bobsam1@bigpond.net.au

24 October 2024 at 06:24

Dear Bob,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r-3696481524941257605&simpl=msg-a:r-3696481524...> 1/1

05/12/2024, 08:26

Gmail - RAP Meeting Newcastle Sand Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

RAP Meeting Newcastle Sand Survey Results and ACHAR Recommendations

2 messages

Giles Hamm <arasgileshamm@gmail.com>

19 October 2024 at 08:15

To: Anthony Anderson <murroomainc1@gmail.com>

Dear Anthony/Bec,

Jonathan and I are proposing to hold a RAP meeting at Fern Bay Community Hall at 2.00pm on the 6th of November. Just wondering about your availability?

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

Anthony Anderson <murroomainc1@gmail.com>

19 October 2024 at 10:05

To: Giles Hamm <arasgileshamm@gmail.com>

Hi Giles
Yes we will be available
Thanks

[Quoted text hidden]

—
Bec Young
Murrooma Operations Manager
0421078695

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-a:r8615714593264744896&simpl=msg-a:r57300730353...> 1/1

05/12/2024, 08:25

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>

24 October 2024 at 06:26

To: "WIDESCOPE ." <widescope.group@live.com>

Dear Steven,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r1467071236207941395&simpl=msg-a:r14670712362...> 1/1

05/12/2024, 08:25

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>

24 October 2024 at 06:21

To: Brent Matthews <mbrent447@gmail.com>

Dear Brent,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

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<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r7302740560900260514&simpl=msg-a:r73027405609...> 1/1

05/12/2024, 08:24

Gmail - RAP Meeting Newcastle Sand : Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

RAP Meeting Newcastle Sand : Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>

24 October 2024 at 06:19

To: joshua matthews <joshmatthews2017@yahoo.com>

Dear Joshua,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles

Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r3659450747634904308&simpl=msg-a:r36594507476...> 1/1

05/12/2024, 08:23

Gmail - RAP Meeting Newcastle Sand Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

RAP Meeting Newcastle Sand Survey Results and ACHAR Recommendations
2 messages

Giles Hamm <arasgileshamm@gmail.com>
To: David Feeney <indigenousskaruah@outlook.com>

19 October 2024 at 08:12

Dear David,

I hope you are well? Jonathan and myself are proposing to have a meeting on the 6th of November at 2.00pm Fern Bay community Hall. Just wondering about your availability?

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

David Feeney <indigenousskaruah@outlook.com>
To: Giles Hamm <arasgileshamm@gmail.com>

21 October 2024 at 19:23

Hi Giles;

I'll try and make the meeting or have someone come to the meeting.

Thanks

David J Feeney
Chief Executive Officer
Snr Aboriginal Cultural Officer
Karuah Indigenous Company Pty.Ltd
0421114853

[Quoted text hidden]

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-a:r7729033384196506771&simpl=msg-a:r83660502874...> 1/1

05/12/2024, 08:22

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

2 messages

Giles Hamm <arasgileshamm@gmail.com>
To: Elizabeth McEntyre <emcentyre50@gmail.com>

24 October 2024 at 06:23

Dear Liz,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

Elizabeth McEntyre <emcentyre50@gmail.com>
To: Giles Hamm <arasgileshamm@gmail.com>

26 October 2024 at 20:00

Thank you for letting me know Giles.

I will be working out of the area at that time.

Liz
[Quoted text hidden]

05/12/2024, 08:21

Gmail - RAP Meeting 6th of November Fern Bay Community Hall Newcastle Sand Survey Results and ACHAR Recommenda...



Giles Hamm <arasgileshamm@gmail.com>

RAP Meeting 6th of November Fern Bay Community Hall Newcastle Sand Survey Results and ACHAR Recommendations

lennie.anderson011@bigpond.com <lennie.anderson011@bigpond.com>

23 October 2024 at 09:32

To: Giles Hamm <arasgileshamm@gmail.com>

Cc: Anthony Anderson <murroomainc1@gmail.com>, Jamie Merrick <jamie.merrick@worimi.org.au>, Andrew Smith <andrew@worimi.org.au>

Hi Giles,

I view this proposal as an entity of constructed waste because,

1. As we tabled at our last meeting a scenario of possible 'Cultural Offset' principles, which has not been recorded or considered.
2. Senior Management of the Proponent seem to have the idea to treat the RAP's with 'tokenism' and a degree of 'we've done what we have to' we've taken out the 'Blackfellas' to the site to collect their Artefacts.
3. They deem that because the development is somehow governed by the Local and State Government Acts, that they will have the last say?
4. We have recently invoked Sect 9 and a Sect 10 of the ATSI Act (Federal/ Commonwealth), over lands and Sea adjacent to this Project, and we are contemplating extending that area of coverage to include this proposal.
5. We are Native Title Holders of this immediate area; we also wish that any discussions/meetings etc be conducted 'Face to Face' with ALL concerned. People utilize 'plastic communication' principles (phones, team meetings) to disguise their intentions (who is in the background advising) that can't be seen.
6. That People who attends have the Scientific, Cultural , and Business authority to speak, on the subject matter.

Therefore, we feel until these areas of concern are addressed, we will not support any reports, applications, or approvals.

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05/12/2024, 08:53

Gmail - Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting: Survey Results and ACHAR Recommendations

2 messages

Giles Hamm <arasgileshamm@gmail.com>

24 October 2024 at 06:29

To: lilly carroll <didgengunawalclan@yahoo.com.au>

Dear Lily/Paul,

Jonathan Berry and myself are proposing to have a RAP meeting to present the results of the Newcastle Sand Modification 4 Western Extension survey and ACHAR Recommendations. The meeting will be held on the 6th of November at 2.00pm at the Fern Bay Community Hall at Williamtown. Please let me know if you can attend? If not, I will send you a copy of the PowerPoint Presentation.

Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

lilly carroll <didgengunawalclan@yahoo.com.au>

24 October 2024 at 12:48

To: Giles Hamm <arasgileshamm@gmail.com>

Hi Giles, we won't be there thanks anyway

Sent from Yahoo Mail for iPhone

[Quoted text hidden]

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05/12/2024, 08:57

Gmail - RAP Meeting Newcastle Sand : Survey Results and ACHAR Recommendations



Giles Hamm <arasgileshamm@gmail.com>

RAP Meeting Newcastle Sand : Survey Results and ACHAR Recommendations

Giles Hamm <arasgileshamm@gmail.com>

19 October 2024 at 08:17

To: Jamie Merrick <jamie.merrick@worimi.org.au>

Dear Jamie,

Jonathan and I are proposing to have a RAP Meeting at 2.00pm on the 6th of November at Fern Bay Community Hall. Just checking on your availability?

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permmsgid=msg-a:r332918304813956421&simpl=msg-a:r332918304813...> 1/1

05/12/2024, 08:55

Gmail - Newcastle Sand RAP Meeting 6th of November PP



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting 6th of November PP

3 messages

Giles Hamm <arasgileshamm@gmail.com>
To: David Feeney <indigenousskaruah@outlook.com>

8 November 2024 at 13:41

Dear David,

Please see attached.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

 **ARAS PowerPoint Presentation Newcastle Sand-ACHAR Meeting-31st-10-2024.pptx**
13586K

David Feeney <indigenousskaruah@outlook.com>
To: Giles Hamm <arasgileshamm@gmail.com>

27 November 2024 at 11:19

Hi Giles;

Thanks for the presentation, regardless of the isolated findings. We still need to have Aboriginal Cultural Officers there if the project is going down more than a meter we still don't know what is under the ground. Yes there has been movement on top of the ground. this is just my opinion.

Thanks

Dave Feeney
Karuah Indigenous Company
0421114853

From: Giles Hamm <arasgileshamm@gmail.com>
Sent: Friday, November 8, 2024 12:41 PM
To: David Feeney <indigenousskaruah@outlook.com>
Subject: Newcastle Sand RAP Meeting 6th of November PP

[Quoted text hidden]

Giles Hamm <arasgileshamm@gmail.com>
To: David Feeney <indigenousskaruah@outlook.com>

27 November 2024 at 12:57

Dear David,

No worries. I will include this when I finalise the ACHAR. I will be sending you a draft soon.

Regards

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-a:r-3189711327278198676&simpl=msg-a:r42818642405...> 1/2

05/12/2024, 08:59

Gmail - Newcastle Sand RAP Meeting 6th of November 2024 PP



Giles Hamm <arasgileshamm@gmail.com>

Newcastle Sand RAP Meeting 6th of November 2024 PP

2 messages

Giles Hamm <arasgileshamm@gmail.com>
To: Elizabeth McEntyre <emcentyre50@gmail.com>

8 November 2024 at 13:40

Dear Liz,

Please see attached.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

 **ARAS PowerPoint Presentation Newcastle Sand-ACHAR Meeting-31st-10-2024.pptx**
13586K

Elizabeth McEntyre <emcentyre50@gmail.com>
To: Giles Hamm <arasgileshamm@gmail.com>

9 November 2024 at 18:25

Thank you Giles, an interesting read.

Liz
[Quoted text hidden]

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-a:r-7954712694239467041&simpl=msg-a:r-7900180722...> 1/1



Newcastle Sand: Mod 4 Western Extension Project 398 Cabbage Tree Road Williamtown-Project Results RAP Meeting

Attendance Log, 6th of November 2024 Fern Bay Community Hall.

Name Print	Organisation	Date	Sign In	Contact Phone	Email
ANTHONY ANDERSON	MURDOON INC	6 Nov 24		0410 282 740	MURDOON INC.
LENNIE ANDERSON	NWA-ALUN-COE Pty Ltd	6 Nov 24		0431 324 565	
GILES HAMM	ARAS Pty Ltd	6/11/24		0438 757 606	aras.giles.hamm@gmail.com
JONATHAN BERRY	WEDGETAIL PROJECT CONSULTING	6/11/24		0421 440 139	jberry@wedgetail.com.au

15/01/2025, 16:12

Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...



Giles Hamm <arasgileshamm@gmail.com>

FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth heritage listings.

5 messages

bobsam1@bigpond.net.au <bobsam1@bigpond.net.au>

13 January 2025 at 13:21

To: Giles Hamm <arasgileshamm@gmail.com>, Elizabeth McEntyre <emcentyre50@gmail.com>

Dear Dr. Giles Hamm ARCHAEOLOGICAL RISK ASSESSMENT SERVICES PTY LTD

Ref Modification 4 Cabbage Tree Road Sand Quarry 398 Cabbage Tree Road Williamtown
SSD 6125 Project DRAFT

At 5.2 Aboriginal ethno-historic context onwards

The report is not correct the (Guringay- also spelt many different ways) are on the front cover of the language book "A Grammar and Dictionary of Gathang" also spelt Kattang LOL endorsed by many elders including Worimi at Page IX- in Acknowledgements

Please read and include in the report Modification 4 Cabbage Tree Road Sand Quarry 398 Cabbage Tree Road Williamtown SSD 6125 Project DRAFT "Guringaygupa djuyal, barray Language and Country of the Guringay people Amanda Lissarrague and Robert Syron November 2024"

Gordon Bennet was not a first settler of the Dungog area and he even states its gringai people Dungog and beond the report will provide evidence

I would like to provide some Aboriginal cultural evidence and history and I have more letters of support from Government and 7 aboriginal land councils!

My name is Robert Syron, a Registered Aboriginal Owner through the legal process of the *Aboriginal Land Rights Act 1983 (NSW)*, and an Australian war veteran who served in Rwanda from 1994–95. I was honoured with the ANZAC Peace Prize in 1995 and a Meritorious Unit Citation.

I am writing to address ongoing misrepresentation regarding the GuriNgai people and provide accurate historical and cultural clarification, particularly in relation to recent references to GuriNgai in public discourse.

The Guringai, guringay, gringai have been long recorded since 1820s north of the Hunter River the NSW East Coast

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&simpl=msg-f:1821098629756...> 1/9

15/01/2025, 16:12

Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

The Guringai, gringai, gringai ARE NOT a "Sub clan", "Sub tribe", "Hord", "Nurra" of the Worimi, Awabakal, Darkinjung or Wonnarua people and are tribal group in their own right.

Key Clarifications and Concerns

1. Misrepresentation of GuriNgai

The term "GuriNgai" and its variations, including "Kuringai," are not associated with the East Coast from Sydney to Newcastle. True Guringai people originate north of the Hunter River and are not connected to lands traditionally associated with the Central Coast or Sydney regions. This historical misrepresentation has caused cultural harm to the genuine Traditional Custodians.

Many institutions, including the Office of the Registrar under the Aboriginal Land Rights Act, the National Portrait Gallery ACT, Destination NSW, Lendlease Australia, and multiple Aboriginal Land Councils, have removed references to GuriNgai as related to the East Coast following extensive research and consultation.

2. Cultural and Historical Evidence

My family, as direct descendants of Aboriginal figures such as Malookut Lightning (Jack Cook) and Jessie Cook, have strong cultural ties to the Barrington and Gloucester regions. We are part of the true Guringai people, also known as the Kabook and Watoo people. Our traditional lands extend north of the Hunter River, not south into the Central Coast or Sydney.

For context, my grandmother was born in 1911 on the Barrington River, her mother on the same river, and her father, Malookut Lightning, was also born and buried there. These ancestral connections are deeply tied to lands spanning the Williams, Dungog, Patterson, and Gloucester rivers.

3. Statements below from Recognized Aboriginal Custodians

- **Kevin Duncan (Awaba People):** As a descendant of Uncle Biraban and Kuttirun William Bird, Kevin Duncan confirms the boundaries of Awaba lands extend from the Hunter River to the Hawkesbury River, with no overlap or connection to GuriNgai (Awaba Country Statement).
- **Jayson Cooke (Garigal/Carigal People):** Jayson Cooke, a proud Marramarra man and descendant of Bungaree and Matora, has consistently opposed the use of GuriNgai inappropriately. He highlights how historical misapplications of the term have caused cultural harm (Correspondence, 2024).
- **Scott Franks (Wonnarua People):** Independent anthropological research by Dr. Lee Sackett and Dr. Draper affirms that Gringai and Guringai are distinct from the Wonnarua people and not sub-clans (Correspondence, 2024).

4. Published Evidence

- *Hunter Living Histories:* The Kabook and Watoo people are documented as true Guringai, with lands located in Barrington/Gloucester regions, north of the Hunter River ([Hunter Living Histories](#)).
- *Daily Telegraph (2015):* An article titled "**Misunderstanding: The Historical Fiction of the Word Guringai**" exposes inaccuracies in associating GuriNgai with the Central Coast ([Daily Telegraph](#)).
- *Aboriginal Heritage Office (2015):* The exhaustive report "**Filling a Void**" concludes the term "GuriNgai" is historically misapplied and should not be used to identify Traditional Custodians of the East Coast ([Aboriginal Heritage Office](#)).

5. Impact of False Narratives

Continued promotion of inaccurate historical claims about GuriNgai on the East Coast is culturally offensive and undermines genuine Aboriginal voices. Misrepresentations also erode the integrity of Aboriginal heritage and risk furthering modern colonization through pseudo-cultural assertions.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&simpl=msg-f:1821098629756...>

2/9

15/01/2025, 16:12

Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

Requests for Action

1. Provide Accurate Information to Staff

I respectfully request your office shares the attached documentation and references with relevant stakeholders, to ensure proper consultation and acknowledgement

2. Public Acknowledgment of Misrepresentation

A public acknowledgment clarifying the misuse of the term "GuriNgai" would help address the cultural harm caused and reaffirm the commitment to truth-telling.

3. Support for Genuine Custodians

I urge your office to ensure that Aboriginal consultation processes prioritize recognized custodians, supported by robust historical and anthropological evidence.

Conclusion

As a registered Aboriginal Owner and direct descendant of the true Guringai people, I stand ready to provide additional evidence or clarification to address these issues. Misrepresentation of Aboriginal heritage must be addressed to Honor the history and culture of genuine custodians North of the Hunter River NSW

Statements from Aboriginal people Kevin Duncan, Jayson Cooke and Scott Franks

From: kevin.duncan@bigpond.com <kevin.duncan@bigpond.com>

Sent: Monday, 21 October 2024 12:41 PM

To: BS <bobsam1@bigpond.net.au>

Subject: Re Awaba Country Statement

To Whom it May Concern,

I Kevin Duncan a direct descendant of Uncle Biraban -Wypong and Grandfather Kuttirun William Bird of the Awaba Peoples on the Central Coast of NSW.

The boundary of the Awaba Country goes from the Hunter River to the Hawkesbury River and 60 miles inland the boundary was explained by the Reverend Lancelot Threlkeld who addressed the Colonial Secretary at Parramatta in 1836 he was accompanied by Biraban. He explained his main source of information came from Biraban himself. There were no other Aboriginal groups or tribes that existed inside Awaba traditional lands. My Grandfather Kuttirun and his brother Biraban were employed by the Supreme Court of England and interpreted for their people in the courts.

Kevin Duncan Awaba Peoples.

On Thu, 3 Oct 2024 at 11:47, Jayson Cooke <jayson.d.cooke@gmail.com> wrote:

Bungaree and his mob - the Garigal/Carigal.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&simpl=msg-f:1821098629756...>

3/9

15/01/2025, 16:12

Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

My name is Jayson (JD) Cooke, proud Marramarra man of the Garigal/Carigal, and confirmed descendant of Bungaree and Matora. I write/speak on behalf of the genuine Aboriginal descendants of our Ancestor.

I am writing to advise that the terms Guringai, Kuringai, GuriNgai and variations on this theme are not in any way connected to our genuine mob, Culturally, historically, or in modern times. We are fortunate that language managed to be passed down to us through family, and that language is what is today referred to as the Sydney Language, spoken from Nora Head to Kamay (Botany Bay).

Although non-Aboriginal sources have sought to apply names to us, our mob, and our language post-invasion, these terms are inauthentic, Culturally harmful, and in many cases represent and compound ignorance and errors.

In the early 1800's we were forced to remain at and around the Marramarra area in order to practise our Culture and survive the encroaching settlement of our Country. There we could source food and medicine traditionally with minimal colonial interference, and we identified ourselves as Marramarra.

We are not biologically or Culturally related to the founders of the group that created Guringai Tribal Link Aboriginal Corporation, including Mr Warren Whitfield and Ms Tracey Howie, and have publicly declared that they are not who or what they claim to be for some time. We strongly oppose attempts to invent faux-Aboriginal pseudo-Culture, and find the notion of falsely claiming someone else's Ancestors, Country, and stories as nothing short of genocide - another Colonisation by yet another group of non-Aboriginal People.

I am not a linguist or an Anthropologist, but I am a proud Aboriginal man who knows his Culture, history and Ancestors, and who sees through the non-Aboriginal people's attempts to mimic us as easily as most people see through a clear glass window pane.

The name Guringai belongs to the Kabook and Watoo People of the Barrington region, north of the Hunter River - a completely different mob to us and our Ancestors, and this is/was known pre and post 1788 by us.

This name (the property of the Kabook and Watoo People) was first misappropriated and misapplied by John Frederick Mann in the 1800's, then by Rev. John Fraser. In 1970 linguist Arthur Capell considered that 'a language which it is convenient to call Kuringgai (Guringgai) was spoken on the north side of Port Jackson, and extended at least to Tuggerah Lakes, merging then into Awaba [i.e. the language recorded by Missionary Threlkeld at Lake Macquarie]'. Capell claimed that a different language, which he called Darginyung, was spoken in the Upper McDonald Valley, Wollombi and the western part of the Central Coast. As noted by Dr Lawrence Paul Allen in his PHD thesis titled 'A History of the Aboriginal People of the Central Coast of New South Wales to 1874', "it is important to note that Capell was simply seeking to find an appropriate name for a language and was not asserting that this was the name by which Aboriginal people identified themselves".

In 2013 Geoffrey Ford added that the language was almost certainly called Darkiñung, while in 2015 the Aboriginal Heritage Office (AHO) published an exhaustive study of the name

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15/01/2025, 16:12 Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

'Guringai', which concluded that 'the use of the term Guringai or any of its various spellings such as Kuringgai is not warranted [anywhere] given its origin and previous use'.

The work of Dr Lawrence Paul Allen, and the work of Anthropologist Dr Natalie Kwok both support, and provide insight into some of the past errors made by non-Aboriginal people incorrectly claiming to be descendants of my Ancestors Bungaree and Matora, and compliment the knowledge and understanding of our mob.

The responsibility of academics to listen and learn from us has to include a degree of critical thought in determining if sources are genuine and reliable - failing to do this results in falsehoods and self-serving narratives being amplified, while genuine knowledge is lost or replaced by modern inventions, as has occurred on the Northern Beaches of Sydney, and the Central Coast regions of New South Wales. We have already experienced invasion, germ warfare, genocide and wars as a result of the invasion and ongoing occupation that began in 1788. We have survived all this, retained our knowledge and Culture, and are not content to suffer further genocidal practices by non-Aboriginal 'experts' who whether well-meaning or not, add to the suffering we experience by haphazardly applying their ideas and notions to us, and presenting prima facie nonsense as if it were truthful.

Yours in unity,

JD Cooke.

From: Scott Franks <scott@yarrawalk.com.au>
Sent: Tuesday, 1 October 2024 3:46 PM
To: Bob Sam <bobsam1@bigpond.net.au>
Subject: Native title research

Dear Robert,

I would like to bring to your attention statements that have been made by individuals within the Hunter Valley that some people have been promoting a position that the Gringai, Guringay are sub clan of our people the Wonnarua, this is a made-up and is a delusional position, over the last several years the PCWP have had independent anthropological research conducted by Dr. Lee Sackett in reference to one of our whole country. Native Title claims.

Mr. Sackett in his research, which was also supported by Dr. Draper confirmed that Gringai, Guringay have no affiliation or association with the Wonnarua people and are tribal groups in their own right. It's very clear that some individuals are promoting this position because those people simply have no cultural affiliation, understanding or association without peoples in the Hunter Valley, I authorise you to use this information in this email however, you see fit and share it with whichever parties you deem fit to ensure that this false position from being spread.

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&siml=msg-f:1821098629756...> 5/9

15/01/2025, 16:12 Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

Regards

Scott Franks

Native title claimant for the PCWP Wonnarua native title party.

Yarrowalk PTY Limited

Scott@yarrowalk.com.au

Ph: 0404171544

Breach of Confidentiality

This email and any files transmitted with it are confidential and intended solely for the use of the individual to whom they are addressed. If you have received this email in error please notify the sender. This message contains confidential information and is intended only for the individual named. If you are not the named addressee you should not disseminate, distribute or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake and delete this e-mail from your system. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited. *Although the company has taken reasonable precautions to ensure no viruses are present in this email, the company cannot accept responsibility for any loss or damage arising from the use of this email or attachments.*

Posted by a true descendant of king Bungaree Jayson Cooke including Our story's the true Guringai in the papers radio and more that the east coast of Australia is not guringai Tribe, people, language or nation and more to come soon on radio and tv.

I am available for further discussions at 0407 209 553. Thank you for your time and consideration in addressing this matter.

Kind regards,

Robert Syron

Registered Aboriginal Owner of Worimi Guringai Lands

Australian War Veteran (1994–95)

ANZAC Peace Prize Recipient (1995)

Meritorious Unit Citation

Attachments:

1. Media Statement: Guringaygupa djuyal, barray Language and Country of the Guringay people Amanda Lissarrague and Robert Syron November 2024
2. Anthropology report Link 2015 Federal Courts Australia "Tracy Howie and family"

[Anthropological Connection Report: Family history & contemporary connection evidence.](#)
[– Truth-telling from a neurodiverse perspective.](#)

3. Email Statements from Kevin Duncan, Jayson Cooke, and Scott Franks
4. Bob Syron 300824- Department of Housing and infrastructure
5. Bloodlines
6. John Jonas
7. Relevant Articles and Research Reports
 - [Hunter Living Histories: Kabook and Watoo People \(Hunter Living Histories\)](#)
 - [Daily Telegraph: The Historical Fiction of Guringai \(Daily Telegraph\)](#)
 - [Aboriginal Heritage Office: Filling a Void \(Aboriginal Heritage Office\)](#)

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15/01/2025, 16:12

Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

Kind regards

Robert Syron

Registered Aboriginal owner of Worimi Guringai Lands

Australian Rwandan War veteran 1994-95, ANZAC Peace Prize 1995, Meritorious Unit Citation

Guringai language <https://www.youtube.com/watch?v=l0geN8vuoCw>

kabook and Watoo people <https://hunterlivinghistories.com/2018/08/15/the-kabook-watoo/>

We acknowledge the Traditional Lands of the Worimi , Guringai or spelt Guringay and Biripi people of the kutthung language the Custodians, spiritual and cultural owners of these lands. We acknowledge our Elders past and present to all Aboriginal and Torres Strait Islander people. The Gringai continue to practice Culture and have a strong connection to our lands and secrete sites where our ancestors lay in the Barrington / Gloucester Manning Valley area

5 attachments

-  **Premier NSW Final Draft MLALC letter Re Guringai claimants 3rd June 2020_.pdf**
209K
-  **Guringaygupa djuyal, barray05-11-2024.pdf**
16936K
-  **Bloodlines 2.pdf**
1229K
-  **Letter - The East Coast is not Guringai Tribe Country, Bob Syron 300824.pdf**
193K
-  **John Jonas - Guringai.docx**
19K

Giles Hamm <arasgileshamm@gmail.com>
To: bobsam1@bigpond.net.au

14 January 2025 at 07:37

Dear Bob,

Tried to call you back yesterday. Sorry I missed your call. I have read your comments above and will include them in my revised report. Many thanks.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

[Quoted text hidden]

bobsam1@bigpond.net.au <bobsam1@bigpond.net.au>

14 January 2025 at 11:39

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15/01/2025, 16:12 Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

To: Giles Hamm <arasgileshamm@gmail.com>, Elizabeth McEntyre <emcentyre50@gmail.com>

Dear Giles

Thank you

Will the attachment our statement be included in your report ?

PDF File Gordon Bennett reprinted 1964 see page 2 attached Bennett

<https://livinghistories.newcastle.edu.au/nodes/view/57393>

link <https://aiatsis.gov.au/collections/item/M0033063>

By Gordon Bennett **was born in New Zealand and came to Dungog in 1888 long after James Boydelll 1820s**

"The earliest inhabitants : Aboriginal tribes of the district : the blacks of Dungog, Port Stephens and Gresford / by Gordon Bennett."

General note

Caption title.

See also 1964 facsimile reprint also held at Rp BEN.

Abstract

Aboriginal name for district; Awabakal tribe; Family organization, marriage; **settlement of disputes (Gringai people)** medicine men, superstitions; burial & funeral customs; description of initiation ceremonies; use of messengers; Early contact in district.

NO mention of Worimi at all

<https://aiatsis.gov.au/collections/item/XX118104>

Bennett, Gordon, 1885-1943

Authority record

Authority record type

Personal name headings

Associated place

New Zealand

Alternate name

Bennett, Gordon

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&simpl=msg-f:1821098629756...> 8/9

15/01/2025, 16:12 Gmail - FW: Have your Say Middle Head Oval development fails to examine the heritage impact against Commonwealth herit...

Source data found

The earliest inhabitants : Aboriginal tribes of the district, the blacks of Dungog, Port Stephens and Gresford, 1834

Dungog Chronicle : Durham and Gloucester Advertiser, 16 November 1943, viewed on Trove 09 January 2019:

Biographical or historical data

OBITUARY MR. GORDON BENNETT Death occurred on Sunday at his residence, 50 McPherson Street, Cremorne, of Mr. Gordon Bennett, managing editor of the 'Farmer and Settler' newspaper. Deceased, who was 58 years of age, **was born in New Zealand and came to Dungog in 1888** with his parents, the late Hon. and Mrs. Walter Bennett. His early life was spent in Dungog and at the age of 19 years, he, with his late brother, Lionel, established the 'Lachlander' newspaper at Condobolin. He returned to the Dungog Chronicle after disposing of the farmer newspaper, and in 1912 joined the staff of the "Farmer and Settler," with which he remained associated until his retirement through ill health some months ago

[Quoted text hidden]

2 attachments

 **Guringaygupa djuyal, barray05-11-2024.pdf**
16936K

 **bennett (1).pdf**
1499K

Giles Hamm <arasgileshamm@gmail.com>
To: bobsam1@bigpond.net.au

14 January 2025 at 11:49

Yes it will be. Obviously not everyone will agree with it but my job is to seek advice from individual RAPs and make sure their comments are in the ACHAR for DPIE to review.

Regards

Giles
Dr. Giles Hamm
Director
Archaeological Risk Assessment Services
M: 0438 757 606
email: arasgileshamm@gmail

I acknowledge the Traditional Owners of this continent and respect their cultural knowledge and spiritual connection to country.

[Quoted text hidden]

bobsam1@bigpond.net.au <bobsam1@bigpond.net.au>

14 January 2025 at 11:59

To: Giles Hamm <arasgileshamm@gmail.com>, Elizabeth McEntyre <emcentyre50@gmail.com>

Thank you again

I know Obviously not everyone will agree epically Lenard Anderson LOL the evidence is in the report, Worimi were never mentioned long after the first white James Boydell from 1820s and the Hook family 1830s 40s had a close relationship with my great -grandfather Mulookut -AKA Jack Cook and great-grandmother jessie Cook Nee Brummy all in our statement with old maps and letters from James Boydell 1820s regarding Guringay to John Fraser 1880s.

Kind regards Bob

[Quoted text hidden]

<https://mail.google.com/mail/u/0/?ik=9c470a75b1&view=pt&search=all&permthid=thread-f:1821098629756596633&simpl=msg-f:1821098629756...> 9/9

APPENDIX 5: GENERAL GLOSSARY OF TERMS

Term	Definition
Aboriginal Heritage Impact Permit (AHIP)	The statutory instruments that DECCW issues under s.87 and/or s.90 of the NPW Act: <i>s.87 Aboriginal Heritage Impact Permits</i> Required to disturb or move an Aboriginal object or disturb land for the purposes of discovering an Aboriginal object <i>s.90 Aboriginal Heritage Impact Permits</i> Required to destroy, damage or deface an Aboriginal object or Aboriginal place.
Aboriginal object	A statutory term, meaning: ‘... any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’ (s.5 NPW Act).
Aboriginal place	A statutory term, meaning any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.
Aboriginal site	A location or area of land that contains or is associated with Aboriginal object(s).
Analytical Recording	A process of site recording which obtains detailed archaeological data useful in archaeological analysis.
Analysis	Evaluation of archaeological data to determine the archaeological significance of sites recorded within an impact area.
Archaeological Deposit	A layer of soil material containing archaeological remains.
Archaeological Investigation	The process of assessing the archaeological potential of an impact area by a qualified archaeologist.
Archaeological Comparability	The evaluation of whether archaeological sites are uniformly different or similar across an impact area.

Term	Definition
Archaeological Data	Archaeological information that is recorded as a result of an archaeological investigation.
Artefact	Any object made by human agency (e.g. stone artefacts).
Artefact Scatter	A collection of artefacts usually lying as a lag deposit on an eroding surface.
Assemblage	1. A group of stone artefacts found in close association with one another. 2. Any group of items designated for analysis-without any assumptions of chronological or spatial relatedness (Witter 1995)
Avoidance	A management strategy which protects Aboriginal Sites within an impact area by development totally avoiding them.
Broken Flake	A flake which is either a distal fragment or proximal fragment.
Campsite	A site which contains a variety of artefactual data not specific to one type of stone tool reduction sequence.
Complete Flake	A flake which is whole and not broken.
Core	A lump or nodule of stone from which flakes have been removed.
Cultural Knowledge	For the purpose of these requirements, cultural knowledge is directly associated with Aboriginal lore. Aboriginal people connect to their land through their lore, and through lore, people acquire knowledge of all aspects of their environment along with responsibilities, obligations and behaviours that are required to sustain their survival. Cultural knowledge has been passed on through the generations in a complex system of stories, language, art, songs, dance, ceremonies and customs that have been practiced since the time of creation (Dreamtime).

Term	Definition
	The lore continues to govern all aspects of life for Aboriginal people on their traditional land/Country and waters. While cultural knowledge can be interpreted to mean something that is 'in the past' or 'fixed' and 'unchanging', in the context of these requirements it is considered as a living, dynamic force that is adaptive and innovative and as belonging to living communities.
Cultural Landscape	Aboriginal cultural landscapes are comprised of: 1. Significant biodiversity and a diverse range of ecological systems and associations, all of which contributed to the continuing existence of Aboriginal peoples in the region over many thousands of years, and which are valued in different ways by Aboriginal communities today. 2. Material remains of this continuing occupation in the form of a diverse array of Aboriginal sites and places known to the Aboriginal communities, some of which will be recorded on the Department of Environment, Climate Change and Water's Aboriginal Heritage Information Management System. 3. Extensive historical records from 1788 through to today which record observations of Aboriginal people and lifestyles, wars, massacres, social and cultural events, population census, social interactions, language etc, and which influence Aboriginal community values today. 4. An Aboriginal population made up of people who have traditional association and knowledge of the region, as well as others who live, work and play within the region, all of whom may attribute various values with the area, derived from the distant and recent past, through to the present day.
Debitage	Unmodified flakes or fragments of stone material removed as a result of stone tool manufacture or modification.
Flake	A piece of stone detached from a core displaying a bulb of percussion and striking platform

Term	Definition
Flaked Piece	A fragment of stone where negative flake scarring is visible but no obvious striking platforms are present.
Hearth	The site of a campfire represented by charcoal, burnt earth, ash and sometimes stones used as heat retainers.
Impact Area	An area that requires archaeological investigation and management assessment
In situ	Latin words meaning on the spot, undisturbed.
Isolated Find	A single artefact found in an isolated context.
Knapping Floor	A location on a site which normally represents a stone artefact reduction episode.
Landform	Any one of the various features that make up the surface of the earth.
Landscape	That part of the land's surface, more or less extensive being viewed or under study, that relates to all aspects of its physical appearance, including various vegetation associations and landforms.
Land System	An area, or group of areas, commonly delineated on a map, throughout which there is a recurring pattern of topography, soils, and vegetation.

Term	Definition
Land Unit	An area of common landform, and frequently with common geology, soils, and vegetation types, occurring repeatedly at similar points in the landscape over a defined region. It is a constituent part of a land system.
Management Plans	Conservation plans which identify short and long term management strategies for all known sites recorded within an impact area.
Methodology	The procedures used to undertake an archaeological investigation.
Minimum Requirements	The minimum standard for which NPWS will accept the reporting of an archaeological investigation.
Mitigation	To address the problem of conflict between land use and site conservation.
Open Area Excavation	A method of excavation where large areas of an archaeological site are open at any one time. A horizontal representation of Aboriginal occupation of different archaeological features is considered to be more important than vertical stratigraphic relationships.
Open Site	An archaeological site situated within an open space (e.g. archaeological material located on a creek bank, in a forest, on a hill, etc).
Potential Archaeological Deposit	An area of land that may contain buried archaeological contain buried archaeological materials.

Term	Definition
Recommending officer	DECC officer(s) who initially evaluates an application and prepares an AHIP determination report for consideration by the decision maker.
Registered local Aboriginal groups	Those local Aboriginal groups (or individuals) who have registered an interest in accordance with DECC's <i>Interim Community Consultation Requirements for Applicants</i> .
Research Design	A research strategy for carrying out an intensive archaeological investigation and analysis.
Safekeeping	Care of Aboriginal objects by or on behalf of an Aboriginal person or organisation pursuant to s.85A(a)(c).
Salvage and community collection	Salvage: The recovery of Aboriginal objects in accordance with archaeological methodology. Community collection: The recovery of Aboriginal objects by representative(s) of the Aboriginal community.
Site	A place where past human activity is identifiable.
Subsurface investigation	Systematic, archaeological investigation involving ground disturbance, carried out for the purpose of discovering an Aboriginal object.
Summary Recording	A process of site recording where archaeological data is collected on a summary level only.

Term	Definition
Survey Coverage	A graphic and statistical representation of how much of an impact area was actually surveyed and therefore assessed.
Technological Significance	Artefactual material which may contain types or items although not unique, may be included in a sample to demonstrate an aspect of stone artefact variability.
Test excavation	A process of exploratory excavation done on a small scale used to determine site extent, site condition and excavation potential.

Glossary Bibliography

Soil Conservation Service of N.S.W. 1986 *Glossary of Terms used in Soil Conservation*, pp 76-77.

Witter, D. 1995 *A classification of Australian Stone Artefacts and principles of taxonomy*. Unpublished report.