Arnold Planning

M

Johns River Quarry Extension Project - Modification 3

LGA: Mid-Coast Council

Aboriginal Cultural Heritage Assessment (ACHA)

26 September 2024

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EXECUTIVE SUMMARY

McCardle Cultural Heritage Pty Ltd was engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed extension of the approved extraction boundaries within the north-eastern portion of the pit and to modify Condition 3(a) of the consent to extend the approval cessation date by a further 10 – 15 years.

The Quarry, including the proposed extension area, consists of the Late Triassic Middle Brother Granodiorite (granite). None of these materials were utilised for stone tool manufacturing. The overall proposed extension area is mapped as a disturbed soil landscape and the proposed extension area consists of the Bird Tree erosional soils landscape. Consisting of an upper soil Horizon A and underlying B horizon, within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons and artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene.

In terms of freshwater availability, several 1st order drainage lines surround the proposed extension area with those closest, draining south into Stewarts Creek (6th Order) located approximately 500 metres southeast of the proposed extension area (extension area) at its closest point. As fresh water is necessary for survival and played a major role in past Aboriginal land use patterns and site selection, the absence for fresh water in the proposed extension area and surrounds indicates that the proposed extension area was not suitable for camping but may have been used for transitory activities such as hunting and gathering activities. In terms of land uses and impacts, the area has been subject to logging and the extension area has been selectively cleared for vehicle tracks as well as fencing.

A search of the Aboriginal Heritage Information Management System (AHIMNS)register identified two artefact sites and one Aboriginal Place (The Three Brothers Mountain - Middle and north – ID 133) recorded within two kilometres of the proposed extension area, none are in the proposed extension area. A previous assessment of the quarry (Navin 1992) concluded that the study area was considered low archaeological sensitivity based on the combined factors of the topographic constraints and land use history. The relatively steep terrain and shallow rocky soils would not have provided suitable camping locations and the shallow soils rendered the possibility of sub-surface sites being present as low.

Based on AHIMS results, local and regional archaeological investigations, and the environmental context, the topography of the proposed extension area is considered unsuitable for camping activities. Furthermore, the lack of a reliable source of fresh water in the proposed extension area and immediate surroundings, indicates that the proposed extension area may have been utilised primarily for hunting and gathering rather than as a site for long-term large-scale camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds. However, previous land uses are expected to have impacted the investigation area, particularly due to selective logging and clearing activities. It is important to note that any evidence of past Aboriginal land uses that may have been present in the proposed extension area could have been disturbed or destroyed because of these activities. Two site types may be present in the proposed extension area and include artefact scatters and isolated finds.

Although the proposed extension area consists of two landforms, as the narrow ridge edge was no more than a metre or so in width, it was surveyed as one unit and combined the ride top and steep slope. The narrow ridge top sect of the proposed extension area was significantly disturbed through quarrying works that included clearing, access road and overburden deposited on it from earlier quarrying works. Visibility in this section was excellent at 90%. The steep slope

exhibited significant erosion and was vegetated with re growth open woodland and lantana and visibility was reduced due to vegetation cover.

No sites or Potential Archaeological Deposits (PADs) were identified during the survey and as such there are no impacts on the archaeological record and the following recommendations are provided:

1) The persons responsible for the management of onsite works will ensure that all relevant staff and contractors are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974;

2) An Unexpected Finds Procedure (Appendix B) will be implemented during all works, and

3) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately, the Unexpected Finds Procedure will be followed and the Environmental Line contacted.

GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Artefact: any object that is physically modified by humans.

Assemblage: a collection of artefacts associated by a particular place or time, assumed generated by a single group of people, and can comprise different artefact types.

Axe: a stone-headed axe usually having two ground surfaces that meet at a bevel.

Backed artefact: a stone tool where the margin of a flake is retouched at a steep angle and that margin is opposite a sharp edge.

Background scatter: a term used to describe low density scatter of isolated finds that are distributed across the landscape without any obvious focal point.

Blade: a flake that is at least twice as long as it is wide.

Bondi point: a small asymmetrical backed artefact with a point at one end and backing retouch.

Core: a chunk of stone from which flakes are removed and will have one or more negative flake scars but no positive flake scars. The core itself can be shaped into a tool or used as a source of flakes to be formed into tools.

Debitage: small pieces of stone debris that break off during the manufacturing of stone tools. These are usually considered waste and are the by-product of production (also referred to as flake piece).

Flake: any piece of stone struck off a core and has a number of characteristics including ring cracks showing where the hammer hit the core and a bulb of percussion. May be used as a tool with no further working, may be retouched or serve as a platform for further reduction.

Flaked piece/waste flake: an unmodified and unused flake, usually the by-product of tool manufacture or core preparation (also referred to as debitage).

Formation processes: human caused (land uses etc) or natural processes (geological, animal, plant growth etc) by which an archaeological site is modified during or after occupation and abandonment. These processes have a large effect on the provenience of artefacts or features.

Grinding stone: an abrasive stone used to abrade another artefact or to process food.

Hammer stone: a stone that has been used to strike a core to remove a flake, often causing pitting or other wear on the stone's surface.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Holocene: the post-glacial period, beginning about 10,000 B.P.

In situ: archaeological items are said to be "in situ" when they are found in the location where they were last deposited.

Pleistocene: the latest major geological epoch, colloquially known as the "Ice Age" due to the multiple expansion and retreat of glaciers. Ca. 3.000, 000-10,000 years B.P.

Retouched flake: a flake that has been flaked again in a manner that modified the edge for the purpose of resharpening that edge.

Stratified Archaeological Deposits: Aboriginal archaeological objects may be observed in soil deposits and within rock shelters or caves. Where layers can be detected within the soil or sediments, which are attributable to separate depositional events in the past, the deposit is said to be stratified. The integrity of sediments and soils are usually affected by 200 years of European settlement and activities such as land clearing, cultivation and construction of industrial, commercial and residential developments.

Taphonomy: the study of processes which have affected organic materials such as bone after death; it also involves the microscopic analysis of tooth-marks or cut marks to assess the effects of butchery or scavenging activities.

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g., information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

Typology: the systematic organization of artefacts into types on the basis of shared attributes.

Use wear: the wear displayed on an artefact as a result of use.

ACRONYMS

ACHA	Aboriginal Cultural Heritage Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit

AHIMS SITE ACRONYMS

ACD	Aboriginal ceremonial and dreaming
AFT	Artefact (stone, bone, shell, glass, ceramic and metal)
ARG	Aboriginal resource and gathering
ART	Art (pigment or engraving)
BOM	Non-human bone and organic material
BUR	Burial
CFT	Conflict site
CMR	Ceremonial ring (stone or earth)
ETM	Earth mound
FSH	Fish trap
GDG	Grinding groove
HAB	Habitation structure
HTH	Hearth
OCQ	Ochre quarry
PAD	Potential archaeological Deposit
SHL	Shell
STA	Stone arrangement
STQ	Stone quarry
TRE	Modified tree (carved or scarred)
WTR	Water hole

1 INTRODUCTION

1.1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA), for the proposed extension of the approved extraction boundaries within the north-eastern portion of the pit and to modify Condition 3(a) of the consent to extend the approval cessation date by a further 10 – 15 years. Pursuant to the former Greater Taree City Council's development consent 93/31, the consent was granted on 28 July 1993 and has since been modified twice, most recently on 16 September 2015.

The assessment has been undertaken to meet the Heritage NSWs' Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), Councils' requirements and the brief.

1.2 PROPONENT DETAILS

Boral Resources (Country) Pty Ltd

1.3 THE PROPOSED EXTENSION AREA

The quarry is located at the northern end of Bulleys Road, approximately 2 km north of the village of Johns River and 500 m north-west of the Pacific Highway. The regional city of Taree is located approximately 38 km south-west of the quarry. The proposed extension area (outlined in yellow below) is located at Bullys Road, Johns River. Including Lot 2 DP 716 380, the location and extent of the proposed extension area is illustrated in Figures 1.1 and 1.2.

Figure 1.1 Regional location of the proposed extension area

Figure 1.2 Aerial photograph of the existing quarry

1.4 DESCRIPTION OF THE PROPOSED MODIFICATION

Boral Resources (Country) Pty Ltd (Boral) owns and operates the Johns River Quarry at Bulleys Road, Johns River (the quarry or the site), a long-standing hard rock quarry that extracts and transports high quality hard rock aggregates for use as road base and in the construction industry. The quarry operates under development consent no. DA 93/31 (as amended) from the (former) Greater Taree Council. DA 93/31 is due to expire in July 2026.

The quarry is located at the northern end of Bulleys Road, approximately 2 km north of the village of Johns River and 500 m north-west of the Pacific Highway. The regional city of Taree is located approximately 38 km south-west of the quarry.

The existing quarry operations area is approximately 16.46 ha and incorporates the extraction area, haul roads, plant area, stockpile and loading area, weighbridge and truck staging area, noise bunds and water management structures, car parking and amenities. The existing layout of the quarry is shown in Figure 1.2.

Due to the ongoing demand for high quality hard rock quarry products, Boral is seeking consent from the MidCoast Council to modify DA 93/31 to extend the life of the quarry through a minor extension of the quarry operations area.

- The key components of the Johns River Quarry Extension – Modification 3 (the proposed modification) include: continuing existing operations for an additional 15 years (until 2041); and
- extending the quarry operations area by 2.03 ha to the north-east to provide access to approximately 2.3 million tonnes (Mt) of additional resource.

There would be no other changes, noting that the proposed modification does not seek to modify:

- the approved rate of extraction;
- the depth of extraction;
- the type of product being extracted;
- existing drill and blast extraction methods;
- truck types or the number of movements;
- hours of operation;
- the number of employees;
- existing site office, amenities, weighbridge and parking area; and
- existing stockpile areas, crushing and screening plant, and mobile machinery.

The proposed layout of the quarry is shown in Figure 1.3.

Figure 1.3 Proposed extension (yellow hatched area)

The following table provides a comparison of the main components of the proposed modification with the original and existing (as modified) consents.

Table 1.1 Comparison of the main components of the proposed modification

Component	Original consent	Existing (as modified) consent	The proposed modification
Life of the quarry	July 2018	July 2026	July 2041
Quarry operations area	15 ha	16.46 ha	18.49 ha
Depth of extraction	RL 35 m	RL 0 m	No change
Approved annual production	100,000 tonnes per annum (tpa)	300,000 tpa[1]	No change
Truck routes	Southbound through Johns River Village and Northbound on Pacific Highway via Bulleys Road / Stewarts River interchange	No change	No change
Truck movements	60 per day	120 per day (60 each way)	No change
Operating hours (including stockpiling, processing, truck loading and dispatch)	Monday to Friday: 6.30 am to 5.30 pm Saturday: 6.30 am - 1.30 pm Sunday: No works	Monday to Friday: 7 am to 6 pm Saturday: 7 am to 1.30 pm Sunday: No works	No change
Blasting hours	Monday to Friday: 11 am to 3 pm	Monday to Friday: 9 am to 3 pm Saturday: 9 am to 1.30 pm	No change
Method of extraction	Drill and blast	No change	No change
Infrastructure	Fixed and mobile plant Storage Workshop Weighbridge Office and amenities	No change	No change
Employment	10 full time equivalent (FTE)	No change	No change

1.5 PURPOSE OF THE ARCHAEOLOGICAL ASSESSMENT

The assessment assesses any archaeological constraints for the proposal and to provide opportunities and options to ensure any cultural materials present are protected through appropriate mitigation and management.

1.6 OBJECTIVE OF THE ASSESSMENT

The objective of the assessment is to identify areas of Aboriginal cultural heritage value, to determine possible impacts on any Aboriginal cultural heritage identified (including potential subsurface evidence) and to develop management recommendations where appropriate. The assessment employs a regional approach, taking into consideration the landscape of the proposed extension area (landforms, water resources, soils, geology etc), the regional archaeological patterning identified by past studies, natural processes (e.g., erosion) as well as land uses and associated impacts across the landscape and any associated cultural that may be present.

1.7 PROJECT BRIEF/SCOPE OF WORK

The following tasks were carried out:

- a review of relevant statutory registers and inventories for indigenous cultural heritage including the Aboriginal Heritage Information Management System (AHIMS) for known archaeological sites, the State Heritage Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Heritage Register and the relevant Local Environmental Plan;
- a review of local environmental information (e.g., topographic, geological, soil, geomorphological, vegetation, hydrology) to determine the likelihood of archaeological sites and specific site types that may be present, prior and existing land uses and associated impacts and site disturbance that may affect site integrity;
- a review of previous investigations to determine the extent of archaeological investigations in the area and identify any archaeological patterns;
- the development of a predictive archaeological model based on the data searches and literature review;
- identification of human and natural impacts in relation to the known and any new archaeological sites and archaeological potential within the proposed extension area;
- consultation with the Registered Aboriginal Parties (RAPs) as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010);
- undertake a site inspection with the participation of the RAPs, and
- the development of mitigation and conservation measures in consultation with the RAPs.

1.8 LEGISLATIVE CONTEXT

The following overview of the legislative framework is provided solely for information purposes for the client, and should not be interpreted as legal advice. MCH will not be liable for any actions taken by any person, body or group because of this general overview and MCH recommends that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken because of the general summary below.

Land managers are required to consider the effects of their activities or proposed development on the environment under several pieces of legislation. Although there are a number of Acts and regulations protecting Aboriginal heritage, including places, sites and objects, within NSW, the three main ones include:

- National Parks and Wildlife Act (1974, as amended)

- National Parks and Wildlife Regulation (2019)
- Environmental Planning and Assessment Act (1979)

1.8.1 NATIONAL PARKS AND WILDLIFE ACT (1974)

The National Parks and Wildlife Act (1974) (NPWS Act) is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. The NPW Act protects Aboriginal heritage (places, sites and objects) within NSW and the protection of Aboriginal heritage is outlined in s86 of the Act, as follows:

- "A person must not harm or desecrate an object that the person knows is an Aboriginal object" s86(1)
- "A person must not harm an Aboriginal object" s86(2)
- "A person must not harm or desecrate an Aboriginal place" s86(4)

Penalties apply for harming an Aboriginal object, site or place. The penalty for knowingly harming an Aboriginal object (s86[1]) and/or an Aboriginal place (s86[4]) is up to $550,000 for an individual and/or imprisonment for 2 years; and in the case of a corporation the penalty is up to $1.1 million. The penalty for a strict liability offence (s86[2]) is up to $110,000 for an individual and $220,000 for a corporation.

Harm under the NPWS Act (1974, as amended) is defined as any act that destroys defaces or damages the object, moves the object from the land on which it has been situated, causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate that;

1) harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed), or
2) the proponent exercised due diligence in respect to Aboriginal heritage.

The 'due diligence' defence (s87[2]), states that if a person or company has applied due diligence to determine that no Aboriginal object, site or place was likely to be harmed as a result of the activities proposed for the Proposed extension area, then liability from prosecution under the NPW Act 1974 will be removed or mitigated if it later transpires that an Aboriginal object, site or place was harmed. If any Aboriginal objects are identified during the activity, then works should cease in that area and Heritage NSW, Department of Premier & Cabinet notified (DECCW 2010:13). The due diligence defence does not allow for continuing harm or as defence to s.86(1) or (4).

1.8.2 NATIONAL PARKS AND WILDLIFE REGULATION (2019)

The National Parks and Wildlife Regulation 2019 provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The Regulation (201909) recognises various due diligence codes of practice, including the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, but it also outlines procedures for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

1.8.3 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (EP&A ACT)

The EP&A Act establishes the statutory framework for urban and regional planning in NSW, detailing how development is assessed in accordance with those laws and providing the approval pathways for development. The Minister for Planning and Public Spaces is the minister responsible for the EP&A Act and is supported by State government authorities and local councils in its implementation. The EP&A Act comprises three key Parts to guide development and planning processes. These parts are summarised below:

- Part 3 of the EP&A Act serves a strategic planning function, dealing with the preparation of local and regional strategic plans, the making of environmental planning instruments (EPI) (that is, State Environmental Planning Policies (SEPP) and Local Environmental Plans (LEP), and the preparation of Development Control Plans (DCP).
- Part 4 of the EP&A Act establishes the assessment framework for development that requires consent, containing provisions for local development, regionally significant development (RSD), designated development and State significant development (SSD). The consent authority for determining development applications made under Part 4 is typically the local council; however, for more larger scale, contentious or environmentally sensitive projects the consent authority may be the Minister for Planning or a planning panel.
- Part 5 of the EP&A Act deals with the environmental assessment of infrastructure projects (or 'activities') that do not require development consent. Whilst development consent is not required, activities under Part 5 are still required to undergo environmental assessment by a determining authority (usually a public authority) to determine whether a proposed activity will have a significant impact. Part 5 activities are typically supported by a Review of Environmental Factors (REF); however, in circumstances where a significant impact is determined or a proposed activity is classified as State Significant Infrastructure (SSI) and critical SSI, an Environmental Impact Statement (EIS) is required. For SSI and critical SSI, the Minister has the authority for issuing approval.

The applicable approval pathway for development under Part 4 and Part 5 is determined by reference to the relevant EPIs, that are established under Part 3. It is noted that there are several other Parts of the EP&A Act pertaining to certification, infrastructure contributions, reviews and appeal rights, and implementation and enforcement of the Act; however, these are less critical in terms of the assessment and management of Aboriginal heritage, and as such, not covered above.

Development consents granted under Part 4 of the EP&A Act may be modified under Section 4.55 of the EP&A Act. A modification to development consent 93/31 is being sought under Part 4.55(2) of the EP&A Act.

1.9 QUALIFICATIONS OF THE INVESTIGATOR

Dr. Penny McCardle: Principal Archaeologist & Forensic Anthropologist has 23 year's experience in Indigenous archaeological assessments, excavation, research, reporting, analysis and consultation and 20 years in skeletal identification, biological profiling and skeletal trauma identification for NPWS, NSW Police and the NSW Department of Forensic Medicine.

- BA (Archaeology and Palaeoanthropology): Indigenous archaeology, University of New England 1999
- Hons (Archaeology and Palaeoanthropology): Physical Anthropology, University of New England 2001

- Forensic Anthropology Course, University of New England 2003
- Armed Forces Institute of Pathology Forensic Anthropology Course, Ashburn, VA 2008
- Analysis of Bone trauma and Pseudo-Trauma in Suspected Violent Death Course, Erie College, Pennsylvania, 2009
- Documenting Scenes of War and Human Rights Violations. Institute for International Criminal Investigations, 2018
- PhD, University of Newcastle, 2019

1.10 REPORT STRUCTURE

The report includes Section 1 which outlines the project, Section 2 provides the consultation, Section 3 presents the environmental context, Section 4 presents ethno historic context, Section 5 provides the archaeological background, Section 6 provides the results of the fieldwork, analysis and discussion; Section 7 presents the development impact assessment, Section 8 presents the mitigation strategies and Section 9 presents the management recommendations.

2 CONSULTATION

As per the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010), MCH followed the four stages of consultation as set out below. All correspondence for each stage is provided in Appendix A.

MCH recognises and supports indigenous knowledge, emphasising that it is not accessible to everyone and is often restricted. This knowledge is considered powerful and can only be controlled by individuals with the appropriate qualifications, typically based on age or other factors. Therefore, it is important to seek information from the rightful knowledge holders who possess the relevant expertise. Only the Aboriginal community can determine the accepted knowledge holder(s), not archaeologists or proponents. If knowledge is shared, it must be utilised correctly and in accordance with the knowledge holder's wishes.

Archaeologists and custodians have differing perspectives on the importance and management of information. While archaeologists view it as data, custodians consider it highly sensitive, secret or sacred. As a result, custodians may impose restrictions on its use. Therefore, MCH recognises the necessity of thoughtful and ongoing consultation to ensure that knowledge is shared and managed appropriately for the site or area in question. MCH also acknowledges that archaeologists cannot make judgments on the spirituality of a specific location or site, as this prerogative belongs exclusively to the traditional owners with their cultural and hereditary connection to the land of their ancestors. Consequently, consultation plays a crucial role in all projects, and MCH actively seeks input from registered stakeholders to include the information in the report according to the stipulations provided by those possessing the knowledge.

2.1 STAGE 1: NOTIFICATION AND REGISTRATION OF INTEREST

The aim of this stage is to identify, notify and register Aboriginal people and/or groups who hold cultural knowledge that is relevant to the proposed extension area, and who can determine the cultural significance of any Aboriginal objects and/or places within the proposed proposed extension area. In order to do this, the sources identified by Heritage NSW (OEH 2010:10) and listed in Table 2.1, to provide the names of people who may hold cultural knowledge that is relevant to determining the significance of Aboriginal objects and/or places were contacted by letter on 6th May 2024 and it was stipulated that if no response was received, the project and consultation will proceed. Information included in the correspondence to the sources listed in Table 2.1 included the name and contact details of the proponent, an overview of the proposed project including the location and a map showing the location.

Table 2.1 Sources contacted

Organisations contacted	Response
Heritage NSW	28 groups
LALC	no response
Mid-Coast Council	no response
Registrar Aboriginal Land Rights Act 1983	2 groups
National Native Title Tribunal	freehold
Native Title Services Corporation Limited	no response
Hunter Local Land Services	no response

Following this, MCH compiled a list of people/groups to contact (Refer to Appendix A). As per the Aboriginal Cultural Heritage Consultation Requirements for proponents (April 2010), archaeologists and proponents must write to all those groups provided asking if they would like to register their interest in the project. Unfortunately, some Government departments written to requesting a list of groups to consult with do not differentiate groups from different traditional boundaries and provide an exhaustive list of groups from across the region including those outside their traditional boundaries.

MCH wrote to all parties identified by the various departments on 25th May 2024, and an advertisement was placed in the Port Macquarie News on 17th May 2024. The correspondence and advertisement included the required information as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010) and requested to nominate the preferred option for the presentation of information about the proposed project: an information packet or a meeting and information packet (Refer to Stage 2). The Registered Aboriginal Parties (RAPs) are listed in Table 2.2.

Table 2.2 Registered Aboriginal Parties

RAP	Contact
	Lee Davison
Girragirra Murun Aboriginal Corporation	Diana Astin

2.2 STAGE 2: PRESENTATION OF INFORMATION

The aim of this stage is to provide the RAPs with information regarding the scope of the proposed project and the Indigenous cultural heritage assessment process.

As the RAPs did not provide their preferred method of receiving information, an information pack was sent to all RAPs and included the required information as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010) and a written response to the proposed methods was due no later than 3rd July 2024.

The information pack also stipulated that consultation was not employment and requested that to assist the proponent in the engagement of field workers, that the groups provide information that will assist in the selection of field staff who may be paid on a contractual basis. This included experience in field work and in providing cultural heritage advice and their relevant experience; and providing a CV and insurance details.

The information pack also noted that failure to provide the required information by the date required (28 days) will result in a missed opportunity for the RAPs to contribute to their cultural heritage and the project will proceed.

2.3 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

The aim of this stage is to facilitate a process whereby the RAPs may contribute to culturally appropriate information gathering and the research methodology, provide information that will enable the identification of the cultural significance of any Aboriginal objects and or/places within the proposed extension area, and have input into the development of any cultural heritage management and mitigation measures. To do his, included in the information pack sent for Stage

2, was information pertaining to the gathering of cultural knowledge. This included the following information;

- MCH noted that information provided by RAPs may be sensitive and MCH and the proponent will not share that information with all RAPs or others without the express permission of the individual. MCH and the proponent extended an invitation to develop and implement appropriate protocols for sourcing and holding cultural information including any restrictions to place on information, as well as the preferred method of providing information;
- request for traditional/cultural knowledge or information associated with ceremonial, spiritual, mythological beliefs, traditions and known sites from the pre-contact period;
- request for traditional/cultural knowledge or information regarding sites or places with historical associations and/or cultural significance which date from the post-contact period and that are remembered by people today (e.g., plant and animal resource use areas, known camp sites); and
- request for traditional/cultural knowledge or information in relation to any sites or places of contemporary cultural significance (apart from the above) which has acquired significance recently.

During this process, the RAPs did not disclose any specific traditional/cultural knowledge or information of sites or places associated with spiritual, mythological, ceremonies or beliefs from the pre contact period, historic and, or, contemporary periods, within the proposed extension area or surrounding area. However, it must be noted that traditional/cultural knowledge and/or information regarding sites and/or places of cultural significance may exist that were not divulged to MCH by those consulted.

2.4 SURVEY

All RAPs were invited to participate in the survey on 15th July 2024. Unfortunately, no RAPs attended, and the survey proceeded.

2.5 STAGE 4: REVIEW OF DRAFT CULTURAL HERITAGE ASSESSMENT

Copies of the draft report were forwarded to all RAPs for their review and were asked to provide a written or verbal response no later than 26th September 2024. MCH received no responses and all RAPs were provided with a copy of the final report. All documentation regarding the consultation process is provided in Appendix A.

3 LANDSCAPE AND ENVIRONMENTAL CONTEXT

3.1 INTRODUCTION

Documenting and understanding the context of archaeological sites in relation to surrounding terrain features is essential to landscape archaeological studies worldwide (De Reu et al., 2011; De Smedt et al., 2013; Turrero et al., 2013) and the nature and distribution of Aboriginal cultural materials in a landscape are strongly influenced by environmental factors such as topography, geology, landforms, climate, geomorphology, hydrology and the associated soils and vegetation (Hughes and Sullivan 1984). These factors influence the availability of plants, animals, water, raw materials, the location of suitable camping places, ceremonial grounds, burials, and suitable surfaces for the application of rock art. As site locations may differ between landforms due to differing environmental constraints that result in the physical manifestation of different spatial distributions and forms of archaeological evidence, these environmental factors are used in constructing predictive models of Aboriginal site locations, based on the assumption that the environment provided constraints and opportunities that influenced such behaviour in relation to site selection and use.

Environmental factors also affect the degree to which cultural materials have survived in the face of both natural and human influences and affect the likelihood of sites being detected during ground surface survey. Site detection is dependent on several environmental factors including surface visibility (which is determined by the nature and extent of ground cover including grass and leaf litter etc) and the survival of the original land surface and associated cultural materials (by flood alluvium, erosion etc). It is also dependant on the exposure of the original landscape and associated cultural materials by human impacts (e.g., Aboriginal fire stick farming, clearing, logging, agricultural activities, construction works, mining etc), (Hughes and Sullivan 1984). Combined, these processes and activities are used in determining the likelihood of both surface and subsurface cultural materials surviving and being detected.

It is therefore necessary to understand the environmental factors, processes and activities, all of which affect site location, preservation and detection during surface survey and the likelihood of in situ subsurface cultural materials being present. The environmental factors, processes and disturbances of the surrounding environment and specific proposed extension area are discussed below.

3.2 GEOLOGY

The underlying regional geology plays a major role in the structure of the surrounding environment (e.g., landforms, topography, geomorphology, vegetation, climate, hydrology etc), and also influences patterns of past occupation and their manifestation in the archaeological record. This is primarily relevant to past Aboriginal land use regarding the location of stone resources or raw materials and their procurement for the manufacturing and modification of stone tools.

The processes of sedimentation, uplift, ongoing physical and chemical weathering, re-deposition and volcanic activity have resulted in the formation of a complex landscape in the regional area that incorporates diversity in topography, vegetation and wildlife. For its Aboriginal inhabitants, these processes have resulted in the presence of caves and ledges suitable for shelter/occupation and the application of rock art, deposits of raw materials essential to the manufacture of stone tools as well as locations that provide the rocky creek bed outcrops utilised in the production of ground-edge implements.

Based on NSW Seamless Geology, the southern part of the Quarry site consists of Holocene high level alluvial terrace deposits of sand and gravel (CZ_ath). The northern part of the quarry site, including the proposed extension area consists of Late Triassic Middle Brother Granodiorite (granite) (Tabm). None of these materials were utilised for stone tool manufacturing.

3.3 TOPOGRAPHY

The topographical context is important to identify potential factors relating to past Aboriginal land use patterns and is largely determined by the geology and is important to identify potential factors relating to past Aboriginal land use patterns as not all landforms are suitable camping locations. The proposed extension area includes the far eastern edge of a ridge (disturbed) and steep slope.

3.4 GEOMORPHOLOGY

Geomorphology is the study of landscapes, their evolution and the processes operating within earth systems. Cultural remains are part of these systems, having been deposited on, and in part, resulting from interactions within landscapes of the past. An understanding of geomorphological patterning and alterations is therefore essential in assessing and interpreting the archaeological record.

The geomorphology of the region is complex and is summarised below based upon studies undertaken by Galloway (1963) and Hughes (1984). The region contains a variety of landforms ranging from rugged mountains to plains and varying in elevation from sea level to over 1500 metres (AHD). It is surrounded by mountainous terrain except for the western portion where a low rise divides it from the Darling River drainage area and the southeastern zone where it is bounded by the Pacific Ocean.

The CSIRO (Story et al 1963) conducted a study of the Hunter Region and classified the landforms into nine sub-regions (Mt Royal Range, Liverpool Ranges, Northeast Mountains, Barrington Tops, Merriwa Plateau, Central Goulburn Valley, Southern Mountains, Central Lowlands and the Coastal Zone). The proposed extension area lies within the Central Lowlands, which is a belt of lowlands developed on the weak sedimentary rocks that extend from Murrurundi to Newcastle.

The soil throughout the region reflects the influence of a range of factors including the parent geological material, topography, climate, organisms and length of formation time. Differences between these elements are reflected in variation in soil types across the region. Texture contrast soils mantle the undulating to hilly landscapes on Permian and Carboniferous rocks and the older alluvial terraces and valley fills. The two major groups of texture contrast soils include solonetzic and podzolic soils. These soils consist of an upper soil Horizon A and underlying B (called duplex soils). The upper A unit consists of grey to buff silts and sand with gravel, is usually no greater than one metre in depth (usually shallower), has a weakly developed soil profile and is typically discontinuous, especially along hill slopes. The underlying B unit consists of brown-red gravel rich clays with evidence of deep weathering and strongly contrasting horizons.

Unit A and Unit B are interpreted as Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons. Within the A horizon the lowermost (in terms of vertical positioning) artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene, as characterised by an increase in the number of backed artefacts. Given the lack of detailed information regarding artefact sequences and chronologies in the NSW, this assumption should

not be accepted without question. However, on geomorphological grounds, A horizon soils in this context are generally considered as dating to the mid-late Holocene (Dean-Jones and Mitchell 1993:76).

In contrast, the underlying weathered nature of the clayey B-horizon indicates that its parent material is much older. Evidence of earlier occupation of the region was identified at Warkworth West (AMBS 2002) where a limited artefact assemblage is present within deposits older than 14,000 years. It is also suggested that materials from Fal Brook and Carrington date to the Pleistocene period (Koettig 1987). The B-horizon parent material in hill slope formations is typically composed of weathered, in-situ bedrock whereas soils along the valley floors are generally alluvial or colluvial in origin.

The archaeological importance of foot slopes and valley floors with soils of this type is enhanced by the fact that the interaction between alluvial and colluvial deposition can result in the formation of sealed deposits. However, landforms of this type are also prone to erosion which may broadly reveal previously buried archaeological evidence. Extensive sheet and gully erosion occurs throughout the area, potentially resulting in artefacts that were originally deposited on or within the A-horizon being exposed as highly visible lag. Thus, although erosion greatly increases the visibility of artefacts, it also disturbs and damages them.

Similarly, the impacts of bioturbation upon the archaeological record must also be addressed. Focussed studies regarding bioturbation have primarily been conducted outside Australia (e.g., Armour-Chelu and Andrews 1994; Fowler et al 2004; Peacock and Fant 2002). Therefore, whilst the subsequent findings are broadly applicable within the Australian context, further research is certainly warranted. In general, it appears that, within duplex soils, the burrowing activities of fauna including earthworms can often cause the lateral and horizontal movement of artefacts through the soil profile, eventually resulting in the formation of a stone layer at the interface of the A and B horizons. The other important element to address is the differential movement of artefacts according to size/weight. In this respect, bioturbation has the potential to artificially conflate and separate artefacts according to size grouping as opposed to depositional context (Fowler et al 2004; Armour-Chelu and Andrews 1994).

As duplex soils are the dominant soil type within the Region, the inherent properties of these soils must be taken into consideration regarding the likelihood of site detection (through exposure by erosion), the stratigraphic context and age of sites, potential site location in relation to past use of the landscape and landscape instability. Certain land systems and types of deposit are, however, considered to have greater potential to contain stratified and/or older archaeological sites. This does not imply that older sites are intrinsically more significant than more recent sites, rather, the more important issue in scientific terms is the level of integrity within the site. In broad terms, windblown sand sheets/dunes (such as those at Warkworth), alluvial fan deposits and foot slopes with the potential to have colluvial deposits should be considered as archaeologically sensitive landforms (refer to Dean-Jones and Mitchell 1993; Hughes 1984).

3.5 SOILS

The nature of the surrounding soil landscape also has implications for Aboriginal land use and site preservation, mainly relating to supporting vegetation and the preservation of organic materials, the location and age of cultural materials.

Past human actions impact the soil record, as seen through changes in soil characteristics, changes to sedimentation, and the presence of archaeological features and artefacts preserved within modern soils. Soil and sediment conditions control what survives in the burial environment, what

decomposes, and consequently influence all archaeological sites, artefacts, and biological remains. Soils have formed under the continuous influence of people, up to the present day, when most land is actively managed for agriculture, pastoral, forestry, extraction or construction.

Soils may also be impacted on by natural agencies. The deposit of alluvial and aeolian sediments and colluvium movement of fine sediments (including artefacts) results in the movement and burying of archaeological materials. The increased movement in soils by this erosion is likely to impact upon cultural materials through the post-depositional movement of materials, specifically small portable materials such as stone tools, contained within the soil profiles.

The overall proposed extension area is mapped as a disturbed soil landscape and the proposed extension area consists of the Bird Tree erosional soils landscape (eSpade). The upper slopes of this soil landscape consist of an A_1 horizon of dark earthy clay loam (0-15cm) with gravels and an abrupt clear boundary to the A_2 horizon that consists of dark earthy clay loam with gravels down to 35cm. This overlays the B horizon of brown earthy sandy clay, also with gravels. Mid-slopes consist of an A horizon of brown sandy loam (0-25cm) that overlays the B horizon of bright mottled blocky sandy clay. Sheltered lower slopes consist of an A_1 horizon of dark earthy sandy clay loam with gravels down to 45cm below the surface. There is a wavy boundary to the B horizon that consists of bright mottled blocky sandy clay with gravels. The sheltered lower slopes include an A horizon of dark earthy sandy clay loams with gravels (down to 45cm) with a wavy boundary to the B horizon. The B horizon consists of brown earthy sandy clays, also with gravel (eSpade).

Consisting of an upper soil Horizon A and underlying B horizon, within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons and artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene, as characterised by an increase in the number of backed artefacts. Based on geomorphological grounds, A horizon soils in this context are generally considered as dating to the mid-late Holocene.

3.6 CLIMATE

Climatic conditions would also have played a part in past occupation of an area as well as impacted upon the soil and vegetation and associated cultural materials. The climatic zone as defined by Kovac and Lawrie (1991) and is characterised by temperatures ranging from an average minimum of below 5°C to an average maximum of 28°C. Winter rainfall levels are somewhat variable and generally average 30 millimetres per month. Summer rainfalls are more stable at approximately 55-60 millimetres per month, giving a mean annual rainfall of 740 millimetres. During summer, the increased rainfall rate and reduced ground cover is reflected in a proportionately higher risk of erosion (Kovac and Lawrie, 1991).

3.7 WATERWAYS

One of the major environmental factors influencing human behaviour is water as it is essential for survival and as such people will not travel far from reliable water sources. In those situations where people did travel far from reliable water, this indicates a different behaviour such as travelling to obtain rare or prized resources and/or trade. Proximity to water not only influences the number of sites likely to be found but also artefact densities. The highest number of sites and density are usually found close to water and on an elevated landform. This assertion is undisputedly supported by both the regional and local archaeological, whereby such patterns have been identified and sites are typically within 50 metres of a reliable water source in the valley landforms and up to 100 metres in the sandstone country.

The main types of water sources include permanent (rivers and soaks), semi-permanent (large streams, swamps and billabongs), ephemeral (small stream and creeks) and underground (artesian). Stream order assessment is one way of determining the reliability of streams as a water source. Stream order is determined by applying the Strahler method to 1:25 000 topographic maps. Based on the climatic analysis, the proposed extension area will typically experience comparatively reliable rainfalls under normal conditions and thus it is assumed that any streams above a third order classification will constitute a relatively permanent water source.

The Strahler method dictates that upper tributaries do not exhibit flow permanence and are defined as first order streams. When two first order streams meet, they form a second order stream. Where two-second order streams converge, a third order stream is formed and so on. When a stream of lower order joins a stream of higher order, the downstream section of the stream will retain the order of the higher order upstream section (Anon 2003; Wheeling Jesuit University 2002).

In terms of fresh water availability, several 1st order drainage lines surround the proposed extension area with those closest, draining south into Stewarts River (6th Order) located approximately 500 metres southeast of the proposed extension area (extension area) at its closest point (Figure 3.2).

Figure 3.1 Stream orders

As fresh water is necessary for survival and played a major role in past Aboriginal land use patterns and site selection, the absence for fresh water in the proposed extension area and surrounds indicates that the proposed extension area was not suitable for camping but may have been used for transitory activities such as hunting and gathering activities.

3.8 FLORA AND FAUNA

The availability of flora and associated water sources affect fauna resources, all of which are primary factors influencing patterns of past Aboriginal land use and occupation. The assessment of flora has two factors that assist in an assessment including a guide to the range of plant resources used for food and medicine and to manufacture objects including nets, string bags, shields and canoes which would have been available to Indigenous people in the past. The second is what it may imply about current and past land uses and how to affect survey conditions such as visibility, access and disturbances.

Most of the proposed extension area has been cleared of vegetation and the drainage throughout the proposed extension area would have supported a limited range of faunal populations including kangaroos, wallabies, goannas, reptiles and a variety of birds. A wider variety of resources would have been available in areas to the east and south where more reliable water would have been available.

3.9 LANDUSES AND DISTURBANCES

Heritage NSW (DECCW 2010) defines disturbed lands as land that has been the subject of human activity that has changed the lands' surface and, or the subsurface, these changes being changes that remain clear and observable. Examples may include ploughing, construction works (roads, tracks, fire trails, dams, fences, clearing, utilities and infrastructure). This definition is based on the types of disturbances classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010) and Table 3.1 provides a scale formulated by the CSIRO of the levels of disturbances and their classification, which will assist in determining the level of disturbance across the proposed extension area and its impact on potential cultural material that may be present. These disturbances on the landscape have been thoroughly examined and recorded through many experiments (see below) in a variety of landforms throughout the world, along with the impacts on objects within the deposits.

Table 3.1 Land use scale (CSIRO 2010)

Minor disturbance		Moderate disturbance		Major disturbance	
Cleared and/or grazed at some time, but apparently never ploughed		Cleared and/or grazed at some time, with ploughing also attested		Severe disturbance to natural soil profiles; complete-to-near complete topsoil loss/disturbance	
0	No effective disturbance; natural	3	Extensive clearing (e.g., poisoning and ringbarking	6	Cultivation: grain fed
1	No effective disturbance other than grazed by hoofed animals	4	Complete clearing: pasture native or improved, but never cultivated	7	Cultivation: irrigated, past and present
2	Limited clearing (e.g., selected logging)	5	Complete clearing: pasture native or improved, cultivated at some stage	8	Highly disturbed: e.g., quarry, road works, mining, landfill, urban

Based upon archaeological evidence, the occupation of Australia extends back some 40,000 years (Mulvaney and Kamminga 1999). Although the impact of past Aboriginal occupation on the natural landscape is thought to have been relatively minimal, it cannot simply be assumed that 20,000 years of land use have passed without affecting various environmental variables. The practice of 'firestick farming' whereby the cautious setting of fires served to drive game from cover, provide protection and alter vegetation communities significantly influenced seed germination, thus increasing diversity within the floral community.

Following European settlement of the area in the 1820s, the regional landscape has been subjected to a range of different modifactory activities including extensive logging and clearing, agricultural cultivation (ploughing), pastoral grazing, residential developments and mining. The associated high degree of landscape disturbance has resulted in the alteration of large tracts of land and the cultural materials contained within these areas. Unfortunately, there are no historical aerial photographs of the proposed extension area to indicate what land uses and impacts occurred to the proposed extension area prior to the quarry activity. However, it is likely that the area was subject to logging and the extension area has been cleared for vehicular access through the extension area as well as fencing. No other known land uses and associated disturbances appear to have occurred in the extension area.

In terms of these land uses and impacts on the landscape and cultural materials that may be present, early vegetation clearing included the uprooting of trees by chaining which disturbed or destroyed that may be present near, or underneath trees and vegetation (Wood 1982). Alternatively, timber was harvested manually, using axes and hand saws and generally, only the trees that were wanted for timber were felled (selective logging). However, after the 1950s, there was an increase in mechanisation in the logging industry, and clear-felling became widely practised whereby the best logs were removed for processing, but nearly every other tree was bulldozed and burnt, and had increased impacts to the landscape.

In terms of everyday land uses, vehicular movements on sites have been well documented and based on several experiments (DeBloois, Green and Wylie 1974, Gallagher 1978), have shown that vehicle movements over an archaeological site are extremely destructive to the site through compaction and movement, thus altering the spatial relationship and location of the artefacts. Based on general observations it is expected that the creation of dirt tracks for vehicle access would also result in the loss of vegetation and therefore will enhance erosion and the associated relocation of cultural materials. As fence construction requires the removal of soil for the post holes, this would also have resulted in the disturbance and possible destruction of any cultural materials. All of which results in loss of vegetation and erosion to some extent.

3.10 NATURAL DISTURBANCES

Natural processes can affect the disturbance of cultural materials. Deposition and erosion patterns in a locality can influence the formation and destruction of archaeological sites. In environments with high sediment accumulation rates, artifacts are quickly buried after abandonment. Frequent depositional events can lead to well-stratified cultural deposits. (Waters 2000:538,540)

In stable landscapes characterised by limited deposition and moderate erosion, soil formation occurs, and cultural materials remain on the surface until they are buried. During extended periods of stability, the archaeological record becomes compressed, with multiple episodes of human occupation found on a single surface before burial. Artefacts in duplex soils are typically located within the interface of the A and B horizons (Waters 2000:538-539). However, if erosion takes place after cultural materials are deposited, it can cause significant disturbance or even

destruction of archaeological sites, regardless of their initial state of preservation. The frequency and severity of erosional events directly determine the extent of this disturbance or destruction. Repeated and severe episodes can result in the complete removal of older sediments, soils, and cultural deposits, leading to the loss of archaeological material within a particular region (Waters 2000:539; Waters and Kuehn 1996:484).

Bioturbation is a significant factor in the formation of the archaeological record, as it impacts the preservation, redistribution, and mixing of cultural materials. The activities of burrowing animals, such as earthworms and ants, can disrupt and relocate artifacts. Artefacts can also be displaced through root holes, settling by gravity, or translocation caused by tree falls (Balek 2002:41-42; Peacock and Fant 2002:92). The depth and movement of artifacts due to bioturbation are limited by the extent of biological activity. Burrowing and mounding activities by animals and insects can result in the burial and movement of artifacts, which can disrupt the stratigraphic integrity. Smaller artifacts tend to be moved upwards and deposited in mounds, while larger artifacts move downwards due to gravity and burrowing activities. This can lead to concentrations of artifacts that may be mistaken for cultural layers. The rate of artifact burial through burrowing and mounding can be significant, with depths of up to 2.7 meters in 5000 years. Experiments have been done to assess the impact of bioturbation on materials. For example, in abandoned cultivated fields in South Carolina, it was found that over a 100-year period, 35% of shell fragments previously used for fertilization were located between 15 and 60 centimetres below the surface, suggesting bioturbation and gravity as factors in their displacement (Balek 2002:42-46).

Earthworms can disrupt soil stratification within approximately 450 years (Balek 2002:48). The effects on cultural materials, however, vary depending on the species of earthworm present (Armour-Chelu and Andrews 1994; Canti 2003; Fowler et al. 2004; Stein 1983). Each species exhibits distinct behaviours, with some inhabiting deeper soils and moving vertically, while others reside at the surface and move horizontally (Fowler et al. 2004:453). Under favourable conditions, earthworms can excavate up to six meters, altering soil horizons through burrowing and consuming organic matter (Fowler et al. 2004:457, 461; Stein 2003:139).

Furthermore, earthworms can threaten cultural preservation by consuming and destroying organic remains and have the potential to significantly alter cultural deposits. They can cause changes in the distribution and arrangement of artefacts, as well as disrupt stratigraphy. This is primarily due to their burrowing activities, which can displace artefacts and even bury them through faecal deposition. Additionally, earthworms can blur the boundaries between natural layers and cultural layers, causing confusion in archaeological excavations. In the case of Australia, it is important to note that earthworm species found there typically require a neutral pH level of approximately 7. They are unable to tolerate acidic conditions, with pH levels below 4.5 being deemed intolerable (Stein 1983:280).

3.11 DISCUSSION

The proposed extension area is in an environment that provided limited resources. Without a fresh water supply to enable camping, the proposed extension area may have been utilised for more transitory activities such as travel and hunting and gathering on the way to reliable water and associated subsistence resources. Such past Aboriginal land uses are manifest in the archaeological record as a background scatter of discarded artefacts (such as isolated artefacts and/or very low-density artefact scatters). In relation to modern alterations to the landscape, the extension area appears to have been subject to selective logging and some clearing for vehicular access and fencing.

4 CULTURAL CONTEXT

Although ethnographic accounts do not consider or discuss Aboriginal relationships to the land and its significance, they do provide insights into some past Aboriginal activities, some of which leave evidence in the landscape (tangible sites) and can be confirmed through archaeological investigations. Intangible sites, such as mythological, storytelling etc., cannot be confirmed by archaeological investigations and are rarely recorded by early explorers and such traditional knowledge is vital in understanding the cultural landscape.

Anthropologists and ethnographers have attempted to piece together a picture of past Aboriginal societies throughout the Region. Although providing a glimpse into the past, one must be aware that information obtained on cultural and social practices were commonly biased and generally obtained from informants including white settlers, bureaucrats, officials and explorers. Problems encountered with such sources are well documented (e.g., Barwick 1984; L'Oste-Brown et al 1998). There is little information about who collected information or their skills. There were language barriers and interpretation issues, and the degree of interest and attitudes towards Aboriginal people varied in light of the violent settlement history. Access to view certain ceremonies was limited. Cultural practices (such as initiation ceremonies and burial practices) were commonly only viewed once by an informant who would then interpret what he saw based on his own understanding and then generalise about those practices.

4.1 BIRIPI COUNTRY

Horton's map of Aboriginal Australia (Horton, 1996) detailed the boundaries of Aboriginal language groups across the continent. Reference to the Taree area shows that it was within the bounds of the Biripi language group (also spelt Birpai). It ranged from just to the north of Forster-Tuncurry at its southern-most extent, to past Port Macquarie at its northern extent. From the coastline it reached west to the Glenrock area. This traditional language area was bordered to the north by the Dainggatti and Nganyaywana language groups, to the west by the Kamilaroi and Geawegal, and to the south by the Worimi language group. Close to the border of the Biripi traditional language group area, Forster-Tuncurry was defined as being at the northern extent of the Worimi area, which stretched to Port Stephens in the south and Gloucester in the west (Horton, 1996). Having the coast along its eastern border was a boon for both the Worimi and Biripi groups, as it provided rich marine resources for those who lived there. Canoes were used for fishing, with woven nets and lines with shell and bone fish hooks as part of the traditional tool kit (Byrne & Nugent, 2004: 18). Quartz flakes were also used to fashion points for fishing spears (Byrne & Nugent, 2004:35). Fish traps were constructed in the river areas to provide a regular source of food. The bags and nets that were regularly used were made from such resources as spun bark fibre and the hair of small marsupials, spun by a small wooden spindle with a hook at one end (Klaver & Heffernan, 1991).

The Biripi traditional country covered a number of different landforms, each with its own resources. As well as undulating bush areas and open woodland plain, there were also bands of rainforest along the Manning River, which was a major water source and an important cultural element within the Biripi landscape. Major creeks flowing from the Manning River were utilised as pathways and resource gathering areas. Vegetation along the Manning River included cedars, fig trees, tamarind trees, ferns, vines and shrubs. Swamps areas close to the Manning River and along the eastern coastline were also resource rich areas that were regularly utilised. Ethnographic recordings refer to the islands located in the estuary being frequented, with known camps present on Oxley Island (Byrne & Nugent, 2004: 16).

Registered sites across the Biripi area attest to the use of the wider landscape, both inland and coastal, in the Aboriginal past. Site types predominantly include artefact scatters across the wider area and shell middens along the coast. The middens attest to the use of coastal resources such as oysters for food, with the refuse deposited following meals accumulating over long periods of time into the remnant deposits. Artefact scatters attest to both the production and use of stone tools, with uses including hunting and preparing animals for food as well as preparing their skins for clothing. Stone tools were hafted to wood and were also often used to shape other wooden implements, such as clubs, spears, spear throwers and boomerangs. Other tools included tomahawks, nulla nullas and shields (Klaver & Heffernan, 1991; Byrne & Nugent, 2004: 35).

One site previously identified as a traditional camping area at Saltwater, to the south of Old Bar, was noted as a place of continuity for the local Aboriginal community, as it was used over thousands of years, with recordings of contemporary community use as well within the same ancient space (Byrne & Nugent, 2004: 6). Access to traditional Dreaming locations became restricted, as did access to resources, due to encroaching settlement. Other elements within the landscape were imbued with cultural significance on into contemporary times, as local resident Ella Simon described her experiences growing up in the area in the early 1900s. She noted that she was told that a rock in Wallis Lake was the embodiment of a clever woman, known as 'Granny Rock', and that heavy rain would result from touching a forbidden mangrove tree on the beach, an isolated growth near Blackhead (Simon, 1987).

Some information was recorded about the ceremonial life of the Biripi people by early settlers, describing totemic beliefs and practices. This included a description of a cabra ground used for male initiation, an area that consisted of two rings surrounding carved trees. The bark of the trees was described as especially carved for such ceremonies with the ritual musical instrument known as a bull roarer used during the initiation. Corroborees were also known to occur, with fires and dancing described, prior to 1900 (Byrne & Nugent, 2004: 33-34). Male initiation rites in pre-contact times included body scarification and the knocking out of a boy's front tooth (Byrne & Nugent, 2004: 46). Women were described as wearing cloaks made from animal skins, while men wore waist bands. Other cultural decoration included tattoos, nose piercings with bone adornments, body painting, hair styling and headdresses (Klaver & Heffernan, 1991).

The Dreaming was understood in traditional Biripi culture as the time when Ancestral Beings shaped the landscape. Totems were used by the Biripi as classifications that tied people to the plants and animals of the natural world. Some totems that were used included the crab, shark, eagle, stingray, kangaroo, bass and porpoise. Those people belonging to a particular totem were forbidden to hunt or eat that animal and performed ceremonies related to its protection. Totemic groups also defined lineage and family history, as well as how different totemic groups interacted with each other (Robinson, 2011).

Burial practices varied over time and from location to location, with burial grounds having been described along waterways such as Koala Creek, between the Cross and Bully Mountains, in dunes, and later in historic cemeteries. Oral history described a burial ground in Wingham where Aboriginal warriors and elders were buried in a sitting position (Klaver & Heffernan, 1991). Grave robbing is known to have occurred in the area, perpetrated by early settlers and explorers claiming ethnographic research as their motivation (Byrne & Nugent, 2004).

The first white explorers moved through Biripi country in 1818, with settlement following soon after. Radical changes to Aboriginal life started around 1826 in the Manning Valley, accelerating from the 1830s to the 1860s. Steel fish hooks were an early commodity of trade, adopted readily by Aboriginal people across the area (Byrne & Nugent, 2004: 17). Tobacco, tea, rum and steel hatchets were other items traded between the settlers and the Biripi people (Byrne & Nugent, 2004: 24). As contact increased conflict also resulted, with at least two massacres in the area, the

first in 1835 at Belbora, where damper laced with dingo poison was given to Aboriginal people, the second in the same year, when a group of Aboriginal people were driven off a cliff at Mount McKenzie, near the headwaters of the Gloucester River, now part of the Barrington Tops National Park (Byrne & Nugent, 2004: 22). By the 1880s access to traditional resource areas had been restricted by the settlers and Aboriginal people became increasingly dependent on work from the invading economy, working as labourers for farmers and cedar getters. At the same time segregation became institutionalised and reserves were set up where Aboriginal people were forced to reside, such as the one at Purfleet established in 1900.

The Biripi area holds numerous post-contact sites, including missions, fringe camp areas at the edges of Taree and Wingham and the reserve at Purfleet. These locations are an important reflection of the changed lifestyles in the historical period as Aboriginal people were excluded both from most of their former country and the settler community. Aboriginal community focus was instead contained within new areas that were defined by the invaders rather than being attached to cultural significance (Byrne & Nugent, 2004: 6). Oral history records demonstrate that these camps and settlements were still surrounded by circles used as traditional country, defined in one study as "backyard zones" and regarded as extensions of the camps and settlements (Byrne & Nugent, 2004: 123). Despite the impact that settlers had on traditional culture, it has continued to survive through the Aboriginal people that still live in the area today. In recent times various strategies have been implemented to preserve traditional culture and allow it to thrive in the contemporary landscape. In 2011 the North Coast Institute of TAFE at Taree ran a course using the Accelerated Second Language Acquisition (ASLA) teaching method to spread the use of the traditional Gathang language (of which Biripi was a dialect). The course was based on Amanda Lissarrague's book, a dictionary and recording of grammar of the Birrbay, Guringay and Warrimay languages (Lissarrague, 2010; Manning River Times, 2011). It is indicative of the strength and resilience of traditional culture that remains vibrant and vital in the lives of Aboriginal people in the Manning Valley area to this day.

5 ARCHAEOLOGICAL CONTEXT

A review of the archaeological literature of the region, and more specifically the local area and the results of an AHIMS search provide essential contextual information for the current assessment. Thus, it is possible to obtain a broader picture of the wider cultural landscape highlighting the range of site types throughout the region, frequency and distribution patterns and the presence of any sites within the proposed extension area. It is then possible to use the archaeological context in combination with the review of environmental conditions to establish an archaeological predictive model for the proposed extension area.

5.1 REGIONAL ARCHAEOLOGICAL CONTEXT

The definition of site curtilages in NSW are guided by the requirements for site registration in the AHIMS database, leading to geographically discrete sites as individual entities, existing in isolation. Such an approach is understandable, as it grows from the need to define sites as per legislatively guided parameters. This is further reinforced by the geographically focussed work of consultant archaeologists, limiting their analysis to a specific geographically constrained area based on individual project specifications. While this is the common practice for recording individual sites, it is important to contextualise them within a broader archaeological and cultural landscape that links them together. In this way assemblages may be understood as a continuous scatter of cultural material across the landscape and the nature of activities and occupation can be identified through the analysis of artefact distributions across a landscape.

Archaeological surveys and assessments in the region around the present proposed extension area have been conducted since the late 1970s. The upgrading of the Pacific Highway has generated significant archaeological investigations in an area that was previously relatively unknown to archaeologists. These investigations typically involve conducting a broad overview and assessment of a designated area during the route selection process. A more detailed assessment is then carried out for a specific preferred route alignment, often accompanied by subsurface archaeological testing programs.

It is important to note that the overall value of these investigations is limited from an archaeological standpoint. This limitation arises from the fact that they primarily focus on studying a narrow and arbitrary easement, essentially a line drawn across the landscape. Nevertheless, these investigations do provide valuable insights into the remaining Aboriginal archaeological resources in the area and contribute to the growing body of archaeological knowledge for the NSW mid and north coast.

Comber (1990) assessed the Pacific Highway deviation between Herons Creek and Ryans Road, Port Macquarie, located north of the current proposed extension area. The road corridor covered approximately 11 km in length and 75 m in width, passing through the flat coastal plain before reaching the Great Dividing Range. Most of the route passed through State Forests that had been previously logged. Ground visibility during the survey was generally poor, with low visibility. No Aboriginal sites were discovered within the road corridor, which was attributed to previous landscape disturbance and limited surface visibility.

Collins (1997a, 1998a, 1999a, 1999b, 2000) conducted archaeological surveys and assessments for the Pacific Highway Upgrading Project. In 1997, Collins carried out an Aboriginal archaeological assessment of the proposed 4.2 km Coopernook Traffic Relief Route. The route passed through the Lansdowne River floodplain, at an elevation below one meter, and traversed a ridge system within the Manning River - Camden Haven River watershed. A single artefact scatter consisting of nine stone artefacts was found on a slightly elevated area between Coopernook Creek and a

swamp. An area of potential archaeological significance was identified as a levee on the northern bank of the Lansdowne River.

Collins (1999a) then undertook an archaeological subsurface test excavation on the levee that consisted of ninety-nine auger holes and one 50 x 50 cm shovel test pit. Each auger hole had an area of 0.16 m^2, resulting in a total excavation area of 15.9 m^2. The excavation yielded five stone artefacts. Collins interpreted the site as indicative of a brief stop-over rather than long-term occupation of the levee (Collins 1999a: abstract).

In 1998, Collins conducted an Aboriginal archaeological assessment for the proposed 7.2 km Taree Bypass to Coopernook Bypass. The study area covered approximately 24 hectares and divided Jones Island between the Manning River floodplain and Ghinni Ghinni Creek, approximately 7-8 km inland from the coast. No Aboriginal sites were discovered during the survey, but a local informant reported finding pebble axes while ploughing his paddocks. A natural levee on the southern bank of Ghinni Ghinni Creek was identified as a potential archaeological deposit (Collins 1998a).

Collins (2000) then undertook an archaeological subsurface test excavation of this PAD. The excavation involved the use of 25 mechanical auger holes and three 50 cm2 shovel pits on the levee. As a result, three Aboriginal stone artefacts were recovered from the site. Collins interprets the findings as indicating a brief stop-over rather than a long-term occupation of the levee (Collins, 2000: abstract).

Collins (1999b) also assessed the Moorland Pacific Highway Upgrade, which covers a stretch of 10 km just south of the study area. The road corridor for this upgrade was found to traverse low undulating hills near the coastal plain, around 7-8 km inland from the coast. During the field survey, no Aboriginal sites were discovered along the road corridor. However, a campsite on Crown Land adjacent to Pipeclay Creek, south of the village of Moorland, was identified. This campsite had been occupied on a semi-permanent basis after European settlement. Considering the archaeological aspects, Collins assessed the road corridor as having low archaeological potential.

Resource Planning Pty Ltd (1991) conducted an initial assessment of four proposed options for upgrading the Pacific Highway between Coopernook and Moorland. This assessment aimed to gather preliminary information about the potential upgrade options. Several linear surveys have also been conducted in and around the current study area. In 1977, Brayshaw conducted a survey of the Taree-Kempsey 132 kV transmission line, which traverses the western part of the study area and intersects the Pacific Highway at Herons Creek. Similarly, Coleman (1981) conducted a survey along the northern bank of the Hastings River, while Kuskie (1992) conducted a survey of the Optus optical fibre cable between Beresfield and Coffs Harbour. It is noteworthy that no Aboriginal sites were identified during any of these surveys.

In addition to linear surveys, there have been several surveys undertaken for housing, extractive industries, and communication towers. In a survey conducted by Dean Jones in 1989, a specific parcel of land located 900 m north-northeast of the peak of Middle Brother Mountain, within the Middle Brother State Forest, was investigated. The survey's purpose was to assess the feasibility of establishing a significant UHF/VHF transmitting station in the aforementioned area. Importantly, no Aboriginal sites were identified throughout the course of this comprehensive survey.

During a survey conducted by Navin in 1992 for a proposed hard rock quarry on Middle Brother Mountain, no Aboriginal sites were found. The survey encompassed various sections, including the ridge-crest and associated spur-line, a low-gradient rise on the basal slopes, and a small portion of the neighbouring alluvial corridor and floodplain of Stewarts River. The ridge itself

was located at the southeastern end of the Middle Brother Mountain complex and was adjacent to the valley floor of Stewarts River (this assessment is discussed in more detail in Section 5.4).

Bonhomme (1988) conducted a survey for a proposed residential subdivision on the foot-slopes of North Brother Mountain at Laurieton (approximately 8 kilometres north east of the proposed extension area). This area was subsequently re-surveyed by Sullivan (1995). Two scarred trees and an isolated artefact were identified.

Collins (1995) assessed a proposed extension to an existing gravel quarry at Kew. The proposed extension covered a total area of 18 hectares, which formed a portion of a coastal hill system with a north-south orientation. This system was between Herons Creek in the north and Camden Haven River in the south. The surveyed area exhibited significant disturbance and was determined to have limited archaeological potential. During the assessment, a noteworthy Aboriginal site was identified within the quarry study area. Specifically, a Blackbutt tree (scientifically known as Eucalyptus pilularis) displaying two scars on its trunk was recorded as an archaeological site, with the designation NPWS Site #30-6-91. These scars were located in a wet forested flat within the study area.

Collins (1997b) undertook an assessment for a proposed high school located about one kilometre east of Kew. The site encompassed a portion of the crest and southern slopes of a low ridge that gradually sloped down towards a swampy lowland on the southwestern shore of Queens Lake. No Aboriginal sites were identified during the survey. Collins also undertook an assessment for the Kew Kendall Sewerage Scheme (Collins 1998b). The Sewage Treatment Plant (STP) site was located 2.3 km northeast of Kew and approximately 500 m east of the Pacific Highway. The STP site was in the upper catchment of Herons Creek and was situated on the crest of a spur that runs towards Herons Creek at an elevation of approximately 16-18 m AHD. No sites or PADs were identified.

5.1.1 THE THREE BROTHERS MOUNTAINS

South and Middle Brother Mountains are in the northwestern and southwestern directions of Johns River village. The North Brother Mountain is positioned to the east of Kew, encompassed by Watson Taylors Lake and Queens Lake. These mountains hold significant cultural importance as they are part of an Indigenous dreaming story relayed to Ray Kelly by Harry Buchanan, a member of the Gumbangirra tribal community, during the 1970s. The story is extensively documented (Nayutah & Finlay nd:71-72; NSW NPWS Site Cards, NPWS Pamphlet, Gay 2000), narrates the tale of the Three Birroguns (brothers). The local Aboriginal community has requested that the story not be recounted in previous assessment reports and in respect of the wishes of the local Aboriginal community, the specific details of the story are excluded from this assessment report as well. The Middle and North Brothers Mountains have been registered as an Aboriginal Place (ID: 133) on AHIMS.

5.1.2 SUMMARY OF REGIONAL ARCHAEOLOGICAL PATTERNING

Within the region, various types of sites are found, including single artefacts scattered across the landscape, open campsites, areas with grinding grooves, places where stones were quarried, and shell middens. A wide range of landforms have been sampled and it is evident that site distribution is closely linked to topography and hydrology, with site increase in numbers and densities with higher order creeks which reduce in number and size with a decrease in stream order. Sites are also typically located within 50 metres of a fresh water source. Previous archaeological investigations conducted within the region have produced a significant volume of information in relation to the distribution and nature of archaeological material within this

region. Analysing the patterns of site distribution in the region, it is highly probable that Aboriginal sites are present in the expanding floodplains of rivers like the Stewarts and Camden Haven as they converge with the coastal plain. These previous assessments have identified a number of trends that can be identified as follows:

- Open artefact scatters (or camp sites) are most likely to occur on relatively level, well-drained ground, adjacent to sources of freshwater (e.g. swamps and creeks) and estuarine lakes and wetlands, or along the crests of ridgelines.
- Isolated finds can occur anywhere in the landscape and may represent the random loss or deliberate discard of artefacts, or the remains of dispersed artefact scatters.
- Sites in proximity to ephemeral water sources or located in the vicinity of headwaters of upper tributaries (1st order streams) have a sparse distribution and density and contain little more than a background scatter.
- Sites located in the vicinity of the upper reaches of minor tributaries (2nd order streams) also have a relatively sparse distribution and density and may represent evidence of localised one-off behaviour.
- Sites located in the vicinity of the lower reaches of tributaries (3rd order creeks) have an increased distribution and density and contain evidence that may represent repeated occupation or concentration of activity.
- Sites located in the vicinity of major tributaries (4th and 5th order streams/rivers) have the highest distribution and densities. These sites tend to be extensive and complex in landscapes with permanent and reliable water and contain evidence representative of concentrated activity.
- Sites located within close vicinity at the confluence of any order stream may be a focus of activity and may contain a relatively higher artefact distribution and density.
- Topographically pronounced ridgelines which afford effective through-access across, and relative to, the surrounding landscape will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.
- Estuarine shell midden sites may be located on elevated ground close to estuarine environments. Such sites may only be present as subsurface deposits, given their location on actively aggrading flood plain surfaces.
- Burial sites are generally found in landforms characterised by a relatively deep profile of soft sediments such as aeolian sand and alluvium. Burials can also occur in the deposits of occupation sites such as middens.
- Aboriginal scarred trees may occur where old-growth trees survive, typically within areas of selectively logged forest, or remnant vegetation on privately owned lands.
- Quarry or stone procurement sites are likely to be found in association with natural outcrops or accumulations of suitable rock types such as fine-grained igneous rocks, quartzites and silcretes. Exposures of conglomerate and fluvial channel gravels are the most likely sources;
- Sites such as rock shelters, grinding grooves and engravings are unlikely to be present in the proposed extension area due to the relative absence of suitable sandstones, and of bedrock exposures which support substantial overhangs.
- Mythological sites or story places can be effectively identified by utilising oral histories and the preservation of traditional knowledge. Natural formations like the Three

Brother Mountains serve as prime examples of such locations, as they hold an esteemed Aboriginal significance that has been uncovered through narratives and storytelling.

- Sites are typically disturbed through past and present land uses.

5.2 HERITAGE REGISTER LISTINGS

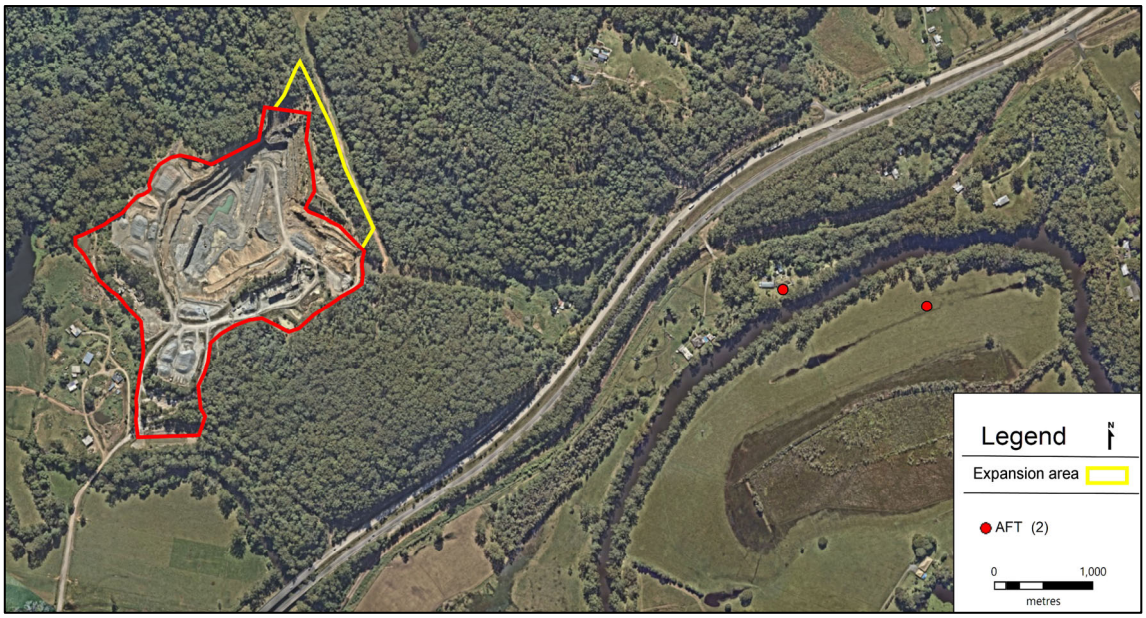
The State Heritage Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Heritage Register and the relevant Local Environmental Plan have no Aboriginal objects, sites or places listed in relation to the proposed extension area.

5.3 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

MCH note that there are many limitations with an AHIMS search. Firstly, site coordinates are not always correct due to errors and changing of computer systems over the years that failed to correctly translate old coordinate systems to new systems. Secondly, AHIMS will only provide up to 110 sites per search, thus limiting the search area surrounding the proposed extension area and enabling a more comprehensive analysis and finally, few sites have been updated on the AHIMS register to notify if they have been subject to a s87 or s90 and as such what sites remain in the local area and what sites have been destroyed, to assist in determining the cumulative impacts, is unknown. Additionally, terminology for site names includes (amongst many) an 'artefact' site encompasses stone, bone, shell, glass, ceramic and/or metal and combines both open camps and isolated finds into the one site name. Unfortunately, this greatly hinders predictive modelling as different site types grouped under one name provided inaccurate data.

A search of the AHIMS register has shown that two artefact sites and one Aboriginal Place (The Three Brothers Mountain - Middle and north – ID 133) are currently recorded within two kilometres of the proposed extension area, none of which are located in the proposed extension area. The AHIMs results are provided in Appendix B and the location of sites is shown in Figure 5.1.

Figure 5.1 Approximate location of AHIMS sites



5.4 LOCAL ARCHAEOLOGICAL CONTEXT

Limitations in examining previous local assessment include the number of studies in the local area. Fewer studies suggest that sites have not been recorded, ground surface visibility also hinders site identification and the geomorphology of the majority of NSW soils and high levels of erosion have proven to disturb sites and site contents, and the extent of those disturbances is unknown (i.e., we do not know if a site identified at the base of an eroded slope derived from the upper crest, was washed along the bottom etc: thus, altering our predictive modelling in an unknown way).

All archaeological surveys throughout the local area have been undertaken in relation to environmental assessments for developments. The most relevant investigations indicate similar results and observations based on surface visibility and exposure, alterations to the landscape (including mining, industrial and residential development), proximity to water sources and geomorphology. The reports available from AHIMS are discussed below.

Navin Officer. 2004. Pacific Highway upgrade – Moorland to Herons Creek. Working paper, cultural heritage assessment.

Navin (2004) undertook an assessment for the proposed upgrade to the section of the Pacific Highway by widening, duplication and/or deviation from Camp Obadiah to the existing dual carriageway at Herons Creek, between 36.6 and 58.5 kilometres north of Taree. Covering a range of landforms, a comprehensive field survey of the preferred highway route was conducted and aimed to identify all visible Aboriginal and historic sites and features in the proposed road reservation and to define areas of archaeological potential that may require subsurface testing.

The survey involved systematically walking along the entire route of the highway upgrade. Personnel were positioned at regular intervals across the easement to ensure comprehensive coverage. Additionally, traverses were carried out along nearby micro-topographic features that were deemed to have potential archaeological significance, such as creek banks, crest lines, and terrace edges. Moreover, all exposed natural ground surfaces were carefully examined, and any instances of old growth native trees within the survey area were inspected for potential evidence of Aboriginal scarring.

Eight Aboriginal sites were identified within, or close to, the preferred option. These included one artefact scatter (A3), two isolated finds (A1 and A6), three possible Aboriginal scarred trees (A7, A8 and A16), the general location of a local Aboriginal corroboree in 1903 (A14) and the Middle Brother Mountain (NPWS #30-6-2).

The isolated artefact A1 (fine grained chert flake with potlid fractures) was located on a mid-slope of a low spur line, west of the Highway and next to Watson Taylors Lake. It was observed on a 150 x 4-meter gravel vehicle track. The site condition was deemed to be generally good, and it was noted that there was moderate potential for *in situ* subsurface material.

This isolated artefact A6, (fine grained material, retouched flake) was located within an extensive area of recently ploughed ground situated on low gradient basal slopes 350 m south of Herons Creek and just north of Cluleys Road. The area of exposure was 300 x 300 m, with an exposure incidence of 98% and visibility of 95%. The site condition was assessed as good, and the potential; for sub surface materials was considered low.

The artefact scatter known as A3 was along a track (150 x 3 m) on the crest of a low spur line which ran parallel to the northern bank of Stewarts River and west of the railway line, between the railway line and the highway. The track served as a driveway to a nearby home, which was

transported to the site 12 years ago. Seven artefacts were exposed and included 5 chert artefacts (backed flake, retouched flake, 3 broken flakes), 1 silcrete flake and 1 silcrete core. The site condition was very good and the potential for *in situ* subsurface material is considered moderate.

The A7 possible scar tree was on a low spur line near the junction of Bobs Creek Road and the Pacific Highway, about 400 m north of the Herons Creek Bridge. This tree, a species of Eucalypt, had rough bark in the lower 1/3 and smooth cream bark (with scribbles) in the upper 2/3. The edges of the original scar were impossible to determine and the tree weas in excellent condition, despite being hollow and the original scar surface was burnt and missing.

The A8 possible scar tree was located on the mid-slopes of a low spur line near the intersection of Bobs Creek Road and the Pacific Highway, approximately 400 m north of the Herons Creek Bridge. Similar to A7, the tree was a Eucalypt which had rough, fine bark in the lower 1/3 and smooth cream bark (with scribbles) on the top 2/3. The tree was in excellent condition but the original scar surface was missing.

The potential scar tree, designated as A16, was in an open forest environment on the basal slopes, about 500m south of the Camden Haven River. It was situated approximately 40m southwest of the Pacific Highway and about 5m southwest of an unsealed forestry track. The tree was a smooth-barked Eucalyptus species, but it appeared to be in poor health. It exhibited significant damage, including the loss of major crown limbs, some dieback, and 80% of its canopy had poor leaf cover. Additionally, half of the tree trunk showed signs of being dead, and the original scar surface was partially missing, displaying evidence of termite activity.

During the assessment, the last documented Aboriginal corroboree in the vicinity was revisited. The information revealed that Stan Foster was guided to the location by Davey Lachlan, a former resident who settled in the district in 1879 and acquired bushcraft knowledge from local Aborigines. The corroboree is believed to have occurred in 1903, and the reported location of the event is situated in the general area where a remnant forest and grasslands meet, specifically on the southeast-facing, low gradient spur line upper slopes. No further details about the corroboree are available.

Navin also notes that the Middle Brother Mountain site holds great cultural and cosmological importance for the local Aboriginal community. It is regarded as a traditional story place and holds regional significance. The boundaries of the site and its Aboriginal significance are not clearly delineated. Consultations with community representatives have revealed that the entire mountain, including its basal slopes, is considered significant.

Six areas of Aboriginal archaeological potential (PADs 1-6) were also recorded in the study area. These included landforms that could be expected to contain traces of Aboriginal occupation based on predictive site location modelling, but where poor ground surface visibility precluded an adequate assessment of archaeological sensitivity. These areas generally comprise alluvial terraces and locally elevated areas adjacent to watercourses.

Following the identification of four potential archaeological deposits (PAD2, PAD4, PAD5 and PAD6) within areas of probable construction disturbance within the proposed road corridor, an application was made to the NSW National Parks and Wildlife Service for a Section 87 permit to conduct archaeological subsurface testing of these deposits. The application was denied. A site visit was then undertaken by representatives of the RTA, Arup, the DEC, and Navin Officer Heritage Consultants, all of the identified PADs (PAD1-6) were inspected, together with sites A7 and A8. The DEC informed the RTA that further archaeological investigation of the identified PADs would not be required or approved. The DEC recommended that any construction-related excavation into the PAD deposits should be appropriately monitored.

Australian Heritage Services Pty Ltd. 2011. Aboriginal Heritage Due Diligence Assessment TEJV/ARTC Curve Easing Sites 21, 23, 31, 32, & 34 (Wingham).

Australian Heritage Services (2011) completed a due diligence assessment of sections of existing rail track that were proposed for strategic upgrades. The proposed works consisted of the upgrading of an access road and setup compound, clearance of vegetation, creation of a stock pile area, construction of cuttings and embankments, installation of structural, capping and bottom ballast, layout of sleepers, cutting the existing line and slewing across to pre-laid sleepers, tamping and destressing the curve and reinstating the site and properties to original condition. The study area comprised of Curve Easing Sites 21 and 23, close to the town of Maitland in NSW. The topography of the study area included river flats and hill country. The vegetation had been predominantly cleared from the area during past activity. It was noted that wetlands were in the surrounding region, which would have provided resources and supported faunal life within this area in the Aboriginal past. The nearest named water courses were Herons Creek, Watson Taylors Lake and Stewarts River. A search of the AHIMS register did not identify any sites within the bounds of the study area and only three previously recorded sites were identified within a 10-kilometre radius. Due to high levels of past disturbance, it was predicted as unlikely that intact Aboriginal sites would be found within the study area. The survey did not identify any sites or PADs and it was recommended that the proposed works proceed without heritage constraint. It was recommended that stop work procedures be implemented should unexpected finds be identified during works and that an Aboriginal Cultural Education Program should be developed for all workers associated with the project.

5.5 PREVIOUS ASSESSMENT OF THE PROPOSED EXTENSION AREA

Navin (1992) assessed the proposed extension area that included a brief environmental and archaeological background. Navin identified that the proposed extension area had been significantly impacted on by past land uses including clearing, agricultural activities along the flats and road works. It was noted that the proposed extension area had been extensively logged with very few mature trees remaining. The survey was undertaken with Purfleet-Taree LALC. The survey included the crests that had 10%visibility. Visibility and exposure were limited to tracks, uprooted trees, animal tracks and rock outcrops. The lower slopes and flats were surveyed, and visibility averaged 5%. Visibility was hindered by vegetation, and exposures included vehicle and animal tracks, clearing around an old timber mill and adjacent farm buildings as well as erosion scars. The land in between the Stewarts River and the old Pacific Highway was also surveyed. Visibility was again hindered by vegetation with visibility being 5%. No sites or PADs were identified during the survey and although many trees exhibited scarring, all were confidently attributed to fire damage of loss or limbs.

Navin concluded that the study area was considered to have low archaeological sensitivity based on the combined factors of the topographic constraints and land use history. Navin noted that the proposed extension area consisted of relatively steep terrain and shallow rocky soils which would not have provided suitable camping locations. The shallow soils rendered the possibility of sub-surface sites being present as low. Navin also notes that the proposed extension area had been subject to significant disturbances including forestry and agricultural practices (particularly on the lower slopes and river flats).

5.6 LOCAL AND REGIONAL CHARACTER OF ABORIGINAL LAND USE AND ITS MATERIAL TRACES

The following is a summary of the previous investigations detailed in Section 5.3 and 5.4. It must be remembered, however, that there are various factors which will have skewed the results discussed in Section 5.3. Therefore, the summary provides an indication of what may be expected in terms of site location and distribution.

- the majority of high-density sites are located on elevated landforms within 50 metres of a reliable fresh water source with a drop of site number and densities with a decrease in stream order;
- the likelihood of finding sites of any size increases with proximity to fresh water sources and the likelihood of finding large artefact scatters also increases markedly with proximity to reliable high order water sources;
- the main site types are artefact scatters and isolated finds;
- chert and silcrete are the most common raw material types represented at sites in the region. Quartz and mudstone are the next most frequently in artefact assemblages followed by volcanic materials, porphyry and petrified wood. Siltstone, rhyolite and porcellanite are relatively rare;
- flakes, broken flakes and flaked pieces are the most common artefact types recorded;
- the stone artefacts are usually relatively dated to within the last 5,000 years;
- grinding grooves may be located along or near water sources;
- the likelihood of finding scarred trees is dependent on the level of clearing in an area;
- the vast majority of artefactual material in the region was observed on exposures with good to excellent ground surface visibility; and
- the majority of sites will be subject to disturbances including human and natural.

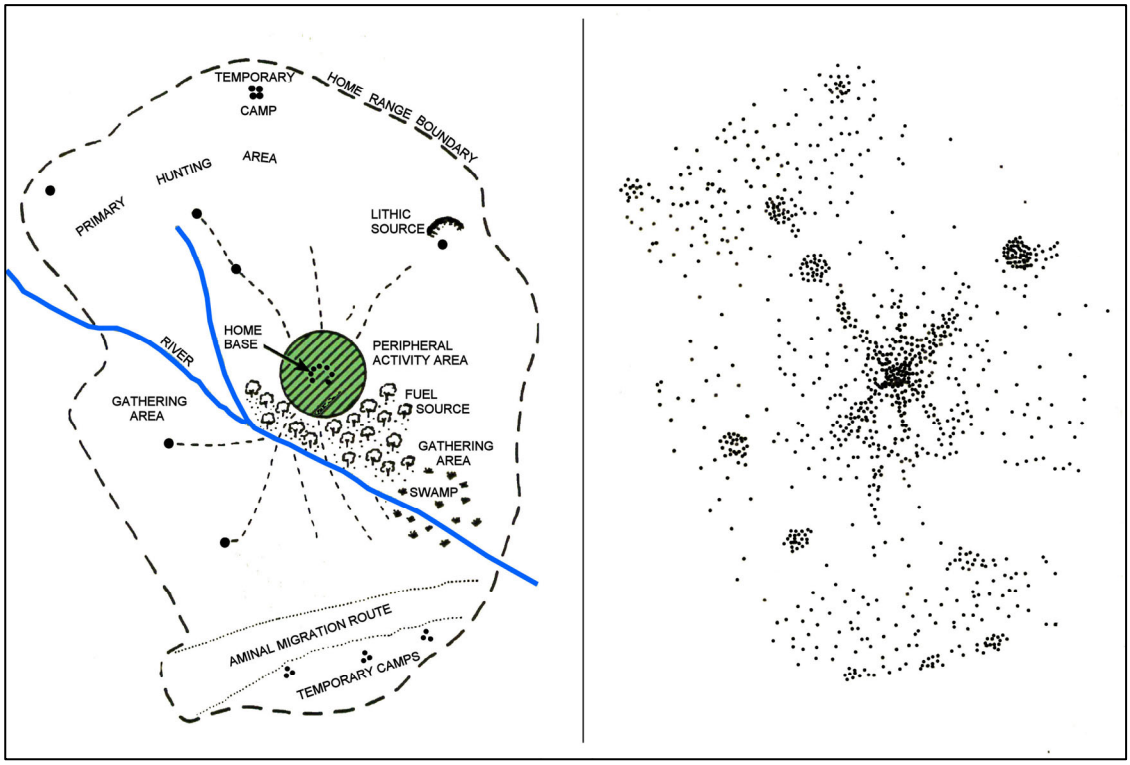
These findings are consistent with models developed for the local area.

5.7 MODELS OF PAST ABORIGINAL LAND USE

The objective of this assessment is to define the nature and extent of occupation in the area by analysing landform units and sites. The focus will be on identifying variations between sites, assemblages, landforms, and resources, treating assemblages as a continuous scatter of cultural material. By examining stone artifact distributions, we aim to pinpoint variations in land use, activities, and occupation patterns across the landscape.

A general model of forager settlement patterning in the archaeological record has been established by Foley (1981). This model outlines forager settlement patterning, defining a residential "home base" site and peripheral "activity locations". The home base serves as the primary hub for various activities, while activity locations are situated away from the home base and cater to specific tasks like tool manufacturing. This pattern is illustrated in Figure 5.2.

Figure 5.2 Foley's model (L) and its manifestation in the archaeological record (R), (Foley 1981).



Home base sites are typically located in areas with reliable access to essential resources like water and raw materials, influencing the rate of return and complexity of evidence. Home base sites generally show a greater diversity of artefacts and raw material types (which represent a greater array of activities performed at the site and immediate area). Activity locations, on the other hand, occur within the foraging radius of a home base camp (approximately 10 km); (Renfrew and Bahn 1991).

Based on the premise that the activity locations outside the home base, served as a focus of a specific activity, they will show a low diversity in artefacts and are not likely to contain features reflecting a base camp (such as hearths). However, it is also possible that the location of certain activities cannot be predicted or identified, adding to the increased dispersal of cultural material across the landscape. For example, if people were opting to carry stone tools during hunting and gathering journeys throughout the area (rather than manufacturing tools at task locations), an increased number of used tools should be recovered from low-density and dispersed assemblages across the landscape.

5.7.1 MODEL OF OCCUPATION FOR THE REGION

Work throughout NSW has aimed to understand the nature of Aboriginal occupation and determine the nature of land use. This theme often aims to identify and explain archaeological patterning in site type, content and distribution. General theories have been developed outlining the relationship between land use patterns and the resulting archaeological evidence.

Several models developed for the region have been reviewed (McBryde 1976; Koettig 1994; Dean-Jones and Mitchell 1993; Rich 1995; Kuskie and Kamminga 2000; McDonald and White 2010). All models state that the primary requirements for repeated, concentrated or permanent occupation is access to reliable fresh water. Brief and possible repeated occupation may be represented in

areas that have unreliable access to ephemeral water sources, however, these areas will not contain high archaeological evidence or potential (Goodwin 1999). Models for the local area all indicate that the major river corridors served as a focus of activity in the region (Byrne 1985, Godwin 1987, Dean-Jones 1989, Brayshaw 1977). Movement is likely to have been seasonal with groups spending winter hunting in the foothills areas and then moving towards the coastal areas for seasonal fishing activities (McBryde 1976, Sullivan 1978).

Kuskie and Kamminga (2000) developed a model of occupation strategies based on ethnographic research. The model makes a general set of predictions for the region that is consistent with other studies (e.g., Nelson 1991) and distinguishes between short-term or extended long-term occupation and makes some predictions about the likely location of different foraging and settlement activities. Combining this information with a general review of assemblage contents from a sample of excavated sites within the region, a baseline of settlement activities may be determined (Barton 2001).

The model offers various archaeological expectations that can be empirically tested. For example, the presence of features requiring a considerable labour investment such as stone-lined ovens or heat-treatment pits are likely to occur at places where occupation occurred for extended periods of time. The presence of grindstones is also a reliable indicator of low mobility and extended occupation as seed grinding demands significant time and effort. Ethnographic evidence shows that seed grinding typically requires a full day to yield sufficient energy returns (Cane 1989; Edwards and O'Connell 1995).

In contexts of high group mobility and shifting campsites, artefact assemblages are not expected to contain elements such as grindstones, heat-treatment pits, ovens and the diversity of implements frequently discarded at places of extended occupation. Rather, activities may be unpredictably located, leading to low-density background scattering of discarded artefacts across the landscape. If individuals carry and maintain stone tools for multiple tasks rather than making new ones, the proportion of used tools to unworn flakes in these assemblages is likely to be high.

Table 5.1, adapted from Kuskie and Kamminga (2000), utilises the analysis of lithic assemblages to identify specific activity areas and may be utilised for this assessment. Excavated materials were used for this analysis due to their higher level of preservation and reduced disturbances, removal, and breakages.

Table 5.1 Site descriptions (Kuskie & Kamminga 2000).

Occupation pattern	Activity location	Proximity to water	Proximity to food	Archaeological expectations
Transitory movement	all landscape zones	not important	not important	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping
Hunting &/or gathering without camping	all landscape zones	not important	near food resources	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping • high frequency of used tools
Camping by small groups	associated with permanent & temporary water	near (within 100m)	near food resources	• assemblages of moderate density & diversity • evidence of tool maintenance & repair • evidence for stone knapping & hearths

Nuclear family base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density &diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones
Community base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density & diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones & ochre • large area >100sqm with isolated camp sites

5.8 PREDICTIVE MODEL FOR THE PROPOSED EXTENSION AREA

Due to issues surrounding ground surface visibility and the fact that the distribution of surface archaeological material does not necessarily reflect that of sub-surface deposits, it is essential to establish a predictive model.

Previous archaeological studies undertaken throughout the region, the AHIMS register, and the environmental context provide a good indication of site types and site patterning in the area. This research has shown that occupation sites (artefact scatters and isolated finds) are the most frequently recorded site type and are commonly located along or adjacent to watercourses, and on relatively flat to gently sloping topography close to reliable fresh water. Sites with higher artefact densities are similarly concentrated within fifty metres of higher order watercourses with site numbers and site densities decreasing with a reduction of stream order and distance from a water source. Within the local area, previous assessments within a similar environmental context indicate that, within a well-watered context, there is high potential for archaeological material to be present on level, typically well-elevated landforms that provide ready access to low-lying waterlogged areas and the associated resources.

Based on the AHIMS results, local and regional archaeological investigations as well as the environmental context, the proposed extension areas' topography was not suitable for camping activities. Additionally, given that fresh water was necessary for survival and the proposed extension area is located over 500 metres form Stewarts River (the only reliable fresh water source in the vicinity), the absence reliable of fresh water indicates the proposed extension area and immediate surrounds may have been used no more than hunting and gathering opportunities rather that large-scale long-term camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds.

Non-indigenous settlement and land uses have impacted the investigation area, most noticeably from selective logging and clearing. If evidence of past Aboriginal land uses were present in the proposed extension area, it may have been disturbed or destroyed through these activities. Two site types may be present in the proposed extension area and include artefact scatters and isolated finds, both of which are discussed below.

5.9 ARCHAEOLOGICAL POTENTIAL IN THE PROPOSED EXTENSION AREA

Based on archaeological sites registered in the region and the results of past archaeological studies, two site types are likely to occur throughout the proposed extension area:

- **Artefact scatters**

Also described as open campsites, artefact scatters have been defined at two or more stone artefacts within 50 metres of each other and will include archaeological remains such as stone artefacts and may be found in association with hunting and gathering activities (manifests in the archaeological record as lo-density discarded artefacts across the landscape) or camping where other evidence may be present such as shell, hearths, stone lined fire places and/or heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation and land uses. Erosion, agricultural activities (such as ploughing, grazing), construction and mining activities and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Large camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Medium/small camp sites, where activities such as minimal tool manufacturing occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

Artefact scatters are a common site type in the locality and the broader region. There is potential for low-density artefact scatters to occur within the proposed extension area and be representative of hunting and gathering activities rather than camping. There is also the potential for such sites to be impacted on through past land uses and erosion.

- **Isolated finds**

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation and land uses. Erosion, agricultural activities (such as ploughing), construction and mining activities and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

Isolated finds are a common site type in the locality and the broader region. There is potential for isolated artefacts to occur across the proposed extension area and across all landforms. There is also the potential for such sites to be impacted on through land uses and erosion.

6 RESULTS

6.1 METHODOLOGY

The survey area was surveyed on foot by the archaeologist in accordance with the proposed methodology provided to the stakeholders for review. The survey focused on areas of high ground surface visibility and exposures (erosional features, tracks, cleared areas).

6.2 LANDFORMS

McDonald et al (1998) describes the categories of landform divisions that consists of a two layered division involving treating the landscape as a series of "mosaics". The mosaics are described as two distinct sizes: the larger categories are referred to as landform patterns and the smaller being landform elements within these patterns. Landform patterns are large-scale landscape units, and landform elements are the individual features contained within these broader landscape patterns. There are forty landform pattern units and over seventy landform elements. However, of all the landform element units, ten are morphological types. For archaeological investigations they divide the landscape into standardised elements that can be used for comparative purposes and predictive modelling. As outlined in Section 3, the proposed extension area includes two landforms: thin section of a disturbed ridge top that falls into a steep slope.

6.3 SURVEY UNITS

Although the proposed extension area consists of two landforms, as the narrow ridge edge was no more than a metre or so in width, was surveyed as one unit and combined the ride top and steep slope. The narrow ridge top sect of the proposed extension area was significantly disturbed through quarrying works that included clearing, access road and overburden deposited on it from earlier quarrying works. Visibility in this section was excellent at 90%. The steep slope exhibited significant erosion and was vegetated with re growth open woodland and lantana and visibility was reduced due to vegetation cover. Examples of the proposed extension area are provided in Figures 6.1` to 6.4.

Figure 6.1 Eastern side of the proposed extension area, facing

Figure 6.2 Southern end of the proposed extension area, facing

Figure 6.3 Middle of the ridge access road, facing north

Figure 6.4 Steep slope looking down from the ridge top (facing east)

6.4 EFFECTIVE COVERAGE AND DISTURBANCES

To determine the effectiveness of an archaeological survey, the visibility and exposure conditions for each survey unit is calculated to provide an effective coverage amount. Effective coverage is an estimate of the amount of ground observed considering local constraints on site discovery such as vegetation and leaf litter and erosion. There are two components to determining the effective coverage: visibility and exposure.

Visibility is the amount of bare ground on the exposures which may reveal artefacts or other cultural materials, or visibility refers to 'what conceals'. Visibility is hampered by vegetation, plant or leaf litter, loose sand, stony ground or introduced materials (such as rubbish). On its own, visibility is not a reliable factor in determining the detectability of subsurface cultural materials (DECCW 2010/783:39).

The second component in establishing effective coverage is exposure. Exposure refers to "what reveals". It estimates the area with a likelihood of revealing subsurface cultural materials rather than just an observation of the amount of bare ground. Exposure is the percentage of land for which erosion and exposure is sufficient to reveal cultural materials on the surface (DECCW 2010/783:37). The effective coverage for the proposed extension area was determined for both visibility and exposure ratings and Table 6.1 details the visibility rating system used.

Table 6.1 Ground surface visibility rating

Description	GSV rating %
Very Poor – heavy vegetation, scrub foliage or debris cover, dense trees of scrub cover. Soil surface of the ground very difficult to see.	0-9%
Poor – moderate level of vegetation, scrub, and / or tree cover. Some small patches of soil surface visible in the form of animal tracks, erosion, scalds, blowouts etc, in isolated patches. Soil surface visible in random patches.	10-29%
Fair – moderate levels of vegetation, scrub and / or tree cover. Moderate sized patches of soil surface visible, possibly associated with animal, stock tracks, unsealed walking tracks, erosion, blow outs etc, soil surface visible as moderate to small patches, across a larger section of the proposed extension area.	30-49%
Good – moderate to low level of vegetation, tree or scrub cover. Greater amount of areas of soil surface visible in the form of erosion, scalds, blowouts, recent ploughing, grading or clearing.	50-59%
Very Good – low levels of vegetation / scrub cover. Higher incidence of soil surface visible due to recent or past land-use practices such as ploughing, mining etc.	60-79%
Excellent – very low to non-existent levels of vegetation/scrub cover. High incidence of soil surface visible due to past or recent land use practices, such as ploughing, grading, mining etc.	80-100%
Note: this process is purely subjective and can vary between field specialists, however, consistency is achieved by the same field specialist providing the assessment for the one proposed extension area/subject site.	

As indicated in Table 6.2, the overall effective coverage is 42.5% with vegetation on the steep slope being the visibility limiting factor. The disturbances included logging, clearing, quarry activities including access road, all of which have impacted upon the landscape and associated cultural materials through removal and displacement.

Table 6.2 Effective coverage for the propose extension area

SU	Landform	Area (m2)	Vis. %	Exp. %	Exposure type	Previous disturbances	Present disturbances	Limiting visibility factors	Effective coverage (m2)
1	slope	20,300	50%	85%	quarry excavation, road, clearing	cleared, quarry activities, road	erosion, quarry road	vegetation	8,628
Totals		**20,300**							**8,628**
								Effective coverage %	**42.50%**

The level and nature of the effective survey coverage is considered satisfactory to provide an effective assessment of the proposed extension area. The coverage was comprehensive for obtrusive site types (e.g., grinding grooves and scarred trees) but somewhat limited for the less obtrusive surface stone artefact sites by surface visibility constraints that included vegetation cover and minimal exposures.

In relation to land uses and the associated impacts on the landscape and any cultural materials that may have been present, the proposed extension area has been subject to logging and some clearing with tracks and as indicated in Table 6.3, these disturbances range from minor to high.

Table 6.3 Land use scale (CSIRO 2010) and land uses in the proposed extension area

Minor disturbance		Proposed extension area	Moderate disturbance		Proposed extension area	Major disturbance		Proposed extension area
0	No effective disturbance; natural		3	Extensive clearing (e.g., poisoning and ringbarking		6	Cultivation: grain fed	
1	No effective disturbance other than grazed by hoofed animals		4	Complete clearing: pasture native or improved, but never cultivated		7	Cultivation: irrigated, past and present	
2	Limited clearing (e.g., selected logging)	yes	5	Complete clearing: pasture native or improved, cultivated at some stage		8	Highly disturbed: e.g., quarry, road works, mining, landfill, urban	part

In view of the predictive modelling and the results obtained from the effective coverage and disturbance rating, it is concluded that the survey provides a valid basis for determining the probable impacts of the proposal and formulating recommendations for the management of the proposed extension area.

6.5 ARCHAEOLOGICAL SITES

No sites were identified in the proposed extension area. The lack of accessible and reliable fresh water in the proposed extension area and its immediate surroundings suggest that this area may have been utilised for hunting and gathering, rather than being a site for large-scale, long-term camping. It is important to note that the investigation area has been impacted by logging and some land clearing and tracks for vehicular access. These activities have disturbed the archaeological record by redistributing and removing cultural materials throughout the proposed extension area where such activities have occurred.

6.6 POTENTIAL ARCHAEOLOGICAL DEPOSIT/ SENSITIVITY

The terms "potential archaeological deposit (PAD)" and "area(s) of archaeological sensitivity" are used to describe areas that are likely to contain sub-surface cultural deposits. These sensitive landforms or areas are identified based upon the results of fieldwork, the knowledge gained from previous studies in or around the subject area and the resultant predictive models. Any or all of these attributes may be used in combination to define an area of potential archaeological sensitivity.

The likelihood of a landscape having been used by past Aboriginal societies and hence containing archaeologically sensitive areas is primarily based on the availability of local natural resources for subsistence, artefact manufacture and ceremonial purposes. The likelihood of surface and subsurface cultural materials surviving in the landscape is primarily based on past land uses and preservation factors.

No PADs were identified in the proposed extension area. The lack of dependable fresh water availability in the proposed extension area and its immediate vicinity suggests that this particular location may have been primarily utilised for hunting and gathering activities, rather than serving as a site for camping. Additionally, the proposed extension area along with any cultural materials that may have been present, have been affected by various activities such as logging, land clearance, as well as established vehicular access routes. These human interventions have led to disruptions within the archaeological record by redistributing and removing any cultural materials that may have been present.

6.7 DISCUSSION

As no sites have been identified, the results of the investigation are discussed below in terms of overall site integrity, local and regional contexts, and predictive modeling.

6.7.1 INTEGRITY

The integrity of an area can be assessed only for surface integrity through the consideration of past and present land uses and their impacts. Subsurface integrity can only be assessed through controlled excavation that allows for the examination of both the horizontal and vertical distribution of cultural materials (caused by natural and/or human impacts) and by conjoining artefacts. Land uses and their impacts (logging, land clearance, as well as access tracks), as well

as natural impacts (bioturbation, erosion, flooding), within the proposed extension area have been discussed in Section 3 and 6 and are considered to be high throughout and due to such disturbances, the integrity of the proposed extension area is highly disturbed and any sites that may have been present would have been disturbed or destroyed.

6.8 INTERPRETATION AND OCCUPATION MODEL

Given the fact that no sites were identified, it is impossible to discuss site interpretation or occupation models.

6.9 REGIONAL & LOCAL CONTEXT

The absence of any archaeological sites identified in the proposed extension area does not preclude us from discussing the regional or local archaeological contexts pertaining to the proposed extension area. The geographical features of the terrain, characterised by a thin section of a ridge top and a steep slope and a lack of fresh water sources, suggest that the area would not have been suitable for prolonged human habitation or regular camping activities. Instead, it is likely that the proposed extension area was utilised primarily for opportunistic hunting and gathering activities.

These findings are consistent with archaeological studies conducted in areas exhibiting similar environmental characteristics within the immediate vicinity and surrounding regions. The identified parallels further strengthen the validity of the conclusions drawn from the analysis of the proposed extension area.

6.10 REASSESSMENT OF THE PREDICTIVE MODEL

The predictive model indicated that the proposed extension area's terrain may be considered unsuitable for camping. Additionally, as fresh water is necessary for survival, the lack of fresh water in the proposed extension area and immediate surrounds also supports the idea that camping in the proposed extension area was not likely. Further, the disturbances to the landscape (selective logging, clearing, vehicular access, fencing) would have impacted on any cultural materials that may have been present. The results of the survey support the predictive model.

6.11 CONCLUSION

Sites provide valuable information about past occupation, use of the environment and its specific resources including diet, raw material transportation, stone tool manufacture, and movement of groups throughout the landscape. Previous broad-based regional research has shown that proximity to water was an important factor in past occupation, with sites reducing in number significantly away from water. This research has also shown that occupation sites (artefact scatters and isolated finds) are the most frequently recorded site type and are commonly located along or adjacent to watercourses, and on relatively flat elevated landforms close to reliable fresh water. Sites with higher artefact densities are similarly concentrated within fifty metres of watercourses and throughout the wider landscape, a background scatter of artefacts is present and represents hunting and gathering or travel.

The assessment indicated that the proposed extension area's topography is unsuitable for camping activities. Furthermore, the lack of a reliable source of fresh water in the proposed extension area and immediate surroundings indicates that the proposed extension area may have

been utilised primarily for hunting and gathering, rather than as a site for long-term large-scale camping.

Regarding the impact of modern landscape alterations, previous activities such as logging, clearing, and vehicle tracks have likely had an impact on the archaeological record. Additionally, natural factors like erosion have also affected the archaeological record, leading to the displacement of cultural materials. As a result, the likelihood of finding in situ cultural materials is very low.

7 ASSESSMENT OF IMPACTS

The archaeological record is a non-renewable resource that is affected by many processes and activities. As outlined in Section 3 and 6, the various natural processes and human activities would have impacted on archaeological deposits through both site formation and taphonomic processes. Section 6 describes the impacts within the proposed extension area, showing how these processes and activities have disturbed the landscape and associated cultural materials in varying degrees.

7.1 IMPACTS

Detailed descriptions of the impacts are provided in Section 1.4 and the results of the survey in Section 6. The Heritage NSW Code of practice for the archaeological investigation of Aboriginal objects in New South Wales (2010:21) describes impacts to be rated as follows:

1) Type of harm: is either direct, indirect or none

2) Degree of harm is defined as either total, partial or none

3) Consequence of harm is defined as either total loss, partial loss, or no loss of value

As no sites were identified during the survey, there are no impacts on the archaeological record.

8 MITIGATION AND MANAGEMENT STRATEGIES

Specific strategies, as outlined through the Heritage NSW, Department of Premier & Cabinet: Code of practice for archaeological investigation of Aboriginal objects in New South Wales (DECCW 2010b) and the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) are considered below for the management of the identified site within the proposed extension area.

One of the most important considerations in selecting the most suitable and appropriate strategy is the recognition that Aboriginal cultural heritage is very important to the local Aboriginal community. Decisions about the management of sites and potential archaeological deposits should be made in consultation with the appropriate local Aboriginal community.

8.1 CONSERVATION/PROTECTION

Heritage NSW, Department of Premier & Cabinet is responsible for the conservation/protection of Indigenous sites, and they therefore require good reason for any impact on an indigenous site. Conservation is the first avenue and is suitable for all sites, especially those considered high archaeological significance and/or cultural significance. Conservation includes the processes of looking after an indigenous site or place to retain its cultural and scientific significance and are managed in a way that is consistent with the nature of peoples' attachment to them.

As no sites or PADs have been identified in the proposed extension area, conservation/protection is not required.

8.2 FURTHER INVESTIGATION

Except for shell middens and burials, an Aboriginal Heritage Impact Permit (AHIP) is not required to undertake test excavations (providing the excavations are in accordance with the Code of Practice for Archaeological Investigations in NSW and consultation with the RAPs). Subsurface testing is appropriate when a PAD has been identified, and it can be demonstrated that sub-surface Aboriginal objects with potential conservation value have a high probability of being present, and that the area cannot be substantially avoided by the proposed activity.

As no sites or PADS have been identified in the project, further investigations are not justified.

8.3 AHIP

If harm occurs to an Aboriginal object or Place, then an AHIP is sought from Heritage NSW as a defence against that harm. If a systematic excavation of the known site could provide benefits and information for the Aboriginal community and/or archaeological study of past Aboriginal occupation, a salvage program, and, or community collection, may be an appropriate strategy to enable the salvage of cultural objects.

As no sites have been identified and the proposed extension area, an AHIP is not required.

9 RECOMMENDATIONS

9.1 GENERAL

1) The persons responsible for the management of onsite works will ensure that all relevant staff and are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974;

2) An Unexpected Finds Procedure (Appendix C) will be implemented during all works, and

3) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately, the Unexpected Finds Procedure followed and the Environmental Line contacted.

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APPENDIX A

Aboriginal Stakeholder Consultation

Date	Consultation type	Heritage NSW requirement	Consult stage	RAP/Agency	Contact person	Description
6/5/24	Letter/email	4.1.2	1	MCH contacted Heritage NSW		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted the Local Aboriginal Land Council (LALC)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted Registrar of Aboriginal Owners (RAO)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted Mid-Coast Council		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted Native Title Tribunal (NNTT)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted NTSCORP Ltd		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	MCH contacted Hunter Local Land Services (HLLS)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 20/5/2024
6/5/24	Letter/email	4.1.2	1	NNTT		Freehold
9/5/24	Letter/email	4.1.2	1	RAO		Identified Aboriginal parties: 2
9/5/24	Letter/email	4.1.2	1	Heritage NSW		Identified Aboriginal parties: 28
NA		4.1.2	1	LALC		No response
NA		4.1.2	1	Council		No response
NA		4.1.2	1	NTSCORP	Do not provide lists of possible stakeholders	
NA		4.1.2	1	HLLS	Do not provide lists of possible stakeholders	
20th May 2024 C.O.B. Request for groups to consult with closed						
17/5/24	Public notice	4.1.3	1	All registered Aboriginal parties (RAPs)		Public notice in Port Macquarie News and requested registration no later than 17/5/24.
21/5/24	Letter & email	4.1.3, 4.1.4, 4.1.5, 4.2.1	1	All RAPs	those provided from sources above	Formal letter to identified RAPs requesting registration of interest in the project, project outline, maps and asking for the preferred method to receive information (meeting/mail/email). Required registration by C.O.B. 4/6/2024
21/5/24	Email	4.1.7, 4.1.8	1		Lee Davison	Registered for the project
3/6/2024	Email	4.1.7, 4.1.8	1	Girragirra Murun Aboriginal Corporation	Diana Astin	Registered for the project

		4.1.7, 4.1.8	1			Registered for the project
		4.1.7, 4.1.8	1			Registered for the project
		4.1.7, 4.1.8	1			Registered for the project
		4.1.7, 4.1.8	1			Registered for the project
4th June 2024 C.O.B. Registration for project closed						
5/6/24	Email & letter	1; s 4.1.6		Heritage NSW		Letter notifying Heritage NSW of RAPs
5/6/24	Email & letter	1; s 4.1.6		LALC		Letter notifying LALC of RAPs
5/6/24	Letter	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	All RAPs		Formal letter and information packet sent to identified RAPs. Information packet included project outline, project area, critical timelines, impacts, brief cultural, environmental and archaeological context, proposed methods of investigation, proposed methods of gathering cultural knowledge, and maps. A response the proposed methodology was required registration by C.O.B. 3/7/2024
3rd July 2024 C.O.B. Response to information packet closed						
5/7/24	Email		3	All RAPs		All RAPs sent a letter of invitation to attend and participate in the survey
15th July 2024 Survey						
29/8/24		4.3.5; 4.3.6; 4.3.7 4.4.1; 4.4.2; 4.4.3	3 & 4	All RAPs		Draft report sent to all RAPs for review
26th September 2024 C.O.B. Response to Draft Report Closed						
27/9/24		4..4.4; 4.4.5	4	All RAPs		Final report, final ACHMP and final AHIP sent to all RAPs
27th September 2024 C.O.B. Assessment Complete						

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Monday, 6 May 2024 8:00 AM
To: 'notifications@ntscorp.com.au'; 'heritagemailbox@environment.nsw.gov.au'; 'admin.hunter@lls.nsw.gov.au'; 'admin@ptlalc.com.au'; 'council@midcoast.nsw.gov.au'; 'aboriginalowners@oralra.nsw.gov.au'
Subject: List of RAPs

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Johns River Quarry Expansion

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd (PO Box 6041 North Ryde, NSW 2113) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and an Aboriginal Heritage Impact Permit (AHIP) if required, for the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380), Mid-Coast Council Local Government Area (LGA).

As per the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, (Stage 1, s4.1.1 to 4.1.2), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the project area

To comply with the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, specifically Stage 1 (s4.1.2), we are notifying you of our proposal and requesting information on any Aboriginal groups or individuals known to your organization who may have an interest in the investigation area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Please provide the names and contact details of any Aboriginal people/organisations within 14 working days by emailing penny@mcheritagecom.au. Please note that in order to adhere to time constraints, and the minimal time requirements as stated in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation is not aware of any such interested parties.

Should you wish to discuss this matter, please do not hesitate to contact me on 0412 702 396.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Monday, 6 May 2024 8:00 AM
To: GeospatialSearch@NNTT.gov.au
Subject: Search
Attachments: GeospatialSearch2023.pdf

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Johns River Quarry Expansion

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Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

Request for Spatial Search of Tribunal Registers

National Native Title Tribunal

1: Your details

Your name:	Penny McCadle		
Your company:	McCadle Cultural Heritage Pty Ltd		
E-mail address:	penny@mcheritage.com.au	Phone:	0412 702 396
Your reference:	Johns River Quarry	Your state:	NSW
☑	*I have read and acknowledge the terms and conditions on the previous page.*		

2: Areas to be searched

Jurisdiction to be searched:	NSW	Tenure to be searched:	Land parcel

Parcel or tenement identifiers (add up to 20 separate identifiers). **Please see previous page for parcel identifiers.**

Parcel 1:	Lot 2 DP716380	Parcel 2:	
Parcel 3:		Parcel 4:	
Parcel 5:		Parcel 6:	
Parcel 7:		Parcel 8:	
Parcel 9:		Parcel 10:	
Parcel 11:		Parcel 12:	
Parcel 13:		Parcel 14:	
Parcel 15:		Parcel 16:	
Parcel 17:		Parcel 18:	
Parcel 19:		Parcel 20:	

If your search area is not a parcel or mining or petroleum tenement, you can enter other tenure or administrative regions here (e.g. local government area, townsite or county). Please provide as much detail as you can.

E-mail the completed form to GeospatialSearch@NNTT.gov.au

penny@mcheritage.com.au

To: Geospatial Search Requests
Subject: RE: SR24/789 - Search [SEC=OFFICIAL]

From: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Sent: Monday, 6 May 2024 3:16 PM
To: penny@mcheritage.com.au
Subject: RE: SR24/789 - Search [SEC=OFFICIAL]

OFFICIAL

Your ref: *Johns River Quarry* **Our ref:** *SR24/789*

Dear Penny McCadle

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:

- Schedule of Native Title Determination Applications
- Register of Native Title Claims
- Native Title Determinations
- Indigenous Land Use Agreements (Registered and notified)

Results for overlapping native title matters in NSW:

Feature ID	Tenure	Cadastre Data As At	Feature Area SqKm	Overlapping Native Title Feature				
				NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
2//DP716380	FREEHOLD	8/03/2024	0.4000	No overlap			-	0.00%

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 the external 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 and any 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 cannot be 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**

From: penny@mcheritage.com.au <penny@mcheritage.com.au>
Sent: Monday, May 6, 2024 6:00 AM
To: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Subject: SR24/789 - Search

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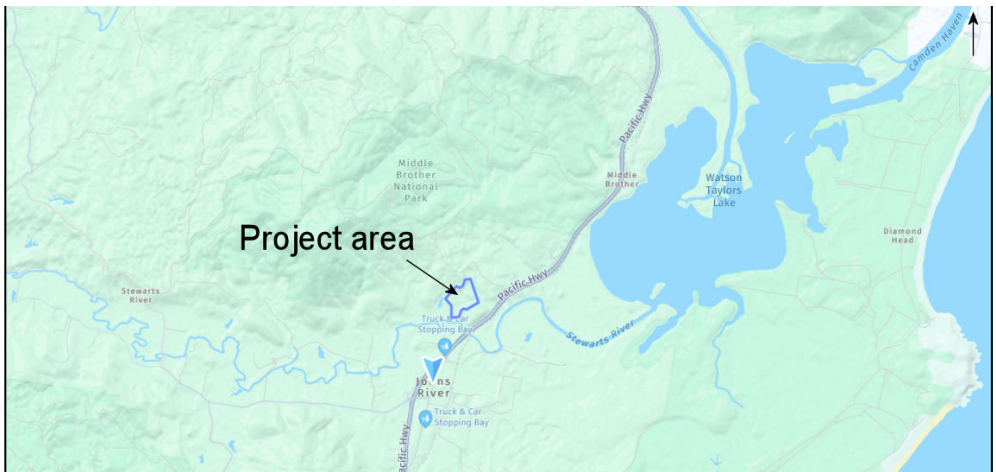
Location of the project area



OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

9 May 2024

By email: penny@mcheritagecom.au

Penny McCardle
Principal & Forensic Archaeologist
McCardle Cultural Heritage
PO Box 166
ADAMSTOWN NSW 2289

Dear Penny

Aboriginal Cultural Heritage Assessment – Proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road (Lot 2 DP 716 380) Johns River NSW: request for list of potential Aboriginal stakeholders

We refer to your email to this Office on the 6 May 2024 requesting contact information for Aboriginal organisations, stakeholders and/or people who may have cultural knowledge relevant to the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road (Lot 2 DP 716 380) Johns River NSW, as part of an Aboriginal Cultural Heritage Assessment (ACHA).

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 two Registered Aboriginal Owners: Gaagal Wanggaan (South Beach) National Park and Worimi Conservation Lands.

We suggest you contact the Joint Management Coordinator for the Gaagal Wanggaan (South Beach) National Park David Kennedy on (02) 6652 0926 or david.kennedy@environment.nsw.gov.au and Joint Management Coordinator for Worimi Conservation Lands Nadine Russell on (02) 4984 8208 or Nadine.Russell@environment.nsw.gov.au to ascertain whether the Boards of Management are interested in the project.

The proposed development and study area falls within the boundaries of Purfleet/Taree Local Aboriginal Land Council. We suggest you contact Purfleet/Taree Local Aboriginal Land Council (contact details provided below) as they may wish to participate or contribute.

Yours sincerely

Karen Carter

Karen Carter
Project Officer
Office of the Registrar, Aboriginal Land Rights Act 1983

Purfleet/Taree Local Aboriginal Land Council
PO Box 346
TAREE NSW 2430
Phone: 02 6652 4106

LIST OF ABORIGINAL STAKEHOLDERS FOR THE DEPARTMENT OF PLANNING AND ENVIRONMENT (DPE) HELD BY DPE FOR THE PURPOSES OF THE OEH ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

The purpose of this letter is to assist you as the proposed applicant in undertaking Aboriginal community consultation in accordance with the relevant legislation and guidelines.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

In accordance with Clause 60 (10) of the National Parks and Wildlife Regulation 2019, where an agreement of the kind listed below specifies or identifies a modified or alternative consultation process for the purposes of Part 6 of the National Parks and Wildlife Act 1974, the applicant is to undertake consultation in accordance with the modified or alternative process. The applicable agreements are:

a) a registered Indigenous Land Use Agreement under the Native Title Act 1993 of the Commonwealth entered into between an Aboriginal community and the State,

b) a lease entered into under Part 4A of the Act,

c) an agreement entered into by the Secretary and a board of management reserved under Part4A of the Act that has the consent of Aboriginal owner board members for the land concerned,

d) an agreement entered into between an Aboriginal community and the Department of Planning, Industry and the Environment.

Where you believe your application is wholly or partially located within an area subject to any of the above agreements, please provide further correspondence (including mapping, if required) detailing the applicable agreement and its relationship to the application area to heritagemailbox@environment.nsw.gov.au. Heritage NSW will respond with further advice.

Where the above does not apply, please proceed with consultation in accordance with the Clause 60 (1-9) of the National Parks and Wildlife Regulation 2019 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (the “Consultation Requirements”). A copy of the Consultation Requirements can be found on the OEH website at: http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements, a proponent is required to provide Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject o the proposed project.

The Consultation Requirements also state that:

Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and custom

- recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

This list is provided to proponents in accordance with Clause 60(2)(a)(i) of the National Parks and Wildlife Regulation 2019 and section 4.1.2 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

The stakeholders identified on this list may have an interest in the proposed project area and may hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places.

How to use this list

- Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project.
- Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.
- Note that the provision of this Aboriginal stakeholder list does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 60 (2) of the National Parks and Wildlife Regulation 2019.
- Please refer to Clause 60 of the National Parks and Wildlife Regulation 2019 and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 for further information on the requirements of the consultation process.
- If contact details of stakeholders are found to be incorrect or outdated, please contact heritagemailbox@environment.nsw.gov.au.

Last updated September 2023

Our reference: doc24/348537

Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380)

Aboriginal Stakeholders – Mid Coast Local Government Area.

A1 Indigenous Services	Carolyn Hickey	cazadirect@live.com	-	0411 650 057	-	10 Marie Pitt Place, Glenmore Park, NSW, 2745	-
Birpai Local Aboriginal Land Council	CEO	birpailalc@midcoast.com.au	(02) 6584 9066	-	-	14 Aston Street PORT MACQUARIE NSW 2444	-
Corroboree Aboriginal Corporation	Marilyn Carroll-Johnson	corroboreecorp@outlook.com	(02) 8824 324	0415 911 159	-	PO BOX 344 LITHGOW NSW 2790	-
D F T V Enterprises	Derrick Vale	deckavale@hotmail.com	-	0401 162 998 0422 876 047 0438 812 197	-	5 Mountbatten Close RUTHERFORD NSW 2320	-
Didge Ngunawal Clan	Lillie Carroll ; Paul Boyd	didgengunawalclan@yahoo.com.au	-	0426 823 944 ; 0450 616 404	-	33 Carlyle Crescent Cambridge Gardens NSW 2747	-
Forster Local Aboriginal Land Council	CEO Cal Davis	ceo@forsterlalc.org.au	(02) 6555 5411	-	-	PO Box 384 FORSTER NSW 2428	-
Gomery Cultural Consultants	David Horton	daveyhorton69@gmail.com	-	0458 532 707	-	22 Cabernet Street Muswellbrook 2333 NSW	-
Hunters & Collectors	Tania Matthews	Tamatthews10@hotmail.com	-	0407 348 384	-	Unit 1/19 South Street Gunnedah NSW 2320	-
Kamilaroi Yankuntjatjara Working Group	Phil Khan	philipkhan.acn@live.com.au	-	0434 545 982	-	78 Forbes Street, Emu Plains, NSW 2750	-

Karuah Indigenous Corporation	David Feeney	indigenouskaruah@outlook.com	(02) 4997 5952	0421 114 853	-	1/7 Mustons Rd KARUAH NSW 2324	-
Karuah Local Aboriginal Land Council	CEO	office@karuahaboriginal.com.au	(02) 4997 5733	-	-	16 Muston Road KARUAH NSW 2324	-
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	Wonn1sites@gmail.com	(02) 4954 7751	0402 146 193	-	619 Main Road GLENDALE NSW 2285	-
Kevin Duncan	Kevin Duncan	kevin.duncan@bigpond.com	(02) 4392 9346	0431 224 099	-	95 Moala Parade HARMHAVEN NSW 2263	-
Lakkari NTCG	Mick Leon	doowakee@gmail.com doowakee@virginbroadband.com.au	-	0402 751 584	-	C/- 4/39 Short Street FORSTER NSW 2428 C/- Doo-wa-kee CHS 82 Victoria Street TAREE NSW 2430	-
Lee Davison	Lee Davison	leedavison114@yahoo.com.au	-	0450 180 680	-	4 Old Bar Road OLD BAR NSW 2430	-
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com	-	0421 329 520	-	5 Killara Drive CARDIFF SOUTH NSW 2285	-
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson ; Ryan Johnson	murrabidgeemullangari@yahoo.com.au	-	0490 051 102 0475 565 517 0497 983 332	-	PO Box 3035 Rouse Hill NSW 2155	-
Mur-Roo-Ma Inc.	Anthony Anderson	murroomainc1@gmail.com	(02) 4928 1910	0402 827 482	-	7 Vardon Road FERN BAY NSW 2295	-
Myland Cultural & Heritage Group	Warren Schillings	warren@yarnteen.com.au	-	0431 392 554	-	30 Taurus Street ELERMORE VALE NSW 2287	-

Nunawanna Aboriginal Corporation	Colin Ahoy	cahoy7@myune.edu.au colinahoy57@gmail.com	-	0421 655 192 0423 943 756	-	10 Dale Crescent ARMIDALE NSW 2350 4 Archibald Street, Armidale NSW 2350	Send to both email address
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM	lennie.anderson011@bigpond.com	-	0431 334 365	-	22 Popplewell Road NSW FERN BAY NSW 2295	-
Purfleet/Taree Local Aboriginal Land Council	CEO	admin@ptlalc.com.au	(02) 6552 4106	-	-	Lots 1-3 Old Pacific Highway PURFLEET NSW 2430	-
Robert Syron	Robert Syron	bobsam1@bigpond.net.au	-	0407 209 553	-	6a Cockshell Drive GAWLER EAST SA 5118	-
WATTAKA Pty Ltd	Des Hickey	deshickey@bigpond.com	(02) 6573 3786	0432 977 178	-	4 Kennedy Street SINGLETON NSW 2330	-
Widescope Indigenous Group	Steven Hickey; Donna Hickey	Widescope.group@live.com	-	SH: 0425 230 693 DH: 0425 232 056	-	73 Russell Street, Emu Plains, NSW 2750	-
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarculturalservices@bigpond.com dontminemeay@gmail.com	-	0475 436 589	-	Lot 5 Westwood Estate MERRIWA NSW 2329	-
Girragirra Murun Aboriginal Corporation	Diana Astin	girragirramurun@yahoo.com		0433837512		PO Box 148 Wellington NSW 2820 PO box 981 Ulladulla NSW 2539	
Wingarra Wilay Aboriginal Corporation	Raymond Moon	wingarrawilay@yahoo.com		0450087707		PO Box Wellington NSW 2820	

Connect with Classifieds

macquarie portnews

Phone: 02 6588 6688
Email: classifieds.mnc@austcommunitymedia.com.au

Anniversaries

Actual size is 4.5cm high x 12.9cm wide

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JULY 2023 - JUNE 2024

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✔ Top prices
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Public Notices

Werin Aboriginal Corporation

NOTICE OF GENERAL MEETING

Werin Aboriginal Corporation Medical Clinic

Notice is hereby given that the 2024 General Meeting of the members will be held at

Werin Medical Clinic
14 Lake Road, Port Macquarie
on Friday 7th June 2024
commencing at 12:30pm
(Lunch provided)

✓ Please RSVP to Reception
by Thursday 23rd May 2024 on 6589 4000

Public Notices

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Rain, Hail or Shine!
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HAMILTON HOUSE
198 Hastings River Dr
Port Macquarie
Booked sites
0409 820 694

Public Notices

Notification of project proposal and registration of interest under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1) – Proposed Johns River Quarry Expansion

McCardle Cultural Heritage (MCH) have been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd (PO Box 6041 North Ryde, NSW 2113) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and Section 90 Aboriginal Heritage Impact Permit (AHIP) application, if required, for the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380).

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of the AHIP application if required and to assist Heritage NSW, Department of Planning, Housing and Infrastructure in their consideration and determination of the application should an AHIP be required.

In compliance with the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, MCH would like to extend an invitation to Aboriginal people who hold cultural knowledge relevant to the proposed project area and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in the consultation process for this project. Written registrations must be forwarded to **MCH (P.O. Box 166 Adamstown, NSW, 2289. jpenny@ mcheritage.com.au no later than C.O.B. 31 May 2024**.

All registered parties will then be contacted to discuss the project in compliance with Heritage NSW policy. If you register your interest in this project, please also nominate your preferred option to receive the initial information. You may wish to attend a non-paid meeting and receive an information pack or receive an information packet through the mail or e-mail. Any parties who register are advised that, unless otherwise requested, their details will be forward to Heritage NSW and the relevant LALC within 28 days of the closing date of registration and in compliance with Heritage NSW policy.

Positions Vacant

Midcoast Windows
WHEN QUALITY COUNTS

EXPERIENCED WINDOW AND DOOR FABRICATOR

Midcoast Windows are currently looking for an experienced Window and Door Fabricator to join our team. This role will require you to manufacture, assemble and glaze aluminium windows and doors in our busy factory located in PORT MACQUARIE. Fabrication experience or experience in the manufacturing/joinery industry is essential to be considered for this role.

Key Responsibilities:
- Cutting and machining product components
- Assembling products
- Unloading raw materials
- Ability to read drawings, work to set dimensions
- CNC operator experience is advantageous but not essential

If you believe you are suited for this role please email resume to: jordansmith@midcoastwindows.com.au or drop in resume in person to: 31 Acacia Ave, PORT MACQUARIE NSW 2444.
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TA5898346

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Adult Services

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Connect with Classifieds

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Tuesday, 21 May 2024 7:31 AM
To: 'cazadirect@live.com'; 'birpailalc@midcoast.com.au'; 'maz_lolli@yahoo.com.au'; 'deckavale@hotmail.com'; 'didgengunawalclan@yahoo.com.au'; 'ceo@forsterlalc.org.au'; 'leannekirkman1964@gmail.com'; 'Tamatthews10@hotmail.com'; 'philipkhan.acn@live.com.au'; 'indigenouskaruah@outlook.com'; 'office@karuahaboriginal.com.au'; 'Wonn1sites@gmail.com'; 'kevin.duncan@bigpond.com'; 'doowakee@gmail.com'; 'leedavison114@yahoo.com.au'; 'lowerhunterai@gmail.com'; 'murrabidgeemullangari@yahoo.com.au'; 'murroomainc1@gmail.com'; 'warren@yarnteen.com.au'; 'cahoy7@myune.edu.au'; 'lennie.anderson011@bigpond.com'; 'admin@ptlalc.com.au'; 'bobsam1@bigpond.net.au'; 'deshickey@bigpond.com'; 'Widescope.group@live.com'; 'yinarculturalservices@bigpond.com'; 'girragirramurun@yahoo.com'; 'wingarrawilay@yahoo.com'; 'david.kennedy@environment.nsw.gov.au'; 'Nadine.Russell@environment.nsw.gov.au'
Subject: Proposed Johns River Quarry Expansion

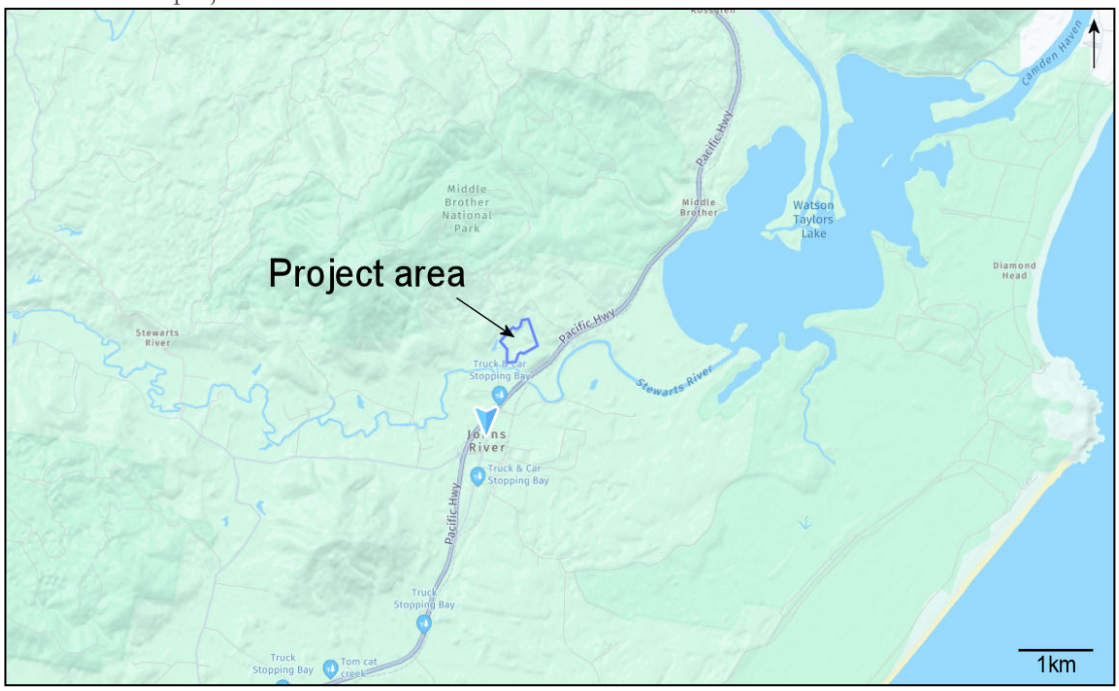
Dear All,

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Johns River Quarry Expansion

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd (PO Box 6041 North Ryde, NSW 2113) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and an Aboriginal Heritage Impact Permit (AHIP) if required, for the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380), Mid-Coast Council Local Government Area (LGA).

As per the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the project area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist Heritage NSW in their consideration and determination of the application should an AHIP be required.

This is an invitation for **Aboriginal people who hold cultural knowledge relevant to the proposed project area (registration is not to be based on where an individual or company works across NSW)** and who can determine 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. As per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to Heritage NSW and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person and provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who are nominated who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010) which provides guidelines to identify traditional knowledge holders. Should you wish to register your interest in this project, please register in writing no later than C.O.B. 4th June 2024 to:

Dr. Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non-paid meeting and receive an information pack, or receive information packet through the mail or e-mail. If a preferred method is not nominated, all information will be forward by mail or e-mail.

Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that any items that you or your group deem confidential are either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

From: Lee Davison <leedavison114@yahoo.com.au>
Sent: Tuesday, 21 May 2024 2:49 PM
To: penny@mcheritage.com.au
Subject: Re: Proposed Johns River Quarry Expansion

Hi Penny

Thanks for your email.
Please register me for consultation on this project.
The project lies within Biripi Country, and my family and I are dedicated to assisting in the assessment of cultural heritage items and values within our Country.
I will liaise with my uncles Dean Saunders and Gary Ridgeway, and cousin Dean Saunders Junior, but please forward all correspondence to this email.
Thank you
Lee
Sent from my iPhone

> On 21 May 2024, at 7:31 AM, penny@mcheritage.com.au wrote:
>
> > Dear All,
> >
> > **RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Johns River Quarry Expansion**
>
> McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd (PO Box 6041 North Ryde, NSW 2113) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and an Aboriginal Heritage Impact Permit (AHIP) if required, for the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380), Mid-Coast Council Local Government Area (LGA).
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> <image006.png>
> <image007.jpg>

penny@mcheritage.com.au

From: Girra Murun <girragirramurun@yahoo.com>
Sent: Monday, 3 June 2024 6:57 AM
To: penny@mcheritage.com.au
Subject: Re: Proposed Johns River Quarry Expansion

Good morning Penny

Girragirra would like to register for this project and would like to nominate meeting as a perferred option for project information. However email would suffice if meeting does not occur.

Girra would like to provide a RAP for any fieldwork that may take place.

Kind regards

Jodie.

Contact for this project via phone is
Diana Astin - 0484120690

On Tuesday 21 May 2024 at 07:31:22 am AEST, <penny@mcheritage.com.au> wrote:

> Dear All,
>
> RE: **Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Johns River Quarry Expansion**

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd (PO Box 6041 North Ryde, NSW 2113) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and an Aboriginal Heritage Impact Permit (AHIP) if required, for the proposed expansion to the existing Johns River Quarry located at 99 Middle Brother Road, Johns River (Lot 2 DP 716 380), Mid-Coast Council Local Government Area (LGA).

As per the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

5 June 2024

Heritage NSW, Department of Premier & Cabinet
heritagemailbox@environment.nsw.gov.au

Dear Sir/madam,

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s4.1.6): provision of Registered Aboriginal Parties (RAPs): Proposed Johns River Quarry Expansion

In compliance with the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1; s 4.1.6), please find attached records of Registered Aboriginal Parties (RAPs) for the above-named project.

Also, in compliance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1: s 4.1.3 and 4.1.6), please also find attached a copy of the public notification placed in the Port Macquarie News Newspaper.

If you have any questions or would like any additional information please don't hesitate to contact me on 0412 702 396 or via e-mail at penny@mcheritage.com.au.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Registered Aboriginal Parties

Company	Contact
	Lee Davison
Girragirra Murun Aboriginal Corporation	Diana Astin

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

5 June 2024

Purfleet/Taree Local Aboriginal Land Council
admin@ptlalc.com.au

Dear Sir/madam,

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s4.1.6): provision of Registered Aboriginal Parties (RAPs): Proposed Johns River Quarry Expansion

In compliance with the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1; s 4.1.6), please find attached records of Registered Aboriginal Parties (RAPs) for the above-named project.

Also, in compliance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1: s 4.1.3 and 4.1.6), please also find attached a copy of the public notification placed in the Port Macquarie News Newspaper.

If you have any questions or would like any additional information please don't hesitate to contact me on 0412 702 396 or via e-mail at penny@mcheritage.com.au.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Registered Aboriginal Parties

Company	Contact
	Lee Davison
Girragirra Murun Aboriginal Corporation	Diana Astin

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Wednesday, 5 June 2024 1:37 PM
To: 'leedavison114@yahoo.com.au'; 'girragirramurun@yahoo.com'
Subject: Proposed Johns River Quarry Expansion - info pack
Attachments: ACHAR Info Pack.pdf

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation – Proposed Johns River Quarry Expansion

McCardle Cultural Heritage (MCH) would like to thank you for registering your interest in this project. We previously offered the option for a meeting or an information pack, but did not receive your preference. As a result, we are providing the information packet via email/post.

To comply with the cultural heritage consultation requirements outlined in the Heritage NSW policy, an Aboriginal Cultural Heritage Assessment Information Packet has been enclosed. This packet contains detailed information about the proposed project, including maps, impact assessment process, cultural, environmental, and archaeological contexts, site-specific predictive model, proposed methodology, roles and responsibilities, and an opportunity for feedback on cultural concerns and assessment requirements.

MCH requests your input on the proposed methodology for the heritage assessment, any information on any Aboriginal objects or culturally significant places in the investigation area, along with any known issues of cultural significance you are aware of. Please specify any protocols or restrictions you wish to apply to the information shared and please consider any other relevant factors for the assessment.

Please make your written submission to MCH by close of business July 3rd 2024. The absence of a response by the requested timeline will be taken as your indication that your organisation has no comments regarding the above.

The proponent intends to engage a number of RAPs (relative to the scale and nature of the investigations) to participate in the field work. If you wish to be considered for paid participation in the field investigations please review and complete the Aboriginal stakeholder site officer application form attached to the information packet provided. Aboriginal representatives will be selected by the proponent based upon merits of the applications received with respect to the selection criteria. Late application will not be accepted by the proponent.

The number of individuals engaged and the duration of their involvement will be at the sole discretion of the proponent and communicated to MCH. Successful applicants will be notified by MCH and all RAPs are invited to join field investigations, irrespective of remuneration, and contingent upon meeting Occupational Health and Safety and operational requirements.

Please note that regardless of participation in the field investigations, RAPs will be consulted in accordance with the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 for the remainder of the assessment.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure confidential information is clearly indicated at the start of a conversation or noted on each written communication.

MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

Johns River Quarry Expansion Project - Modification 6

LGA: Mid-Coast Council

Aboriginal Cultural Heritage Assessment Information Packet

McCARDLE CULTURAL HERITAGE PTY LTD

ACN 104 590 141 • ABN 89 104 590 141

PO Box 166, Adamstown, NSW 2289
Mobile: 0412 702 396 • Email: penny@mcheritage.com.au

McCARDLE
CULTURAL HERITAGE

Report No: J202458 Info Pack	
Approved by:	Penny McCardle
Position:	Director
Signed:	
Date:	4 June 2024

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APPENDICES

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GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister for Climate Change and the Environment (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g., information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd was engaged by Arnold Planning on behalf of Boral Resources (Country) Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA), and an Aboriginal Heritage Impact Permit (AHIP), if required, for the proposed expansion of the approved extraction boundaries within the north-eastern portion of the pit and to modify Condition 3(a) of the consent to extend the approval cessation date by a further 10 – 15 years.

The assessment will determine the potential impacts upon the indigenous cultural heritage within the development area. It is intended that any areas of indigenous cultural heritage and archaeological values will be identified and appropriate management recommendations will be established through consultation with the Registered Aboriginal Parties (RAPs).

In compliance with the Heritage NSW, Department of Premier & Cabinet policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2, s4.21 to 4.2.4 and Stage 3 s4.3.1 to 4.3.7), this Aboriginal Cultural Heritage Information Packet provides information about the proposed project including, but not limited to, details of the proposed the project including maps, an outline of the assessment process, summary of the environmental, cultural and archaeological contexts, a predictive model, the proposed methodology, the roles and responsibilities of all parties, and provides an opportunity for you to identify and raise any cultural concerns, perspectives and assessment requirements you may have.

The assessment has been undertaken to meet the Heritage NSW, Department of Premier & Cabinet Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010a, the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011, the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010b, and the brief.

1.1 CONSULTATION

Consultation will be undertaken as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 and will be detailed in the ACHA.

1.2 PROJECT AREA

The project area is defined by the proponent and is located 99 Middle Brother Road, Johns River. The location and extent of the project area is illustrated in Figures 1.1 and 1.2.

Figure 1.1 Location of the project area

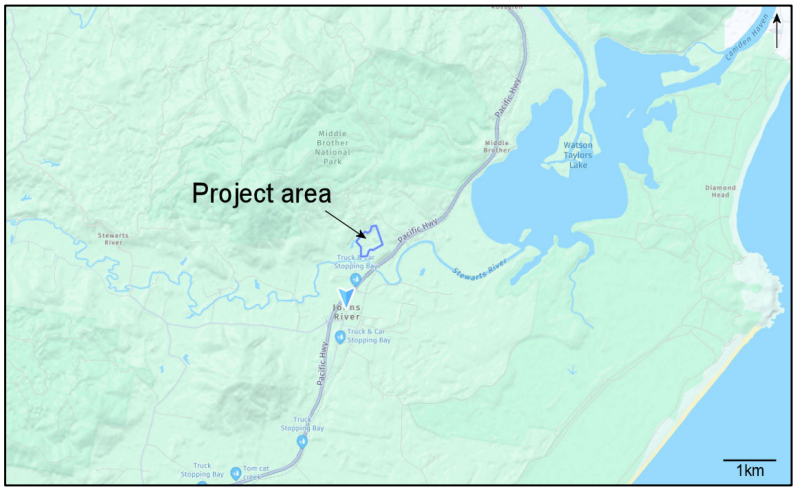


Figure 1.2 Aerial photograph of the project area

1.3 PROJECT OUTLINE AND IMPACTS

Condition 3(a) of the consent specifies the consent shall expire on the 28 July 2026, and based on current production outputs, the current resource available for extraction under the consent is expected to be exhausted within around two years.

An additional resource of some 2.3Mt has been identified immediately northeast of the extraction area currently permitted by the consent (Figure 1.3). Boral therefore proposes to modify the consent under section 4.55 (2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to:

- permit expansion of the quarry's extraction area to access the identified additional resource; and
- amend or delete condition 3(a) of the consent to permit extraction beyond 28 July 2026

The proposed expansion does not necessitate any change to operating hours, production or transport volumes are proposed. An extension of the quarry is required to provide additional resources for road base and for concrete and bituminous sealing aggregates. The extended quarry activities will continue to be operated with the same high level of competency and commitment to satisfying the interests of the community and regulatory authorities.

1.4 CRITICAL DEVELOPMENT TIME LINES

The proponent wishes to commence works as soon as possible but also acknowledges the need to undertake cultural heritage and archaeological investigations on the site. Ideally these would be undertaken prior to any works commencing on the site, however, it would be possible to stage the development to exclude areas identified for investigation until the investigations are complete.

1.5 CRITICAL ARCHAEOLOGICAL TIMELINE

The following Table indicates the timelines critical for the archaeological assessment. However, please note that consultation may be increased or decreased depending on response times and knowledge sharing.

1.1 Archaeological timeline

	Week														
Stages	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Stage 1: consultation	Gov. letters		RAP letters		Information pack				2 weeks' notice for survey & survey			Draft report review			
Stage 2: gathering of knowledge															
Stage 2: contextual research															
Stage 3: survey															
Stage 4: reporting															
Stage 5: finalisation															

2 ENVIRONMENTAL CONTEXT

The environmental context provides an understanding of the landscape and environmental factors as well as potential resources that may have been available in the past. The land uses also assists in an understanding of potential impacts they would have had on the landscape and associated cultural materials. This information is utilised with the archaeological context in order to ascertain a reliable predictive model of not only sit location and site type, but also the likelihood of survivability within that landscape.

The southern part of the Quarry site consists of Holocene high level alluvial terrace deposits of sand and gravel. The northern part of the quarry site, including the proposed expansion area consists of Late Triassic Middle Brother Granodiorite (granite). None of these materials were utilised for stone tool manufacturing. The overall project area is mapped as a disturbed soil landscape and the proposed extension area consists of the Bird Tree erosional soils landscape. Consisting of an upper soil Horizon A and underlying B horizon, within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons and artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene.

In terms of fresh water availability, a number of 1st order drainage lines surround the project area with those closest, draining south into Stewarts Creek (6th Order) located approximately 500 metres south east of the project area (expansion area) at its closest point. As fresh water is necessary for survival and played a major role in past Aboriginal land use patterns and site selection, the absence for fresh water in the project area and surrounds indicates that the project area was not suitable for camping but may have been used for transitory activities such as hunting and gathering activities. In terms of land uses and impacts, the area has been subject to logging and the expansion area has been cleared for a power easement located along its eastern boundary. It is likely that vehicular access has occurred through the expansion area as well as fencing.

3 ARCHAEOLOGICAL CONTEXT

The archaeological background provides context to the project area and wider cultural landscape in which the project area is situated. It identifies known sites, their landform location and proximity to subsistence resources. It also provides the nature and extent of known sites as well as their distribution across the landscape, thereby enabling a site-specific predictive model to be developed.

A search of the AHIMS register identified two artefact sites and one Aboriginal Place (The Three Brothers Mountain - Middle and north – ID 133) recorded within two kilometres of the project area, none of which are located in the project area (Figure 3.1).

Figure 3.1 Approximate location of AHIMS sites

A previous assessment of the project area concluded that the study area was considered to have low archaeological sensitivity based on the combined factors of the topographic constraints and land use history. The relatively steep terrain and shallow rocky soils would not have provided suitable camping locations and the shallow soils rendered the possibility of sub-surface sites being present as low.

3.1.1 PREDICTIVE MODEL

Based on AHIMS results, local and regional archaeological investigations, and the environmental context, the topography of the project area is considered unsuitable for camping activities. Furthermore, the lack of a reliable source of fresh water in the project area and immediate surroundings, indicates that the project area may have been utilised primarily for hunting and gathering, rather than as a site for long-term large-scale camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds. However, previous land uses are expected to have had an impact on the investigation area, particularly due to selective logging and clearing activities. It is important to note that any evidence of past Aboriginal land uses that may have been present in the project area could have been disturbed or destroyed as a result of these activities. Two site types may be present in the project area and include artefact scatters and isolated finds.

Just as the environmental context and the results of the regional and local archaeological contexts have assisted in formulating a predictive model, the predictive modeling has assisted in formulating the field investigation methodology (Sections 4 and 5).

4 METHODS OF INVESTIGATION

There are two methods of investigation including the gathering of cultural significance knowledge and archaeological assessment. These are outlined below.

4.1 GATHERING OF INFORMATION OF CULTURAL SIGNIFICANCE

MCH and the proponent understand that unlike the written word, Aboriginal cultural knowledge is not static, but responds to change through absorbing new information and adapting to its implications. Aboriginal cultural knowledge is handed down through oral tradition (song, story, art, language and dance) from generation to generation, and preserves the relationship to the land (DECCW 2010).

Specific details and parts of cultural knowledge are usually held and maintained by individuals or within particular family groups. Although the broader community may be aware of the general features of that knowledge, it is not a common practice within Aboriginal society for detailed cultural knowledge to be known in the broader community or within Aboriginal community organisations. However, at times these organisations may defer to particular individuals or family groups as being the knowledge-holders of particular sets of cultural knowledge about places or the environment (DECCW 2010).

All responses to the information packet will be considered in the final methods which will adapt accordingly. Any other changes to the methods may occur on site in order adapt to unforeseen field conditions.

4.1.1 PROPOSED METHODS: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

The aim of gathering of cultural knowledge and understanding any cultural significance in relation to the project rea and its surrounds is to facilitate a process whereby RAPs can;

a) Contribute culturally appropriate information
b) Contribute to the proposed methodology
c) Provide information that will enable the cultural significance of Aboriginal objects and/or places within the project area to be determined.

4.1.2 IDENTIFYING KNOWLEDGE HOLDERS

The aim is to identify Traditional Owners/traditional knowledge holders who have knowledge that is relevant to the project area so that any potential effects of the project or activity on the Indigenous cultural heritage values of objects and/or places can be identified.

It also aims to identify Indigenous people who may not necessarily be Traditional Owners/traditional knowledge holders but who do have interests in the area so that any effects of the project or activity on the Indigenous heritage values of objects and/or places, such as mission stations and historic buildings, will be identified.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) which provides guidelines to identify traditional knowledge holders. Knowledge holders are defined as follows:

a) Traditional knowledge holder of specific, detailed knowledge passed directly by a traditional knowledge holder in a traditional manner
b) Traditional knowledge holder of general knowledge passed directly by a traditional knowledge holder in a traditional manner

c) Knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc).

Knowledge holders have been initially identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.1 to 4.1.2) that seeks to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Additionally, knowledge holders were sought to be identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.3 to 4.1.8) that sought to identify, notify and register Aboriginal people who identify as knowledge holders (using the above defined knowledge holder criteria) who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Native Title Claimant Groups/individuals are acknowledged as knowledge holders due to the requirements through the Native Title Registration process. Native Title Claimant groups/individuals are also asked to further define the knowledge holder using the above defined knowledge holder criteria.

This process ensures consistent consultation for all RAPs and adheres to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

4.1.3 IDENTIFYING CULTURAL SIGNIFICANCE

Cultural significance is embodied in the place—in its fabric, setting, use, associations and meanings. It may exist in: objects at the place or associated with it; in other places that have some relationship to the place; and in the activities and traditional and customary practices that may occur at the place or that are dependent on the place. A place may be of cultural significance if it satisfies one or more of these criteria. Satisfying more criteria does not mean a place is necessarily more significant.

Only Aboriginal people who are descendants of the people from the traditional lands in which the project is situated can identify the cultural significance of their own cultural heritage.

The cultural significance of a place is assessed by analysing evidence gathered through the physical investigation of the place, research and consultation for this project in line with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales (DECCW 2010) and the ICOMS Burra Charter (2013). Part of the process is to evaluate its qualities against a set of criteria that are established for this purpose. The criteria used include those set out by the Burra Charter (see below).

4.1.4 VALUES AND QUESTIONS TO CONSIDER

The following values and questions are derived from the Burra Charter (2913) to facilitate your consideration when providing information on the cultural significance of any Aboriginal objects(s) and/or place(s). The criteria discussed below are a means to assess cultural significance in order to meet the Government Departmental requirements. MCH understands that the method of assessing cultural significance presented may not be culturally appropriate and considered offensive to some; it is not intended to be so.

There are five terms or values, which are listed alphabetically in the Burra Charter, and are often included in Australian heritage legislation. Criteria are also used to help define cultural and natural significance, and there is now a nationally agreed set of heritage assessment criteria and each of these criteria may have tangible and intangible aspects and it is essential that both are acknowledged.

The five criteria include Aesthetic value, Historic value, Scientific value, Social value and Spiritual value. These are discussed below along with some questions for consideration when you consider reporting on the cultural significance.

AESTHETIC SIGNIFICANCE

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. It is how we respond to visual and non-visual aspects such as sounds, smells and other factors that can have a strong impact on your thoughts, feelings and attitudes. It may also include consideration of the form, scale, colour, texture and material and its beauty (Australia ICOMOS 2013). When considering the aesthetic value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place have special compositional or uncommonly attractive qualities involving combinations of colour, textures, spaces, massing, detail, movement, unity, sounds, scents?
- Is the object or place distinctive within the setting or a prominent visual landmark?
- Does the object or place have qualities which are inspirational or which evoke strong feelings or special meanings?
- Is the object or place symbolic for its aesthetic qualities: for example, does it inspire artistic or cultural response, is it represented in art, photography, literature, folk art, folk lore, mythology or other imagery or cultural arts?
- Does the object or place display particular aesthetic characteristics of an identified style or fashion?
- Does the object or place show a high degree of creative or technical achievement?

HISTORIC SIGNIFICANCE

The historic value encompasses all aspects of history. For example, it may include the history of aesthetics, art, science, society and spirituality. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment (Australia ICOMOS 2013). When considering the historic value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place associated with an important event or theme in your history?
- Is the object or place important in showing patterns in the development of your history locally, in a region, or on a state-wide, or national or global basis?
- Does the object or place show a high degree of creative or technical achievement for a particular period?
- Is the object or place associated with a particular person or cultural group important in the history of the local area, state, nationally or globally?

SCIENTIFIC SIGNIFICANCE

The scientific value refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions (Australia ICOMOS 2013). Whilst the scientific value and significance will be discussed in detail in the Archaeological Heritage Impact Assessment report, it is important to consider this value when

assessing the cultural values and significance of an object and/or place. When considering the scientific value and significance of a site and/or PAD, you may consider:

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

SOCIAL VALUE

Social value refers to the associations a place has for a particular community or cultural group and the cultural or social meaning it has for that community or cultural group (Australia ICOMOS 2013). When considering the social value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place important as a local marker or symbol?
- Is the object or place important as part of your community identity or the identity of another particular cultural group?
- Is the object or place important to you, your community or other cultural group because of associations and meanings developed from long use and association?

SPIRITUAL VALUE

Spiritual value embraces the intangible values and meanings embodied in or evoked by a place which gives importance to the spiritual identity, or traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations, and be expressed through cultural practices and related places (Australia ICOMOS 2013). The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm (Australia ICOMOS 2013). When considering the spiritual value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place contribute to the spiritual identity or belief system of you, your community or another cultural group?
- Is the place a repository of knowledge, traditional art or lore related to spiritual practice for you, your community or another a cultural group?
- Is the object or place important in maintaining the spiritual health and wellbeing of you, your community people or another culture or group?
- Do the physical attributes of the object or place play a role in recalling or awakening an understanding of an individual or a group's relationship with the spiritual realm?
- Do the spiritual values of the object or place find expression in Awabakal cultural practices or human-made structures, or inspire creative works?

4.1.5 PROVIDING YOUR KKNOWLEDGE AND CULTURAL SIGNIFICANCE INFORMATION

It is difficult to provide options that will ensure every individual's needs are met. In light of this, the following proposed options are provided are in no way the only options available. If you have alternative ways of providing your knowledge and cultural significance information, please notify MCH to ensure we can facilitate your requirements where appropriate.

It is acknowledged and understood that the methods and options discussed are not traditional customs and some may take offence. MCH sincerely apologise for any offence taken as none is intended.

1) Discussion in the field during the field work
2) Written documentation (letter, e-mail)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Internet video conversation
7) Using the attached form/questioner

4.2 ARCHAEOLOGICAL INVESTIGATION METHODS

4.2.1 OBJECTIVES

The objective of the investigation is to determine whether surface and, or, subsurface cultural material exists in the areas identified as having archaeological potential. The detection of surface material will drive the management recommendations and mitigation measures to ensure that any significant cultural resources are identified and protected where possible or is subject to minimal impact by the proposed development.

4.2.2 ABORIGINAL CULTURAL HERITAGE ASSESSMENT METHODOLOGY & REPORT

Overall, the ACHA will include, but not limited to, the following;

- Project background, including project description, detailed maps, legislative context, qualifications of the investigator
- Consultation outlining the process as per the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
- Landscape context including, landforms, soils, geology, geomorphology, water sources, fauna and flora, history of land use and impacts and, natural impacts
- Archaeological context including review of previous regional and local work in the area, AHIMS search, summary and discussion of the local and regional character of Aboriginal land use and its material traces, occupation model and site-specific predictive model
- Results that will include the field work results (see below for proposed methodology), detailed descriptions of landforms (survey units), vegetation cover, exposures, land uses and disturbances, site(s) and PAD(s). It will also include any analysis and discussion
- An assessment of scientific values and significance assessment
- An impact assessment
- Management and mitigation measures
- Recommendations
- References
- Appendices will include the AHIMS results and community consultation log and communications

4.2.3 PROPOSED SURVEY METHODOLOGY

The survey methodology is in accordance with the Heritage NSW, Department of Premier & Cabinet policy - Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales 2010, Section 2.2. This proposed methodology is subject to variation due to unforeseen field conditions/constraints.

- Survey units identified based on landforms

- Transects will be via foot with the survey team spaced at 5-10 metres apart across the investigation area
- Ground surface visibility recorded for each survey unit and given a % rating of vegetation cover
- Exposures recorded for each survey unit given a % rating of exposure and exposure type
- Using the effective coverage and exposure information, calculate the effective survey coverage for each survey unit and the entire investigation area
- Disturbances recorded for each survey unit
- Take representative photographs of survey units
- All sites and/or PADs recorded in each survey unit and accurately mapped

Sites and their boundaries will be defined as;

- The spatial extent of the visible objects or direct evidence of their location
- Obvious physical boundaries where present such as, but not limited to, mound sites, middens, ceremonial grounds, disturbances (i.e., road, building)
- Identification by the Aboriginal community on the basis of cultural information

All sites and PADs will include, but not limited to, the following:

- Site type and content
- Survey unit (landform)
- Distance from water sources
- Vegetation cover (if any)
- Exposure (if any)
- Disturbances (if any)
- GPS co-ordinates
- Identified site boundaries
- Potential for in situ deposits
- Photographs (with a metric scale)

4.3 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own, please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than July 3rd 2024.

5 ROLES, RESPONSIBILITIES AND FUNCTIONS OF PARTIES

The roles, responsibilities and functions of all parties are outlined below and is taken from DECCW (2010).

5.1 HERITAGE NSW, DEPARTMENT OF PREMIER AND CABINET

The Chief Executive of Heritage NSW, Department of Premier & Cabinet is the decision-maker who decides to grant or refuse an Aboriginal Heritage Impact Permit (AHIP) application. If an AHIP is issued, conditions are usually attached and Heritage NSW, Department of Premier & Cabinet is responsible for ensuring the AHIP holder complies with those conditions. When considering an application under Part 6 of the NPW Act, the Chief Executive will review the information provided by proponents in line with its internal policies and procedures to assess potential or actual harm to Aboriginal objects or places (DECCW, 2009).

The Environment Protection and Regulation Group (EPRG) of Heritage NSW, Department of Premier & Cabinet is responsible for administering the regulatory functions under Part 6 of the NPW Act. Heritage NSW, Department of Premier & Cabinet expects that proponents and Aboriginal people should:

- be aware that Part 6 of the NPW Act establishes the Chief Executive or delegate of Heritage NSW, Department of Premier & Cabinet as the decision-maker; and
- recognise that the Chief Executive's (or delegates) decisions may not be consistent with the views of the Aboriginal community and/or the proponent. However, Heritage NSW, Department of Premier & Cabinet will consider all relevant information it receives as part of its decision-making process.

5.2 PROPONENT

All proponents operate within a commercial environment which includes:

- strict financial and management issues, priorities and deadlines;
- the need to gain community support in order to secure any necessary approval/consent/ licence/permit to operate;
- the need for clearer processes and certainty of outcomes;
- the need for suitable access to land for the purpose of their development project;
- the need to work efficiently within the project's time, quality and cost planning and management parameters; and
- the need for culturally appropriate assessment findings relevant to their project.

Under these requirements, proponents should undertake the following:

- bring the RAPs or their nominated representatives together and be responsible for ensuring appropriate administration and management of the consultation process;
- consider the cultural perspectives, views, knowledge and advice of the RAPs involved in the consultation process in assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s);
- provide evidence to Heritage NSW, Department of Premier & Cabinet of consultation by including information relevant to the cultural perspectives, views, knowledge and advice provided by the registered Aboriginal parties; and
- accurately record and clearly articulate all consultation findings in the final ACHA report.

5.3 REGISTERED ABORIGINAL STAKEHOLDERS

The interests and obligations of Aboriginal people relate to the protection of Aboriginal cultural heritage. It is only Aboriginal people who can determine who is accepted by their community as being authorised to speak for Country and its associated cultural heritage. Where there is a dispute about who speaks for Country, it is appropriate for Aboriginal people, not Heritage NSW, Department of Premier & Cabinet or the proponent, to resolve this dispute in a timely manner to enable effective consultation to proceed.

Aboriginal people who can provide information about cultural significance are, based on Aboriginal lore and customs, the traditional owners or custodians of the land that is the subject of the proposed project area. Traditional owners or custodians with appropriate cultural heritage knowledge necessary to make informed decisions who wish to register as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and customs;
- recognise their responsibilities of their community, knowledge and obligations to protect and conserve their culture and heritage and to care for their traditional lands or country; and
- have the trust of their community, knowledge and understanding of their culture and permission to speak about it.

The registered Aboriginal parties should undertake the following;

- ensure the appropriate cultural knowledge holder is providing the appropriate information;
- uphold and respect the traditional rights, obligations and responsibilities of Aboriginal people within their own boundaries and not to infringe in other areas or Aboriginal people outside their own boundaries;
- consider and provide the proponent the cultural perspectives, views, knowledge and advice during the consultation process, assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s); and
- need to work efficiently within the project's time and provide feedback in a timely manner.

5.4 LOCAL ABORIGINAL LAND COUNCILS

The NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs) have statutory functions relevant to the protection of Aboriginal culture and heritage under the NSW Aboriginal Land Rights Act 1983. These requirements do not extend the role of NSWALC and LALCs in the significance assessment process. That is, these requirements do not provide NSWALC and/or LALCs any additional or specific decision-making role in the assessment of significance of Aboriginal object(s) and/or place(s) that are subject to an AHIP application under Part 6 of the NPW Act.

LALCs may choose to register an interest to be involved in the consultation process, or may assist registered Aboriginal parties to participate in the consultation process established by these requirements. In order to ensure effective consultation and the subsequent informed heritage assessment, LALCs are encouraged to identify and make contact with Aboriginal people who hold cultural knowledge in their area.

5.5 EMPLOYMENT

The proponent may engage a number of Aboriginal representatives from the registered parties (based on the size and nature of the project) to participate and assist in the fieldwork component of this project. Renumeration for any fieldwork is not part of the consultation process and MCH do not get involved in any such issues. However, please note that any renumeration offered by the proponent for any field work component of the assessment may be based on a number of factors, including but not limited to, the overall

project budget, job description, receipt of CVs and insurance certificate of currencies, and will be above the industry standard rate of pay for the specific work.

If you would like to be considered for paid field work, please answer the selection criteria attached and ensure you attach certificates of currency for the relevant insurances, CV(s), any certificates and references. MCH will then pass this information onto the proponent for their consideration to make the selection for fieldwork participants should they wish to do so. MCH will ensure all Aboriginal parties are invited to participate in fieldwork regardless of renumeration. Paid participation is determined by the proponent not MCH.

5.6 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own, please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than July 3rd 2024.

Appendix A

MCH would like to clearly state that, should you wish to provide feedback in another form, you are encouraged to do so. You are under no obligation to complete the current form.

However, should you wish to use this form, please complete, sign and return to MCH using one of the following;

E-mail: penny@mcheritage.com.au

Postal address: MCH

PO Box 166

Adamstown, NSW 2289

ABORIGINAL STAKEHOLDER SITE OFFICER APPLICATION

Position description (site officers are selected by the proponent and based on the information provided by you (CV, experience, reference check, insurances, rates).

A site officer must demonstrate that they have satisfactorily participated in previous archaeological fieldwork with an archaeologist. A trainee site officer does not need to demonstrate previous archaeological experience. Site officers must be able to:

- undertake direction from the project archaeologist
- work in a range of climates wearing the required PPE
- work in teams with a wide range of people
- identify a broad range of Aboriginal objects across the landscape

To qualify as a site officer, appropriate training in identifying Aboriginal objects must have been undertaken (such as the NPWS sites awareness training course, or other relevant secondary or tertiary studies) or equivalent knowledge or experience must be demonstrated. The duties of the site officer under the direction of the project archaeologist may include, but not limited to:

- walking the project area
- meeting general and site-specific Occupational Health and Safety requirements

Selection criteria

The proponent will offer positions based on the following key selection criteria:

- an individual's ability to undertake the tasks specified above
- an individual's availability to undertake the activity (physically able to undertake field work)
- an individual's experience in undertaking similar activities. Applications may be subject to a reference check
- individuals with demonstrated cultural knowledge relevant to the local area
- individuals who can demonstrate they can communicate the results of the field work back to their managers and RAPs
- in addition to a consideration of the key selection criteria, the Proponent may give preference to applicants who live locally

The proponent is under no obligation to offer site officer positions based on an individual's association with a cultural group or area. The proponent makes no guarantee that registered parties will be engaged to undertake archaeological field activities. The number of site officer positions available will be based on need as described in the archaeological methodology. However, MCH will ensure all registered stakeholders are invited to participate in the fieldwork regardless of engagement arrangements between the stakeholder(s) and the proponent. Applicants will be notified whether they have been successful or unsuccessful in their application for renumeration for fieldwork.

Engagement & Payment

The Proponent selects and has final approval on who will be engaged as a site officer. Successful applicants will be engaged to provide the services through a written contract that will be provided at a later date. The proponent will only engage Service Providers with NSW workers compensation insurance, public liability insurance, and comprehensive motor vehicle insurance or third-party property damage insurance. Engagement of the Service Provider will be a rate that may be based on a number of factors, including but not limited to, the overall project budget, job description, receipt of CVs and insurance certificate of currencies, offered rates of the RAPs and will be above the industry standard rate of pay for the specific work.

The quoted rate is the rate to be paid by the Proponent to the Service Provider - not to the individual site officer/trainee site officer. Payment will only be made for the provision of the services (actual hours worked), not for the time spent travelling to and from site, and there is no daily or half daily rate. Payment will be made upon the receipt of a cultural heritage report and receipt of your response to the draft report.

ABORIGINAL SITE OFFICER APPLICATION FORM

Johns River Quarry

An Aboriginal site officer application form must be filled out for each individual seeking engagement as a site officer.	
Name of organisation (if relevant)	
Name	
Contact number	
Mailing address	
Email address	
Position applied for	Site officer ☐ Trainee Site Officer ☐
Please list any formal qualifications or relevant experience to the position applied for (attach documentation as required)	
Please list any previous archaeological, sites, survey, excavation or other relevant experience (attach additional sheets)	
Please provide the contact details of at least one archaeologist who can be contacted as a referee	

INSURANCES

Public Liability	Expiry date:	(attach certificate of currency)
Worker Compensation	Expiry date:	(attach certificate of currency)
Comprehensive Motor Vehicle	Expiry date:	(attach certificate of currency)

Failure to provide up to date Certificate of Currencies will prevent you participating in any fieldwork. MCH may have received copies previously, however, they must be provided for each project.

FINANCIAL (do not fill out GST column if you are not registered for GST)

Hourly rate	Excluding GST	Including GST	Other Information
$	$	$	

OCCUPATIONAL HEALTH & SAFETY (OH&S)

All participants are required to comply with MCH and the proponents OH&S requirements, including PPE requirements (long pants, long sleeved shirt, high visibility clothing, hat, sunscreen and steel caped boots). You will be advised of any additional requirements. All fieldworkers will arrive on time at the meeting location and stay for the duration of the fieldwork. All fieldworkers will need to bring lunch, snacks and drinking water.

This also includes appropriate and acceptable behaviour at all times and be fit and ready for work (including being alcohol, drug and fatigue free).

Failure to comply will prevent you from participating in the field work.

COMMENTS ON PROPOSED METHODOLOGY

Johns River Quarry

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **agree to the methodology** outlined by MCH in the information packet for the above-named project.

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **do not agree to the methodology** outlined by MCH in in the information packet for the above-named project for the following reasons (*please explain your reasons for disagreeing):*

_____

_____

I would like to suggest the following (please provide your reasoning):

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

PROVIDING KNOWLEDGE ABOUT CULTURAL SIGNIFICANCE

Johns River Quarry

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

I would like to provide knowledge about cultural significance using the following method(s). Please tick your preferred method(s):

1) Discussion in the field during field work
2) Written documentation (letter, e-mail)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Internet video conversation
7) Using the attached form/questioner

Other: Please provide details:

_____

_____

_____

_____

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Friday, 5 July 2024 2:52 PM
Subject: Johns River

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) –Survey invitation – Proposed Johns River Quarry Expansion

The proponent thoroughly evaluates all responses submitted by the RAPs in relation to the information packets. This includes reviewing CVs, references, experience, insurance details, and proposed rates of pay. Such careful consideration enables the proponent to make an informed decision when it comes to selecting participants who will receive renumeration for their participation in the survey.

Regrettably, your group did not provide any response to the information pack, thereby leaving the proponent without any knowledge or information about your group, experience, or qualifications. Consequently, the proponent is unable to offer your group renumeration for participation in the survey.

If your group is still interested in participating in the survey on an unpaid basis, or if you would like to stay updated on the progress of the survey, please contact Penny McCardle. Please note that if you intend to participate in the site survey then:

- Before commencement you must notify MCH for access arrangements and notification and provide MCH with a Certificate of Currency for Workers Compensation, Public Liability and Comprehensive Motor Vehicle insurances. MCH will also provide you with our OH&S requirements for field staff and request that you ensure all field staff participating in the project have read and understood the document fully prior to going out on site; and

- All field participants must wear covered shoes, long pants and long shirt (hi-visibility) with appropriate sun protection including hat. It is recommended that participants bring adequate amounts of food and water for the day.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Following the completion of the field work, a draft copy of the assessment will be made available to you for comment. Should you have any further questions, please do not hesitate to contact Penny McCardle on 0412 702 396.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Thursday, 29 August 2024 3:51 PM
To: 'leedavison114@yahoo.com.au'; 'girragirramurun@yahoo.com'
Subject: Johns River Quarry Expansion - draft report
Attachments: Johns River Quarry Extension Project - Modification 3 DRAFT 29 8 2024.pdf

Dear All

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 – Review of Draft Cultural Heritage Assessment - Proposed Johns River Quarry Expansion

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

The ACHA includes information provided by the knowledge holders and is included with their permission. As required by the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 3 (S. 4.3.5; 4.3.6; 4.3.7) and Stage 4 (S. 4.4.1; 4.4.2; 4.4.3) and based on the information provided by knowledge holders throughout the project, the cultural significance will be included in the final report.

MCH would like to provide further opportunity to provide your further input and request your comments on the draft ACHA. Additionally, any concerns you may have, are also important, and we would like to provide another opportunity to address any concerns you may have.

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.3) MCH would appreciate your input and your comments on the draft report, no later than C.O.B. 26th September 2024

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that if any response to the draft report is deemed confidential that this is either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Please note that in order to adhere to time constraints, the absence of a response by the requested timeline, will be taken by the proponent as your indication that your organisation has no comments.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

printing or copying of this email and any file attachments is strictly prohibited. Thank you for your assistance.

M
McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

27 September 2024

Via email

Dear All,

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed Johns River Quarry Expansion

MCH and Boral Resources (Proponent) would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input have been instrumental throughout the project

As outlined in the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.5), please find attached a copy of the final report for your records.

We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

APPENDIX B

AHIMS search results

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Johns River

Client Service ID : 890101

Penny Mccardle

Po Box 166

Adamstown New South Wales 2289

Attention: Penny Mccardle

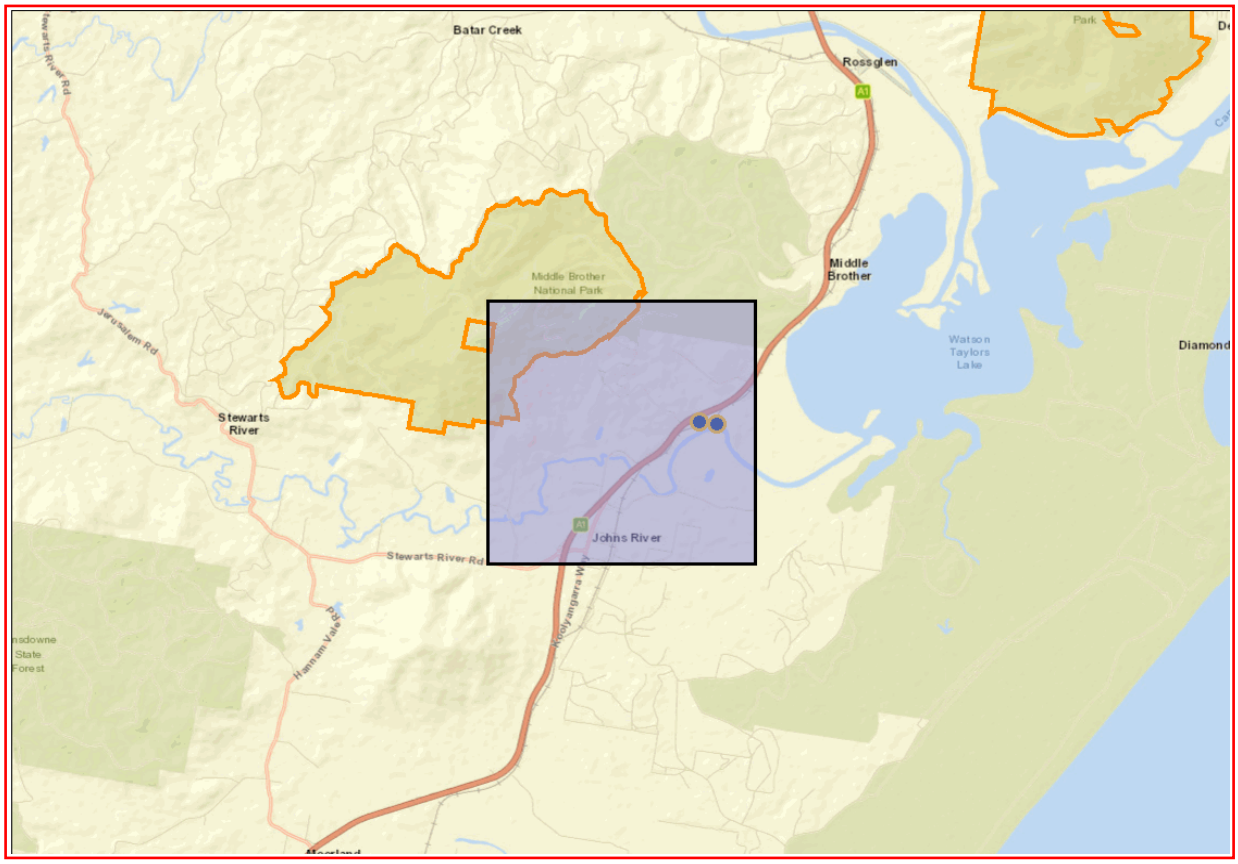
Email: penny@mcheritage.com.au

Date: 07 May 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 469700.0 - 473700.0, Northings : 6489100.0 - 6493100.0 with a Buffer of 0 meters, conducted by Penny Mccardle on 07 May 2024.

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



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

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

ID	Aboriginal Place Name
133	The Three (Biripi) Brothers Mountains - Middle and North

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

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

Important information about your AHIMS search

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

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

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

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Johns River

Client Service ID : 890101

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
30-6-0158	A-3	AGD	56	472760	6491060	Open site	Valid	Artefact : -		102145
	Contact	**Recorders**	Navin Officer Heritage Consultants Pty Ltd					**Permits**		
30-6-0157	A-4	AGD	56	473020	6491030	Open site	Valid	Artefact : -		102145
	Contact	**Recorders**	Navin Officer Heritage Consultants Pty Ltd					**Permits**		

**** Site Status**

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

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

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

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

Report generated by AHIMS Web Service on 07/05/2024 for Penny Mccardle for the following area at Datum :GDA, Zone : 56, Eastings : 469700.0 - 473700.0, Northings : 6489100.0 - 6493100.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 2

APPENDIX C

Unexpected finds procedure

Unexpected finds procedures

Unexpected find protocols have been developed to provide procedures for unexpected finds including Aboriginal objects and the discovery of human remains. These protocols must be followed throughout all stages of the development.

Unexpected Aboriginal objects

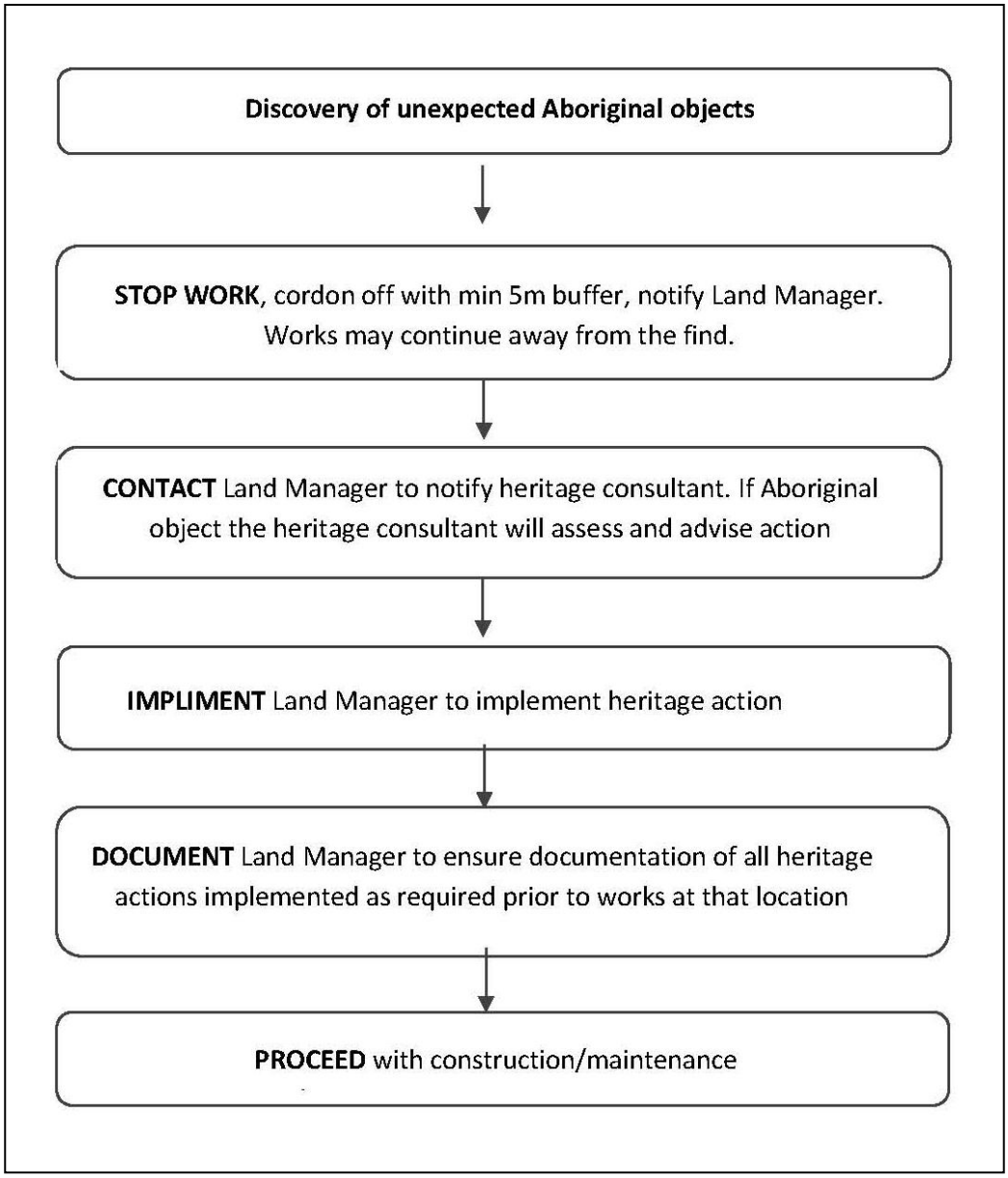
Should unexpected Aboriginal objects be uncovered during any stage of the development, Figure 1 illustrates the protocols. Unexpected Aboriginal objects may include isolated artefacts, artefact scatters, scarred trees, hearths and shell middens (descriptions of such objects are provided).

Work must stop immediately in that location, the objects cordoned off with at least a 5m perimeter surrounding the object(s) with high visibility fencing/barrier and the Land Manager notified immediately. The Land Manager will then contact the heritage consultant who will assess the object(s) and recommend appropriate mitigation measures, inlcuding contacting the Environmental Line if required. The Land Manager is to implement all reasonable mitigation measures recommended by the heritage consultant and in accordance with Heritage NSW regulations and the NSW NPW Act.

If additional works are required, such as an Aboriginal Cultural Heritage Assessment (ACHA) with or without est excavations) or an Aboriginal Heritage Impact Permit (AHIP) (with collection or salvage excavations), the Land Manager is to arrange for the heritage consultant to undertake those works in accordance with all Heritage NSW requirements, procedures and Code of Practice. The methodology for undertaking additional works will be dependant on a number of factors including, but not limited to, site/object type and disturbances. Due to the unknown nature of unexpected objects, methodologies for furthe investigatiosn (if required) of unexpected Aboriginal objects will be determined during consultation with Heritage NSW.

Provided these unexpected finds protocols have been followed, construction/maintenance works in that location may proceed.

Figure 1. Unexpected finds protocol flow chart



Discovery of human remains

Human skeletal remains are of the highest significance and importance to Aboriginal people, and all care, respect and dignity will be extended by all parties should human remains be uncovered.

If human remains or unidentified bones are uncovered during any stage of the development and maintenance activities, the appropriate State legislation will be followed. All human remains fall under the *Coroners Act 2009* in the first instance. If they are identified as Aboriginal and older than 100 years old, they will fall under the *NSW NPWS Act 1974* (as amended). If they are identified as Aboriginal and 100 years or less, they will remain under Police derestriction under the *Coroners Act 2009.* Figure 2 outlines the required protocols should human remains be uncovered.

Should any human remains or unidentifiable bone be found, work is to stop in that area immediately and an area of 30m cordoned off surrounding the remains/bone in high visibility fencing. The Land Manager is to be notified immediately.

The Land Manager will contact the heritage consultant and local NSW Police immediately, who will then contact the NSW Forensic Services who will determine if they are:

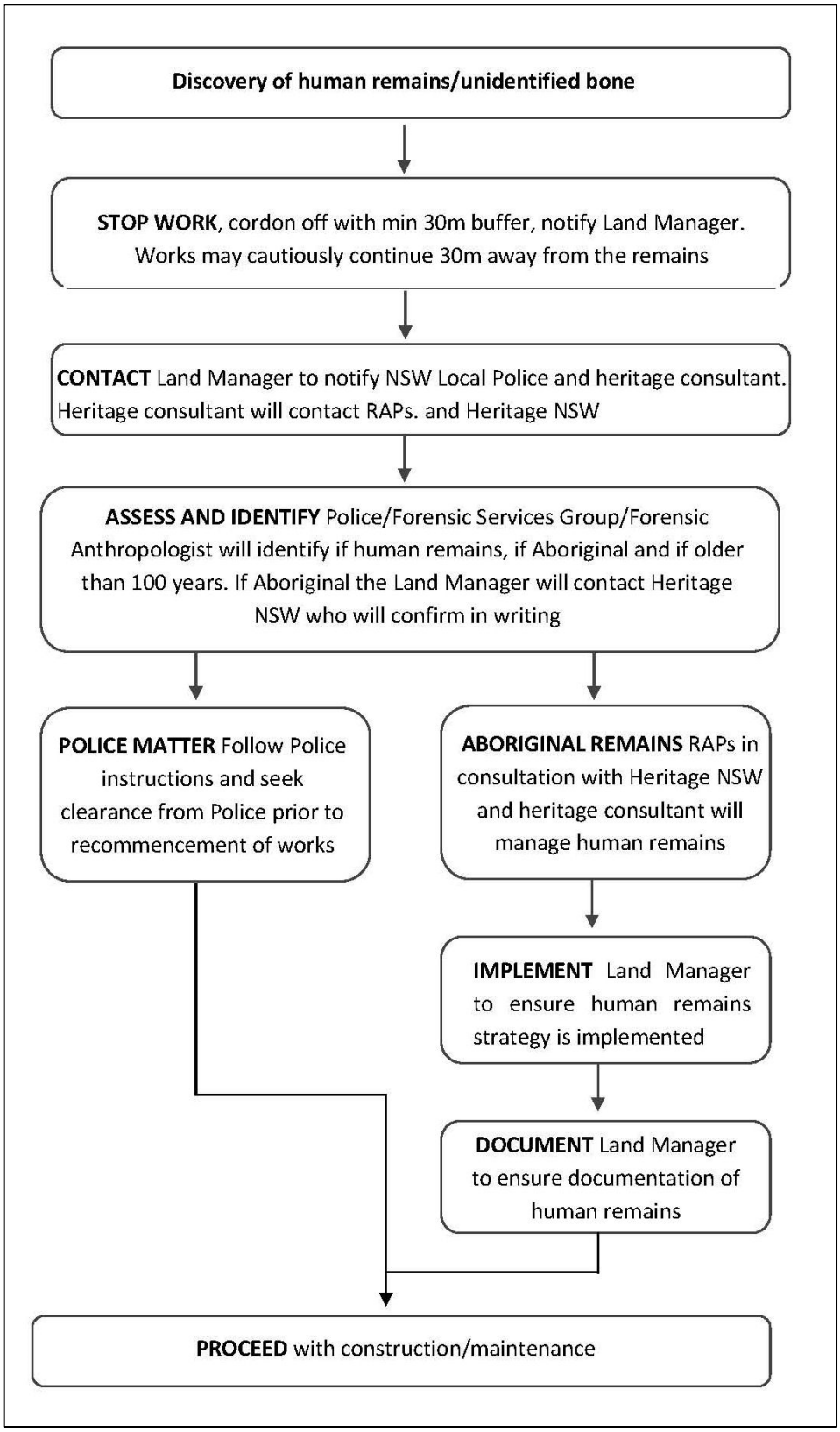
1) Human;
2) Aboriginal or non-Aboriginal;
3) If Aboriginal, determine antiquity (older or younger than 100 years)

If it is determined the remains are Aboriginal and older than 100 years old, the Police will notify the Land Manager who must contact the Environmnetal Line and Heritage NSW immediately. Heritage NSW, in consultation with the relevant Aboriginal community and the heritage consultant will develop a human remains management strategy and the Land Manager is to ensure this strategy is implemented. The Land Manager must also document the human remains management strategy and the heritage consultant will provide a letter of clearance prior to any works recommencing at that location.

If the remains are determined to be a Police matter, Police instructions will be followed and clearance to recommence works should be sought from the Police.

Provided the human skeletal protocols have been followed and documented, and a clearance letter from the heritage consultant has been obtained, construction/maintenance works may proceed in that location.

Figure 2 Human remains protocol flow chart



Verification of all Aboriginal objects (sites)

All potential Aboriginal sites will be verified by the heritage consultant in the first instance, and Heritage NSW if required.

The purpose of the verification process is to determine whether or not the objects in question are in fact Aboriginal objects to ensure appropriate management measures are implemented.

The verification process will include the following provisions:

1. A heritage consultant may assess the scientific status of the Aboriginal object (site) and provide evidence and justification for significance;
2. If it is an Aboriginal object the Environmental Line will be contacted, and the site reported;
3. An AHIMS site card will be completed for each Aboriginal object (site); and
4. Management recommendations specific to each Aboriginal object (site), will be determined by Heritage NSW.

Surface Artefact scatters

Also described as open campsites, artefact scatters and open sites, these deposits have been defined at two or more stone artefacts within 50 or 200 metres of each other and may include archaeological remains such as stone artefacts, shell, and sometimes hearths, stone lined firelaces and heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

If a potential artefact scatter has been identified, the Unexpected Finds Protocol must be followed immediately.

Examples of artefact scatters (MCH)

Surface Isolated finds

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

If a potential isolated find has been identified, the Unexpected Finds Protocol must be followed immediately.

Examples of isolated artefacts (MCH)