

Project Number: 19112802



WOY WOY ROAD, KARIONG ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

PUBLIC VERSION FINAL 31 / 03 / 2021

DARKINJUNG LOCAL ABORIGINAL LAND COUNCIL

168 Pacific Highway WATTANOBI NSW 2259
Attn: Lee Shearer Email: lea.shearer@dlalc.org.au

HERITAGE NOW CONTACT

hello@heritagenow.com.au
0425 250 310
www.heritagenow.com.au



Executive Summary

This report is the **PUBLIC VERSION** and has omitted sensitive cultural information, if you believe you require the confidential version of this report please contact Heritage Now.

Heritage Now has been engaged by Darkinjung Local Aboriginal Land Council (the Proponent) to conduct an Aboriginal Cultural Heritage Assessment at Lot 512 and 513, DP727686, Woy Woy Road, Kariong for a proposed residential development. Only the northern portion of the Project Area is currently planned for residential development.

Aboriginal consultation has been undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (BCD-DPIE) and 12 Registered Aboriginal Parties (RAPs) have been consulted. Feedback received has been incorporated into the report.

The archaeological survey was undertaken on 17 March 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with RAP representatives: Amanda Shields of Darkinjung Local Aboriginal Land Council and Tracey Howie of Awabakal Traditional Aboriginal Owners Corporation. The survey focussed on the northern portion of the Project Area which is to be impacted. An additional survey was undertaken on 29 July 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Paul Boyd of Didge Ngunawal Clan along the northern boundary of the Impact Area.

AHIMS#45-3-3044 was ground-truthed and identified to be approximately 70 metres north west of its recorded location in the AHIMS database. This updated information has been submitted to the Aboriginal Heritage Information Management System (AHIMS).

Site WWR4 (not registered on AHIMS) was identified by Pross (2007) as a stone arrangement measuring 3 metres in length 1 metre wide and 0.75 metres high. This location was ground-truthed. The area contains a sandstone sheet (Plate 11) which is highly vegetated, as well as having many fallen branches, there at least two locations where rocks are clustered on the surface of the sandstone sheet (Plate 12 and Plate 13), but are barely observable due to the amount of vegetation. It is very difficult to identify if these clusters are of Aboriginal origin and thus are stone arrangements associated with Aboriginal cultural activities. They do not match Pross' description the site. However, a substantial buffer has been applied around these stone clusters.

The location of AHIMS#45-3-3052 was inspected, but the site was not observed. One Aboriginal site within 20 metres of the impact area, as yet unregistered on the AHIMS database (WWR8) was ground-truthed, but not identified at its recorded location. For WWR8 the recorded location of this site when ground-truthed was within a drainage channel, with no outcropping sandstone, thus the recorded location is likely incorrect and it is located in the eastern part of the Project Area (which also aligns with the stated site description by Pross 2007). Other unregistered Pross sites WWR3, WWR5 and WWR7 were also not observed during the survey. A previously unrecorded site, HN-WW-E01, was identified and contained two mundoe engravings near a waterhole. It has been registered on AHIMS as 45-3-4461. A second previously unrecorded site, HN-WW-E02 was identified containing a zoomorph figure and crescent.

In addition, archaeologically sensitive sandstone sheets were identified which were too obscured to positively identify if they contained Aboriginal engravings or grinding grooves, these were identified throughout the impact area.

AHIMS#45-3-3044, HN-WW-E01 and HN-WW-E02 were identified to be of high local significance and moderate regional significance. The significance of WWR4 could not be determined due to the thickness of the vegetation. The significance of remaining Aboriginal sites could not be assessed, as they were not located during the survey. A significance assessment of the archaeologically sensitive sandstone sheets could not be made, as they were obscured by soil and vegetation.

There are no Aboriginal sites within the impact area of the Project, however, archaeologically sensitive sandstone sheets have been identified. Aboriginal sites (AHIMS#45-3-3052, HN-WW-E02 and WWR4) are within 20 metres of the impact area and thus fencing during construction is required to ensure there are no inadvertent impacts to these sites. AHIMS#45-3044, HN-WW-E01, WWR3, WWR5 and WWR7 are to be marked on construction maps as no-go areas along with AHIMS#45-3-3052 and WWR4.

Archaeologically sensitive sandstone sheets are to be inspected after vegetation removal. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs.

Vegetation is also needed to be cleared around WWR8 to confirm if it is present at that location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

The works are to be undertaken in accordance with the below recommendations.

Recommendation 1

High visibility barrier fencing is to be erected along the buffer for Aboriginal sites AHIMS#45-3-3052, HN-WW-E02 and WWR4. The high visibility barrier fence is to be erected prior to construction and remain in place until the cessation of construction.

Recommendation 2

The archaeologically sensitive sandstone sheets are to be inspected by a RAP representative after vegetation removal, but before ground disturbance works and levelling to verify if they contain Aboriginal engravings or grinding grooves. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs and a heritage consultant.

Recommendation 4

Vegetation is to be cleared in the vicinity of WWR8 in order to confirm if this site is present at its recorded location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site.

Recommendation 5

Aboriginal sites are to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant.

Recommendation 6

If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs and the heritage consultant.

Recommendation 7

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite Aboriginal Cultural Heritage induction or other suitable format.

Acronyms, Terms and Definitions

Acronym	Definition
ACHA	Aboriginal Cultural Heritage Assessment
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information System
AHIP	Aboriginal Heritage Impact Permit
BCD	Biodiversity and Cultural Division
DECCW	Department of Environment Climate Change and Water
DLALC	Darkinjung Local Aboriginal Land Council
DP	Deposited Plan
DPIE	Department of Planning, Industry and Environment
EP&A	Environmental and Planning Assessment
LEP	Local Environmental Plan
LGA	Local Government Area
NSW	New South Wales
NPW	National Parks and Wildlife
OEH	Office of Environment and Heritage
PAD	Potential Archaeological Deposit
SEPP	State Environmental Planning Policy
RAPs	Registered Aboriginal Parties

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1 Introduction

Heritage Now has been engaged by Darkinjung Local Aboriginal Land Council (DLALC) (the Proponent) to conduct an Aboriginal Cultural Heritage Assessment (ACHA) at Lot 512 and 513, DP727686, Woy Woy Road, Kariong for a proposed residential development.

The assessment is to inform the planning under the Aboriginal Lands State Environmental Planning Policy (SEPP).

The aim of this ACHA report is to identify Aboriginal cultural heritage values through consultation with Registered Aboriginal Parties (RAPs). The ACHA report enables those values to be respected throughout the process through the identification of appropriate mitigation measures to avoid and/or minimise harm to Aboriginal cultural heritage and values.

1.1 Project Area

The Project Area is approximately 5 km southwest of Gosford. The project extent is 6.1 hectares and is approximately 400m north-south and 360m east-west. The northern portion of the Project Area is proposed for residential development (Figure 1).

1.2 Project Proposal

The proponent plans to develop the northern part of the Project Area for residential purposes. The residential development will involve clearing of vegetation as well as cut and fill to prepare the Project Area. It will require the installation of below and above ground services including water and sewer, telecommunications and electricity. It will also require the formation of roads and access ways to the residential lots as well as the building of individual residences.

1.3 Project Methodology

This ACHA report has been prepared in accordance with, but not limited to, the National Parks and Wildlife Act 1974, the National Parks and Wildlife Regulations 2009, the Environmental Planning and Assessment Act 1979, Gosford Local Environmental Plan 2014. and the State Environmental Planning Policies. The following guidelines and codes of practice have been used in preparing this ACHA report:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (OEH, formerly DECCW 2010)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH, formerly DECCW 2010).

In accordance with the guidelines this report has outlined the:

- The Project Area and proposed activity (project proposal) (Section 1.2 and 6.1)
- the Aboriginal consultation process (Section 3 and Appendix 1),
- provided relevant background information (Section 4.1 and 4.2),
- undertaken an assessment of cultural heritage values (Section 4.3.3),

- undertaken an impact assessment, including consideration of avoidance and/or mitigating harm (Section 6), and
- provided recommendations (Section 7).

1.4 Authorship

This report was written by Crystal Phillips, Heritage Consultant at Heritage Now and Tessa Boer-Mah, Principal Heritage Consultant at Heritage Now.



Legend

-  Project Area
-  Transmission line easements
-  Impact area



Figure 1: Project Area

2 Legislative Context

This section provides an outline of the Acts, Regulations and guidelines under which this assessment has been undertaken. It is for information purposes only and should not be taken as legal advice.

2.1 National Parks and Wildlife Act 1974

This Act contains the provisions for protecting Aboriginal objects in NSW. Aboriginal objects are protected regardless of whether they are in their original context (location) or not and it is an offence to harm an Aboriginal object regardless of whether you know it is an Aboriginal object or not. Protection under Section 86 of the Act is as follows:

- s86(1) A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- s86(2) A person must not harm an Aboriginal object.
- s86(3) A person must not harm or desecrate an Aboriginal place.

Penalties for harming Aboriginal objects or Places range from \$80,000-\$800,000 for individuals and \$330,000-\$1,650,000 for corporations and may also include imprisonment. Under Section 87 there are certain defences from prosecution, these include that harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) and actions were in accordance with the AHIP, that due diligence was exercised in relation to Aboriginal object/s and/or the activity was classified as low impact.

Under Section 89A Aboriginal object/s must be reported to the Office of Environment and Heritage (OEH) within a reasonable timeframe, unless it has previously been recorded and submitted to the Aboriginal Heritage Information Management System (AHIMS). Penalties for failure to report an Aboriginal object range from \$16,500 for individuals and \$33,000 for corporations.

2.2 National Parks and Wildlife Regulations 2009

This Regulation includes provides a framework for exercising due diligence and provides codes of practice in respect to Aboriginal objects (Section 80A) as well as defences for carrying out certain low impact activities (Section 80B). The Regulation also outlines requirements for Aboriginal consultation (Section 80C), particularly in relation to an Aboriginal Heritage Impact Permit. Under the Regulation the following codes of practice and guidelines are recognised, amongst others:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (OEH, formerly DECCW 2010a),
- *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (Minerals Council),
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. (OEH, formerly DECCW 2010b),
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011), and
- *Code of Practice for Archaeological Investigation of Aboriginal objects in NSW* (OEH, formerly DECCW 2010c).

2.3 Aboriginal Land Rights Act 1983

This Act provides land rights to Aboriginal people through the Local Aboriginal Land Councils. It outlines a process for claiming unused Crown Land in NSW and for creating land use. It also allows for agreements to permit traditional hunting, fishing and gathering.

2.4 Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment (EP&A) Act provides triggers for undertaking environmental and heritage assessments as part of the wider land use planning framework. This Act has three main parts of direct relevance to Aboriginal cultural heritage. Namely, Part 3 which governs the preparation of planning instruments, Part 4 which relates to development assessment probes for local government (consent) authorities and Part 5 which relates to activity approvals by governing (determining) authorities. Planning decisions within Local Government Areas (LGAs) are guided by Local Environmental Plans (LEPs). Each LGA is required to develop and maintain an LEP that includes Aboriginal and historical heritage items which are protected under the EP&A Act and the NPW Act.

2.5 State Environmental Planning Policy (Aboriginal Land) 2019 (SEPP)

This SEPP provides for the making of development delivery plans (DPPs) for land owned by a LALC that must be considered when determining a DA for that land. The SEPP also allows for specified development carried out on land owned by a LALC to be declared regionally significant development. Presently the SEPP only pertains to certain land owned by the Darkinjung LALC (DLALC).

The Minister for Planning reviews and approves all DPPs. In accordance with the SEPP a DPP must include the following (under clause 9(1)):

- the general objectives of the LALC for the land;
- the nature of the development proposed for the land;
- the basis on which the development is proposed, having regard to economic, social and environmental factors;
- strategies, actions and a program for achieving the objectives; and
- other matters the Minister thinks appropriate.

A DDP may also set out (under clause 9(2)):

- the bulk, scale and size of development proposed for the land to which the plan applies;
- measures to support Aboriginal cultural heritage and biodiversity conservation relating to the land; and
- proposals for the provision of public utility infrastructure and roads.

This report provides an assessment of and measures to support the Aboriginal cultural heritage values of the Project Area.

2.6 Gosford Local Environmental Plan (LEP) 2014

The Gosford LEP 2014 requires development consent to demolish, disturb, excavate or develop land on which an Aboriginal object is located or that is within an Aboriginal place of significance. Council must consider the effect of a proposal on an Aboriginal Place and any Aboriginal object located within an area of works. Council must inform the local Aboriginal community about the application where impacts to Aboriginal cultural heritage may occur. Protected heritage under the LEP is listed in Schedule 5.

There are no Aboriginal sites listed in Schedule 5 of the Gosford LEP.

3 Aboriginal Consultation

This section documents the Aboriginal Consultation that has been undertaken for the project in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (BCD-DPIE, formerly DECCW 2010b) and will be referred to as the 'Aboriginal Consultation Requirements'. The four stages of Aboriginal consultation were undertaken and additional documentation is available in Appendix 1.

3.1 Stage 1

In accordance with Stage 1 of the Aboriginal Consultation Requirements requests for information on knowledge holders were sent to the Central Coast and Hunter OEH office, the Darkinjung Local Aboriginal Land Council, the Registrar of Aboriginal Owners, Native Title Services, the Central Coast Council and the Greater Sydney office of Local Land Services. The National Native Title Tribunal only accepts searches of crown land. There is no crown land in the Project Area.

Based on information collected from government agencies, invitations for expressions of interest to become a Registered Aboriginal Party for the Project were sent to the knowledge holders.

A public notice was placed in the Coast Community News local newspaper.

As a result of the expressions of interest invitations and the public notice 12 Aboriginal representatives nominated to become Registered Aboriginal Parties for the Project (Table 1).

Table 1 Registered Aboriginal Parties

Organisation/Individual	Representative Name/s
A1 Indigenous Services	Carolyn Hickey
Awabakal & Guringai Pty Ltd	Tracey Howie and Kerrie Brauer
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer
Darkinjung Local Aboriginal Land Council	Amanda Shields
Didge Ngunawal Clan	Paul Boyd and Lilly Carroll
Guringai Tribal Link	Tracey Howie
Kawul Pty Ltd trading as Wonn1 Sites	Arthur and Lynne Fletcher
Walkaloo	Tracey Howie
Widescope Indigenous Group	Steven Hickey
Individual	Sharon Hodgetts
Individual	Trudy Smith
Confidential registration	Confidential

3.2 Stages 2 and 3

In accordance with Stages 2 and 3 details of the project and the assessment methodology was sent out to the RAPs and opportunities for feedback were provided (Table 2). Opportunities for feedback were also provided during the fieldwork. Field work was completed on Tuesday 17 March 2020. Awabakal Traditional Owners Aboriginal Corporation and Didge Ngunawal Clan were engaged for fieldwork, however, no representatives from Didge Ngunawal Clan attended the survey on the 17th of March. However, Paul Boyd of Didge Ngunawal Clan was available to attend a survey along the

northern boundary of the impact area on 29 July 2020 and was accompanied by Heritage Now Principal Consultant Tessa Boer-Mah.

Table 2 Responses to Assessment Methodology by Registered Aboriginal Parties

Organisation/Individual	Representative Name/s	Response summary (full response in Appendix 1)
A1 Indigenous Services	Carolyn Hickey	Agrees with methodology
Guringai Tribal Link	Tracey Howie	Agrees with methodology
Walkaloo	Tracey Howie	Agrees with methodology
Widescope Indigenous Group	Steven Hickey	Agrees with methodology

3.3 Stage 4

The draft report was sent to the Registered Aboriginal Parties and 28 days provided for comment. A summary of responses are below (Table 3) and in the consultation log in Appendix 1. Comments from Sharon were also discussed by telephone with Tessa Boer-Mah of Heritage Now. It was agreed that some of her comments would be incorporated into the concept planning proposal, but others would be addressed at the DA stage, Sharon was satisfied with that approach.

Table 3 Responses to Draft Report by Registered Aboriginal Parties

Organisation/Individual	Representative Name/s	Response summary (full response in Appendix 1)
Confidential RAP	-	Agrees with the recommendations
Sharon Hodgetts	Sharon Hodgetts	Agrees with the recommendations, but also would like a cultural heritage management platform and clearing of grass around the edge of the rock platforms
A1 Indigenous Services	Carolyn Hickey	Agrees with the recommendations

3.4 Summary

There are 12 Registered Aboriginal Parties for the project. Feedback from the Aboriginal consultation has been incorporated into the assessment of significance and the development of heritage management and mitigation strategies for the Project.

4 Archaeological Assessment

The archaeological assessment outlines the environmental and heritage context for the Project Area. It also reports on the archaeological survey.

4.1 Environmental Context

This section provides the environmental context for the assessment of past Aboriginal occupation in the Project Area.

4.1.1 Geology and Soils

The Project Area lies within the Hawkesbury sandstone geological zone that formed in the Middle Triassic Period (Geological Services of NSW, 2015). This zone is categorised by medium to very coarse-grained sandstone, minor laminated mudstone and siltstone lenses. Large sandstone outcrops were often used for rock art and engravings. Larger outcrops often provided rocks shelters, which could be used as campsites with natural protection from the weather. Sandstone with a nearby water source was also used for sharpening and grinding stone tools, leaving axe-grinding groove sites. Mudstone and siltstone can be used to create stone tools.

The soil in Kariong is comprised of an A1 Horizon of black coarse loamy sand from 0-0.3m. The A2 Horizon is a light grey coarse sand from 0.3-0.7m. The B Horizon is a dark brown loamy sandstone. The sandiness of the soils can be attributed to degrading sandstone formations that dominate the geology of the area.

4.1.2 Topography and Hydrology

The Project Area is on sloping land, which rises from 100-200m in the west to the 400-500m in the east. There are no streams within the Project Area, however, a water hole has been noted as being within the project area. The closest streams are first order streams approximately 200m to the east and west of the project area.

4.1.3 Flora and Fauna

This section is intended to give a general overview of the flora and fauna that may have been used by Aboriginal people in the past. The information has been supplied for understanding the past Aboriginal use of the landscape and is not intended for ecological assessment purposes.

The vegetation throughout the entire Project Area is classed as Sydney Coastal Heaths based on Keith (2006). This class is dominated by emergent mallees up to 4 m tall and shrubs up 1.5 m tall with a semi-continuous graminoid groundcover. Trees present would normally include mallee forms of red bloodwood, heart-leaved stringy-bark, yellow-top ash and Port Jackson mallee, while shrubs include scrub she-oak, dwarf apple, heath banksia, old man banksia, cone-seeds, egg and bacon pea, coral heath, dagger hakea, broad-leaved drumsticks, pink tea-tree, flaky-barked teatree, small-leaved white beard, lance-leaved geebung and grass-trees.

These coastal heaths provide the habitat for wallabies, kangaroos, potoroos, possums, bats, and quolls. These fauna were an important source of food to the local Aboriginal people and their hides were also a resource to make clothing. Possum skin and hair was one of the more frequently chosen sources of clothing (Australian Walkabout Wildlife Park, 2018).

4.1.4 Land Use

The Project Area is largely undeveloped bushland, although it has two existing electricity easements and access tracks.

4.1.5 Synthesis

The Project Area occurs within the Hawkesbury River Sandstone Geological Zone which would have provided an excellent source material for art engravings and axe grinding grooves. There is also a wealth of floral and faunal resources that occur in the area. However, the slope of the land and distance from a reliable water source suggest that it is unlikely location for camp site occupation, sites containing art and engravings are more likely.

4.2 Heritage Context

A review of the archaeological, ethno-historical and post-contact history of an area provides contextual information for Aboriginal sites within the local and regional landscape. Previous archaeological research undertaken in the region as well as a review of environmental factors can inform predictive models for the locations of Aboriginal sites. Predictive models can be further refined by the consideration of the post-contact land use of the area which may identify potential sources of post-depositional disturbances that may have occurred.

4.2.1 Aboriginal Occupation of the Central Coast – Archaeological Background

Aboriginal occupation in the area has been dated to 11,000 years before present which precedes the rise of sea levels around 6000 years before present (Attenbrow, 2006, p. 8). This date comes from a rockshelter site in Mangrove Creek, 20 km North West of Gosford. Due to the limitations in dating techniques, this figure may be even older.

There are a variety of site types found in the Central Coast region, including grinding grooves, art sites, artefacts, water holes, modified trees, and Dreaming sites.

Grinding grooves were important to stone tool maintenance and food preparation. Grinding grooves are commonly found in sandstone sheets associated with creeks and water holes. Water was needed to be able to sharpen stone tools on the sandstone.

Art sites often take the form of rock engravings in the Central Coast region. These engravings were usually made on flat sandstone sheets and represented hundreds of spiritual figures including ancestral beings (sky heroes) and a wide range of animals and objects and normal-sized human beings. There are few historical accounts of their use, as it appears they were mainly used for ceremonial activities and thus under Aboriginal custom their use was not openly discussed. The oldest of these art sites in the region has been dated to 4000 years old (Taçon, et al., 2007).

Shields were often made from the buttress of the giant nettle tree (*Dendrocnide excelsa*) or fig tree (*ficus* spp). Usually about 1 m long and 0.5 m wide, with a handle on the inner side and soft paperbark padding. Bark was also removed to make vessels for food. Hardwood Eucalypt species were important for hunting sticks, throwing sticks, digging sticks, boomerangs and clubs. Although these types of artefacts are unlikely to survive due the nature of the organic material, the modifications made to trees for their creation can survive as they often left a distinctive scar on the tree.

4.2.2 Aboriginal Heritage Information Management System (AHIMS)

The AHIMS database was searched on 20 December 2019 from Latitude -33.4553 to -33.436 and Longitude 151.2827 to 151.306. The search identified 92 sites and 2 Aboriginal Places. The AHIMS sites were plotted according to the latitude and longitude co-ordinates in the extensive search.

Majority of the sites in the AHIMS search are associated with sandstone formations such as rock engravings, art, rock shelters and grinding grooves. There are 62 (67.39%) art sites. This includes rock engravings and other art sites where it hasn't specified whether they are painted or engraved. There are 11 (11.96 %) grinding grooves sites and 9 (9.78%) sites include both grinding grooves and art. In total sites associated with sandstone account for 88.52% of all sites.

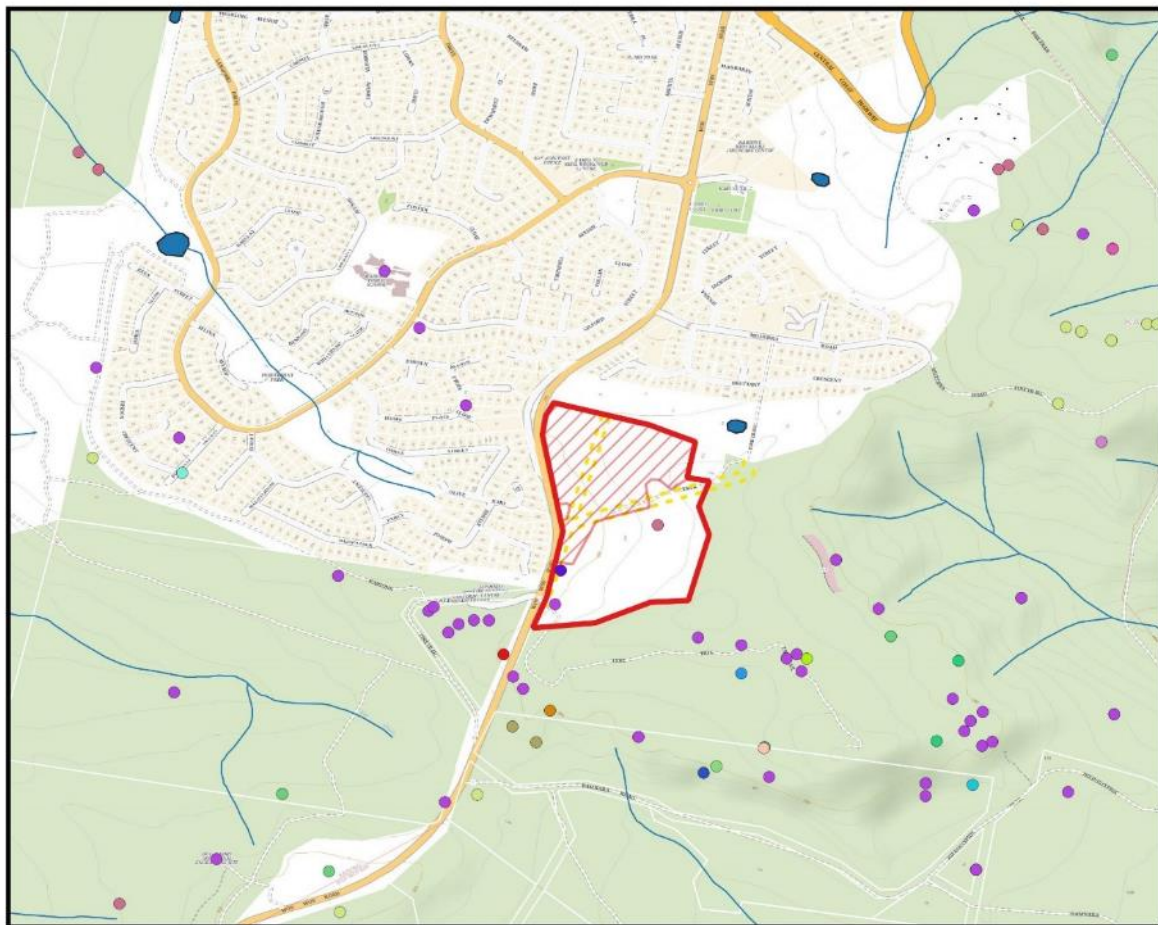
Grinding groove sites tend to be in close proximity to the streams, where art sites occur near by water sources as well as at higher elevations, towards the ridgelines.

Table 4 AHIMS Site Types

Site types	Number	Percent
Rock Engraving	50	54.35%
Art (Pigment or Engraved)	10	10.87%
Axe Grinding Groove	7	7.61%
Axe Grinding Groove, Rock Engraving	6	6.52%
Stone Arrangement	3	3.26%
Axe Grinding Groove, Rock Engraving, Shelter with Art	3	3.26%
Artefact Scatter	2	2.17%
Isolated Find	1	1.09%
Grinding Groove / Water Hole	1	1.09%
Art (Pigment or Engraved) / Water Hole	1	1.09%
PAD	1	1.09%
Water Hole/Well	1	1.09%
Rock Engraving, Stone Arrangement	1	1.09%
Grinding Groove / PAD	1	1.09%
Water Hole	1	1.09%
Axe Grinding Groove, Water Hole/Well	1	1.09%
Aboriginal Ceremony and Dreaming	1	1.09%
Grinding Groove	1	1.09%
Grand Total	92	100.00%

Two Aboriginal places were identified in the AHIMS search, but are not in the Project Area, a summary of these places is provided as they emphasise the importance of the locality for Aboriginal people. The area immediately south of the Project Area is recognised as an Aboriginal Place and is listed as Kariong Sacred Land. The area of approximately 66 ha is noted for its numerous rock engravings as well as its role as a traditional meeting place and centre for learning and ceremony. It continues to be used as a place of education as elders run a ‘bush schoolroom’ on site to teach the younger generations about Aboriginal history, traditional stories, how to interpret the engravings and rock paintings, and about traditional practices such as collecting and using bush foods and natural medicines that abound the area (Office of Environment and Heritage, 2015).

Bulgandry Art Site is located south west of the Project Area and is listed as an Aboriginal place. It is also listed as an AHIMS site #45-3-0450. The site includes many impressive rock engravings and is a traditional ceremonial place of the local Aboriginal people (Office of Environment and Heritage, 2015).



Legend

- | | |
|---|---|
|  Project Area |  Grinding Groove |
|  Impact area |  Grinding Groove / PAD |
|  Transmission line easements |  Grinding Groove / Water Hole |
| Kariong AHIMS Search | |
|  Aboriginal Ceremony and Dreaming |  Isolated Find |
|  Art (Pigment or Engraved) |  PAD |
|  Art (Pigment or Engraved) / Water Hole |  Rock Engraving |
|  Artefact Scatter |  Rock Engraving, Stone Arrangement |
|  Axe Grinding Groove |  Stone Arrangement |
|  Axe Grinding Groove, Rock Engraving |  Water Hole |
|  Axe Grinding Groove, Rock Engraving, Shelter with Art |  Water Hole/Well |
|  Axe Grinding Groove, Water Hole/Well |  hydroline |
| |  hydroarea |

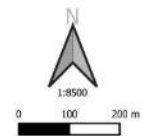


Figure 2 AHIMS Search Results

4.2.3 Sites within the Project Area

There are three AHIMS sites are located within the Project Area. AHIMS# 45-3-3052 is a water hole/well, AHIMS #45-3-3043 is a rock engraving and AHIMS #45-3-3044 an axe grinding groove site.

A previous survey of the Project Area by David Pross for DLALC identified twelve sites. However, these sites are not registered in the AHIMS database and so did not come up in the AHIMS search. There are ten sites identified by Pross within the Project Area.

Including the AHIMS sites, there are 13 known sites within the Project Area. The details are provided in Table 5.

Table 5 Summary of sites within the Project Area

Site code	Site Type	Description
WW1	Rock Engraving: Mondo	A 9 centimetres engraved circle with stone pecking
WW2	Water Pools with channels	Near WW1 on large rock platform near boundary of Lot 512 and 513
WW3	Rock Engraving: Mondo	Mondo 25 x 29 centimetres on edge of rock platform towards the middle of transmission line
WW4	Stone Arrangement	A pile of sandstone rocks that are flattish on two sides and placed in a slightly semi circular pattern 3 x 1 metres an 0.75 metres high. Possible burial site
WW5	Rock Engraving: Mondo	An irregular circle engraved on the rounded face of the platform wall 20 x 13 centimetres.
WW6	Water Hole	A very deep vegetation filled depression with channels, diameter 7.25 metres and 60 centimetres deep
WW7	Fire Places and Oven	Several fire circles identified on platform and possible oven
WW8	Rock Engraving: Arc/Crescent	A crescent shape etched in a sandstone outcrop 60 centimetres long and with half radius of 20 centimetres. The groove contained 1 centimetre of water
WW9	Rock Engraving: Circle Arrangement	Two circles joined together facing east-west 75 centimetres in diameter and 1.5 in total length. To the north of these is a ring of seven small circles, each 11 centimetres in diameter. The total diameter of the ring of circles is 2 m. The purpose of the arrangement is unclear
WW10	Basin carved into a platform	A basin containing water measuring 4 x 1.5 metres with 1.5 metres depth. Evidence of pecking, suggesting it was dug out of the sandstone
45-3-3043	Rock engraving	A series of pits scattered across the surface of a sandstone platform.
45-3-3044	Grinding groove	A channel 2.65 metres long and 3 centimetres wide, surrounds a pot hole
45-3-3052	Water hole/well - Mundoe pits	Contains mundoe pits



Legend








-  Project Area
-  Impact area
-  Transmission line easements
-  45-3-3044
-  45-3-3043
-  45-3-3052
-  Pross sites



Figure 3: Aboriginal sites within the Project Area

4.2.4 Heritage Report Summaries

Heritage reports relevant to the Project Area have been summarised in this section to provide an understanding of the previous assessments that have been undertaken and the implications for Aboriginal site patterning.

Pross 2007 Preliminary Archaeological Heritage Assessment: Lot 512 and Lot 513 in DP 7552517 Woy Woy Road Kariong

Pross undertook an archaeological survey through the Project Area for DLALC in 2007. The survey identified 11 sites. All sites were associated with sandstone and including six rock engravings, two stone arrangements, a water hole, a carving for an oven and carvings for use as a water basin (Pross, 2007, pp. 13-14). Pross recommended for further investigation of the area including night recordings (Pross, 2007, p. 15). No works were planned at time of the survey however, it was recommended that if there were any future works that a cultural heritage officer be present (Pross, 2007, p. 15).

Roberts and Pross 2008 Archaeological Assessment Bambara Road Kariong

An archaeological assessment was completed for lots 229, 4712, 251, 2501, 2502, and 478 Bambara Road, 350 m south of the Project Area. The survey identified 12 site complexes which included rock engravings, rock shelters, grinding grooves and stone arrangements. Two previously recorded AHIMS sites were identified AHIMS #45-3-028 and #45-3-0496. Four others were noted in the database as being within the project area but were not located during survey. It is possible they could have been covered by soil or incorrectly recorded in AHIMS. It was recommended that no developments occur above the 170 m contour line in the northern area of lot 2501 as there are significant and culturally sensitive sites in the area (Roberts & Pross, 2008, p. 87).

Biosis 2008 Archaeological Survey – Kangoo Road to Langford Drive, Kariong

Biosis surveyed a 150m long area with a 50 m buffer zone for a proposed road alignment between Kangoo Road Langford Drive, 1.5 km north west of the Project Area. They did not identify any Aboriginal sites, but they did note exposed sandstone in the creek with a natural pothole which potentially was a source of drinking water in drier seasons (Biosis, 2008, p. 30). Sandstone was of a high enough quality that it could have been utilised for Aboriginal engraving or grinding purposes, although no evidence of this was identified by the survey. The tributary that the sandstone and potholes were identified with is the southern portion of the stream that runs through the current Project Area. It is possible that similar quality sandstone exists in the current Project area but has been covered by silt as noted by JMCHM (1997, p. 12).

Drew 1994 Archaeological Assessment Woy Woy Road, Kariong

An archaeological survey was conducted on Woy Woy Road in Kariong, immediately west of the Project Area. The survey identified 5 sites. This included a previous recording of an engraving of a fish (AHIMS #45-3-1293). Another previously recorded rock engraving site found was also of a fish (AHIMS #45-3-0705) however it appeared to have been weathered significantly since its last documentation. Another site included rock engravings of two emus (AHIMS #45-3-0470). Previous recordings of the site identified further figures, though they appear to have been weathered or covered by lichen. Drew describes the site as being on the west side of Woy Woy Road, but Dallas (1981) records it as being on the eastern side. A previous recording of a kangaroo was also identified (AHIMS #45-3-2413). One never previously documented site was identified, referred to as a

‘mythological site’ (Drew, 1994, p. 8). Consultation with Aboriginal community identified an area of Aboriginal tradition and ceremony. The site is situated at the south eastern side of the track junction, 250 m down the east-west fire trail from Woy Woy Road. The rock platform curves around the east to the second fire trail. The whole area is approximately 40 m East-West and 50 m North-South. It was recommended for all of these sites to be protected.

Dallas 1981 Archaeological Survey and Rockshelter Excavation - Kariong

Dallas (1981) surveyed a three square kilometre area in Kariong, including the western portion of the Project Area along Woy Woy Road. Thirteen Aboriginal sites were identified mainly comprising engravings (8), three rockshelters (3), an axe-grinding groove site (1) and an isolated find (1). One historic site comprising the collapsed chimney of a house was also identified. Four chert artefacts were excavated from a 50 centimetres x 50 centimetres trench in Whale Shelter 1 (AHIMS#45-3-1290) (Dallas, 1981, pp. 11-13) and was identified as a location warranting further research. If the listed location in AHIMS is correct it appears that this shelter was destroyed in the subdivision of suburb of Kariong.

4.2.5 Predictive Model

The most common Aboriginal archaeological sites are predicted to be those associated with sandstone outcrops, especially rock engravings and grinding grooves.

Rock engravings are the most common site associated with sandstone, accounting for over 75% of all Aboriginal archaeological sites in the area. Majority of sites occur at elevations above 150 m AHD where the land transitions from steep hills to ridge lines. One site occurs as low as 90 m, however this site is also associated with a grinding groove site, which frequently occur near lower lying creek lines.

Grinding grooves result from the sharpening of ground stone axes/hatchets. To sharpen a stone axe/hatchet the hafted stone piece is ground into the sandstone using water as a lubricant. Often grinding grooves are within or directly adjacent watercourses, as these supplied water for grinding. Majority of the grinding grooves in the area can be found at first order streams, or in close proximity to wells and waterholes. However, there are a several outliers to this pattern with many over 50 m away from a water source, and some up to 250 m. This may be due to waterholes being present in the sandstone sheets which may have provided a source of water for grinding. AHIMS #45-3-3044 is a grinding groove within the Project Area. Based on the AHIMS site card this site is located alongside an ephemeral drainage line, unmarked on topographic maps, this may be the case for other sites that appear far from creek lines. AHIMS #45-3-3395 is the furthest grinding groove to a water source. This site however is both a grinding groove and a potential archaeological deposit and is a rare site.

Water holes are also documented in the area, including within the Project Area. All of these occur at high elevations above 190 m AHD.

Surface stone artefact sites (isolated finds and artefact scatters) are rare in the area. There is a concentration of them around Bambara road, however this is likely a reflection of detailed survey being completed in the area, as well as the low detection of these sites where ground surface visibility is low.

Based on the environmental and heritage information available it is predicted that Aboriginal sites associated with sandstone would be most likely within the Project Area, this could be in the form of rock engravings or grinding grooves or rockshelters or stone arrangements depending on the nature of the outcropping sandstone. Grinding grooves are most likely to occur along the ephemeral drainage line running west to east in the centre of the Project Area, where engraving sites are more likely to occur on the ridge line in the north section of the Project Area. There is moderate potential for surface artefact sites (artefact scatters/isolated finds) throughout the Project Area.

4.3 Archaeological Survey

The archaeological survey was undertaken on 17 March 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Amanda Shields of Darkinjung Local Aboriginal Land Council and Tracey Howie of Awabakal Traditional Aboriginal Owners Corporation. An additional survey was undertaken on 29 July 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Paul Boyd of Didge Ngunawal Clan in the northern portion of the Impact Area.

The surveys focussed on the northern portion of the Project Area which is to be impacted, but groundtruthing of sites withing 40 metres of the Project Area was also undertaken.

4.3.1 Survey Unit

The survey unit comprised an upper slope landform, it was higher in the east than in the west. The area was primarily vegetated bushland. Exposures occurred along access tracks associated with the electricity easements and near the residential development areas in the north (Plate 1 and Plate 2). Overall, ground surface exposure was 10% and ground surface visibility was 15%.

The surveyed area contained sandstone outcropping throughout (Plate 3 and Plate 4). Not all of the sandstone was suitable for engravings (Plate 5). Vegetation included candle-stick banksia (Plate 6), grass trees, stringy bark and gum trees (Plate 7). One previously recorded AHIMS site was ground-truthed; AHIMS #45-3-3044, along with unregistered Aboriginal sites recorded by Pross (2007). Two previously unrecorded sites were identified HN-WW-E01 and HN-WW-E02.

Survey Unit Summary

The Project Area was surveyed in using one survey unit as it was all an upper slope landform (Figure 4, Table 6).

Table 6 Survey Coverage

Survey Unit	Landform	Survey Unit Area	Visibility %	Exposure %	Effective Coverage Area (m ²)	Sample Fraction (%)	Number of Sites Identified
1	Upper Slope	83704	15%	10%	1255.56	2%	3

4.3.2 Aboriginal Sites Identified/Ground-truthed

Aboriginal sites within 40 metres of the impact area were inspected.

AHIMS #45-3-3044 was identified, however it is located approximately 70 metres north west of its recorded location in the AHIMS database. It contains a rock engraving, consisting of two channels that meet around a 30 centimetres diameter pit (Plate 8, Plate 9 and Plate 10). This pit in the sandstone is presently filled with vegetation. It is located outside the impact area.

Site WWR4 (not registered on AHIMS) was identified by Pross (2007) as a stone arrangement measuring 3 metres in length 1 metre wide and 0.75 metres high. This location was ground-truthed. The area contains a sandstone sheet (Plate 11) which is highly vegetated, as well as having many fallen branches, there at least two locations where rocks are clustered on the surface of the sandstone sheet (Plate 12 and Plate 13), but are barely observable due to the amount of vegetation. It is very difficult to identify if these clusters are of Aboriginal origin and thus are stone arrangements associated with Aboriginal cultural activities. However, as reported by Pross (2007)

such arrangements were sometimes used for Aboriginal human burial practices. Rock cluster 1 is approximately one metre in diameter and 0.3 metres high and Rock cluster 2 is approximately one metre in diameter and 0.4 metres high, they are 12 metres apart and thus do not match the description given by Pross. In addition, approximately 10 metres north of Rock cluster 1 is an artificially cut drainage channel which also has scattered stone around it from its construction (Plate 14). Given the thickness of the vegetation, it is unclear whether the stone arrangement observed by Pross is present at the location. Vegetation removal and further investigation would be needed to verify the site.

Site WWR8 (not registered on AHIMS) was identified by Pross (2007) as a rock engraving. The ground-truthing of this general area showed that it was part of an informal drainage line and was partially inundated, there was no outcropping sandstone observed in this area. The site description of WWR8 suggests it is near WWR7 in the eastern portion of the Project Area and the current plotted location of WWR8 is in the western portion of the Project Area. It more likely that WWR8 is located in the eastern portion of the Project Area where multiple sandstone outcrops were observed.

WWR2 (not registered on AHIMS) was identified by Pross (2007) as water pools with channels, this location was inspected, but the site was not observed.

WWR3 (not registered on AHIMS) was identified by Pross (2007) as an mondo (ellipse) engraving 25 x 29 centimetres. This site was not identified during the survey.

WWR5 (not registered on AHIMS) was identified by Pross (2007) as an irregular circular engraving on the rounded face of the platform wall. This feature was not identified during the survey.

WWR7 (not registered on AHIMS) was identified by Pross (2007) as comprising fire circles identified on platform and possible oven, these features were not identified during the survey.

The location of AHIMS#45-3-3052, a waterhole/well with engravings was also inspected but was not identified.

A previously unrecorded site, HN-WW-E01, was identified 20 metres west of 45-3-3044. It is located 15 metres south of the fire trail, approximately 350 metres along the fire trail from Brittany Crescent. It contains two mundoes, 1.2 metres apart alongside a waterhole (Plate 15-Plate 17). It is within an extensive sandstone sheet measuring approximately 11 metres x 5 metres which is raised above the surrounding bushland. It has been registered as AHIMS #45-3-4461.

HN-WW-E02 had not been previously recorded it was identified 12 metres south of the northern boundary on a flat sandstone sheet which was exposed within grass near a current residence (Plate 18 and Plate 19). The sandstone sheet is approximately 3.9 metres (east-west) and 1.6 metres (north-south). It contains a zoomorphic engraving, but it is not clear what animal it may represent, it also has a crescent shaped line to its left (Plate 20 - Plate 21). The zoomorph figure is 56 centimetres in wide and 30 centimetres tall. The crescent shaped line is approximately 40 centimetres, from tip to tip. The engravings are approximately in the centre of the sandstone sheet (east-west) and towards the northern edge.

The Pross (2007) report does not contain photographs of the sites and the co-ordinates are not consistently recorded in the same datum, some of the site descriptions do not match the reported coordinates; hence it is very difficult to discern the nature and location of the Pross sites. For the

purposes of this assessment the coordinates reported by Pross are taken to be their location, unless otherwise stated.

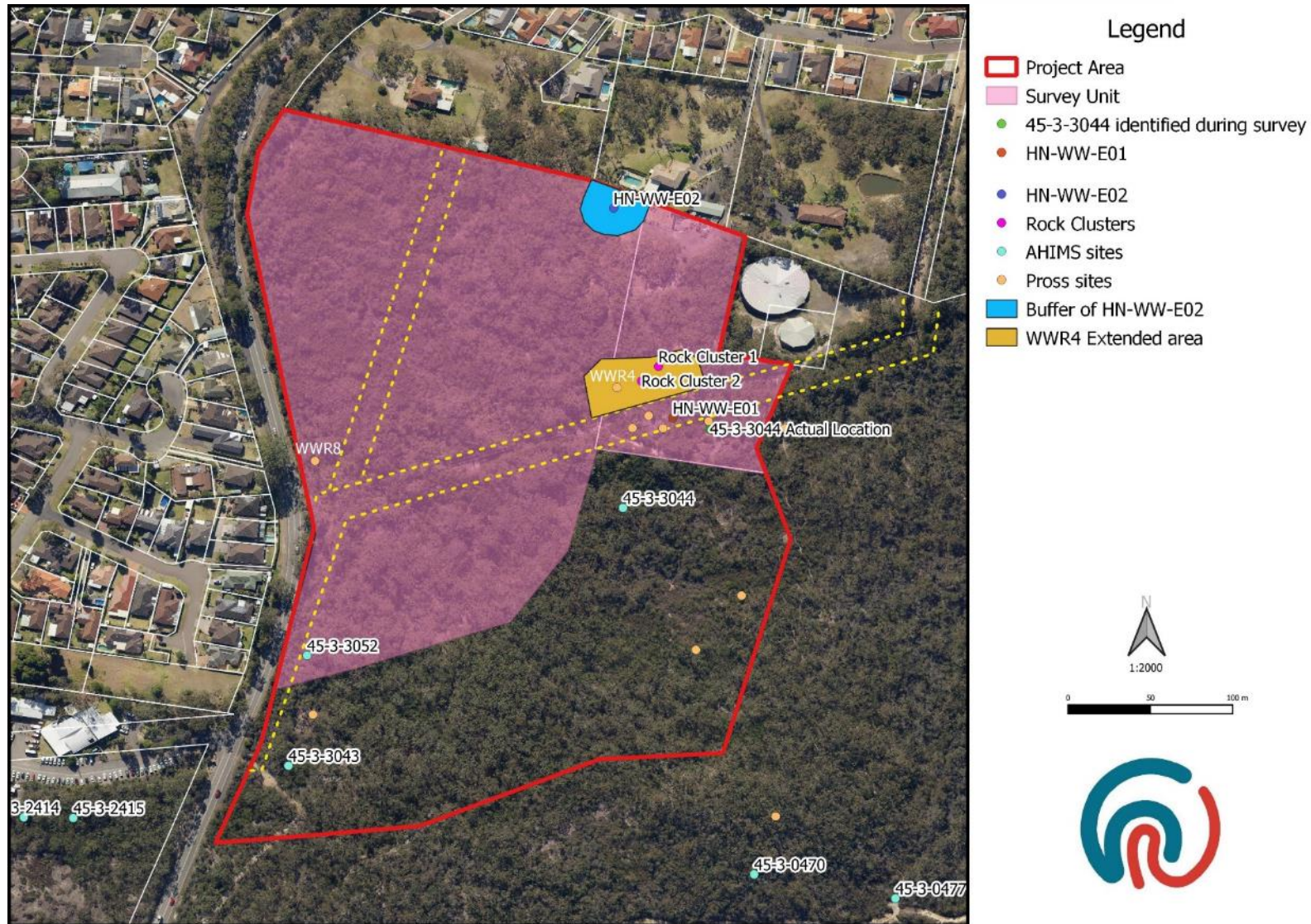


Figure 4: Kariong Survey Area

4.3.3 Archaeologically Sensitive Sandstone Sheets

Sandstone sheets were identified throughout the Project Area. The soil, vegetation and lichen covering the sheets was too thick to adequately determine if they contained engravings or grinding grooves and thus have been identified as being archaeologically sensitive. There is potential that vegetation clearance will uncover more sandstone sheets.

4.3.4 Aboriginal Consultation

Tracey Howie from Awabakal Traditional Owners Aboriginal Corporation and Amanda Shields from Darkinjung Local Aboriginal Land Council attended the archaeological survey. Both agreed that the site identified was AHIMS#45-3-3044 based on the previous recordings and that the other sandstone sheets should be inspected once vegetation was removed.

4.3.5 Summary

AHIMS#45-3-3044 was ground-truthed and identified to be approximately 70 metres north west of its recorded location in the AHIMS database. The location of AHIMS#45-3-3052 was inspected, but the site was not observed.

One Aboriginal site within 20 metres of the impact area, as yet unregistered on the AHIMS database WWR8 was ground-truthed, but not identified at its recorded location. For WWR8 the recorded location of this site when ground-truthed was within a drainage channel, with no outcropping sandstone, thus the recorded location is likely incorrect and it is located in the eastern part of the Project Area (which also aligns with the stated site description).

WWR4 was inspected and two small on metre diameter rock clusters were identified. They are thickly covered in vegetation and it was not possible to identify if they are of Aboriginal origin and if the larger Pross stone arrangement is present.

WWR3, WWR5 and WWR7 also unregistered Pross sites were also not observed during the survey. Two previously unrecorded sites were identified (HN-WW-E01 and HN-WW-E02). HN-WW-E01 contained two mundoe engravings near a waterhole. HN-WW-E02 contained a zoomorph figure and crescent engraving on a sandstone sheet exposed in grass.

In addition, archaeologically sensitive sandstone sheets were identified which were too obscured to positively identify if they contained Aboriginal engravings or grinding grooves.

5 Significance Assessment and Aboriginal Cultural Values

Cultural heritage refers to the tangible and intangible values that we choose to pass on to future generations. In order to identify the values worth passing on, a significance assessment needs to be undertaken. The significance assessment needs to: identify the range of values present across the Project Area and assess their importance.

5.1 Methodology

Identifying the Aboriginal cultural values is part of the significance assessment process and is guided by the Burra Charter and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

There are four recognised classes of values under the Burra Charter (Australia ICOMOS, 2013):

- Social,
- Historical,
- Aesthetic, and
- Scientific

Within this significance assessment, Aboriginal cultural values are captured within social, historical and aesthetic values. The archaeological values are contained within scientific values.

Social value refers to the spiritual, traditional, historical or contemporary associations that Aboriginal people have for place. Historical value refers to the associations of a place with a historically important person, event, phase or activity in the Aboriginal community. Aesthetic value refers to the sensory, scenic, architectural and creative aspects of the place.

Archaeological values refer to the importance of the landscape, area, place or object because of its rarity, representativeness and the extent to which it may inform our understanding of Aboriginal culture.

5.1.1 Aboriginal Cultural Values

Aboriginal cultural values are identified through the Aboriginal consultation process. Formal opportunities for the Aboriginal community to contribute to identifying cultural values are provided in the ACHA methodology review period, during fieldwork and during the draft report review period. In addition, RAPs are invited to provide feedback at any time through the consultation process, by phone or in writing (email or letter).

5.1.2 Archaeological (Scientific) Values

Archaeological (scientific) values relate to whether the Project Area can contribute to our understanding of Aboriginal culture. Under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*, archaeological values are to be considered within the below sub-categories:

- Representativeness,
- Rarity,

- Research potential, and
- Educational potential.

5.2 Aboriginal Cultural Values of the Project Area

Feedback during fieldwork from Amanda Shields and Tracey Howie was that the sites were of high importance to Aboriginal people.

5.3 Archaeological Values of the Project Area

This section assesses the archaeological values of the Project Area according to the criteria in the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

5.3.1 AHIMS#45-3-3044, HN-WW-E01 and HN-WW-E02

AHIMS#45-3-3044, HN-WW-E01 and HN-WW-E02 are representative of sandstone engraving sites associated with the Aboriginal occupation of the local area. The site type is not rare, with majority of sites identified in the area being engravings on sandstone formations. The sites have local research value as it is part of a cultural complex in this area and they were likely used for Aboriginal ceremony. These sites have high local educational value as tangible evidence of Aboriginal art and ceremony, although there are more extensive sites with higher interpretation value on a regional scale. Overall, these sites are of high local and moderate regional significance.

5.3.2 WWR4

The previously identified stone arrangement at this site was not identified, however, stone clusters were noted in the area. The Pross (2007) report suggests that WWR4 may be an Aboriginal burial site. If this was confirmed it would have high local and regional significance as this site type is rarely identified, is highly representative, with high educational and research potential values. Further investigation is required for this site, which would involve the careful removal of obscuring vegetation.

5.3.3 AHIMS#45-3-3052, WWR3, WWR5, WWR7 and WWR8

These sites were not identified during the survey and thus an assessment of significance cannot be made.

5.3.4 Archaeologically Sensitive Sandstone Sheets

There are numerous sandstone sheets partially covered in soil and/or vegetation throughout the impact area which have potential for Aboriginal grinding grooves and/or engravings and thus have been identified as being archaeologically sensitive. An assessment of significance cannot be made at this time, as they were obscured by soil and vegetation.

5.4 Summary

AHIMS#45-3-3044, HN-WW-E01 and HN-WW-E02 were identified to be of high local significance and moderate regional significance. It was not possible to fully assess the significance of WWR4, however, if identified as a burial site it would be of high local and regional significance. The significance of remaining Aboriginal sites could not be assessed, as they were not located during the survey. A significance assessment of the archaeologically sensitive sandstone sheets could not be made, as they were obscured by soil and vegetation.

6 Impact Assessment and Mitigation

This section assesses the potential impact of the proposed works in relation to Aboriginal heritage values in the Project Area and provides options for mitigating loss of Aboriginal cultural values.

6.1 Proposed works

The proponent plans to develop the northern part of the Project Area for residential purposes. The residential development will involve clearing of vegetation as well as cut and fill to prepare the Project Area. It will require the installation of below and above ground services including water and sewer, telecommunications and electricity. It will also require the formation of roads and access ways to the residential lots as well as the building of individual residences.

6.2 Impact Assessment

This section addresses the potential impacts to Aboriginal cultural values as result of the proposed works.

6.2.1 Aboriginal sites (AHIMS#45-3-3044, HN-WW-E01, WWR3, WWR5 and WWR7)

The AHIMS site identified during survey (AHIMS#45-3-3044) showed that it was not the location registered in AHIMS. This site is outside the impact zone and is 10 metres south of the marked electricity easement and 16 metres south of the existing vehicle track associated with the electricity poles.

HN-WW-E01, WWR3, WWR5 and WWR7 are within the marked electricity easement, but are 8-20 metres south of the electricity easement access track and are on raised sandstone sheets.

The sites (AHIMS#45-3-3044, HN-WW-E01, WWR3, WWR5 and WWR7) are outside the direct impact zone for the proposed development, however given their proximity to the impact zone boundary there is potential for inadvertent impacts to occur.

6.2.2 Aboriginal Sites AHIMS#45-3-3-52, HN-WW-E02 and WWR4

AHIMS#45-3-3052 is 17 metres south of the project area based on its AHIMS recorded location, the site was not observed during the survey.

A 20 metre buffer has been placed around HN-WW-E02 and depending on the proposed design additional land may be set aside to provide access to the site for traditional custodians.

An enlarged buffer zone has been placed around WWR4 and is limited to the north by an artificially cut drainage channel. Vegetation clearance, ground disturbing works and construction is required to occur outside this zone.

While there are buffer zones around these sites additional mitigation is needed to provide protection from inadvertent impact.

6.2.3 Archaeologically Sensitive Sandstone Sheets and WWR8

Archaeologically sensitive sandstone sheets were identified throughout the Project Area. There is also potential that more sandstone will be identified as land is cleared for the proposed residential

development. These sandstone sheets have potential to be impacted by earthworks, particularly in parts of the Project Area where cut is required.

The recorded location of WWR8 was observed to be highly vegetated and in an area of inundation and is likely not present at that location. However, to confirm this, the vegetation will need to be removed and the area inspected. If the site is not present at that location then the 20 metre buffer zone around the site will not need to be observed and there is potential for that portion of the land to be developed.

6.3 Mitigation

The below strategies have been developed to mitigate harm and/or loss of Aboriginal cultural values as a result of the proposed works.

6.3.1 Aboriginal sites AHIMS#45-3-3044, HN-WW-E01, WWR3, WWR5 and WWR7

These sites are outside the impact zone for the development. They are located on sandstone sheets which are very visible. The potential for inadvertent impacts can be reduced by clearly demarcating their locations on construction plans and communicating that the sandstone sheets to the south of the electricity access track are not to be accessed.

6.3.2 Aboriginal Sites AHIMS#45-3-3-52, HN-WW-E02 and WWR4

A buffer zone has been placed around these sites. To ensure they are not accessed or inadvertently impacted during construction. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are complete.

6.3.3 Archaeologically Sensitive Sandstone Sheets and WWR8

Partially obscured sandstone sheets occur throughout the Project Area, once vegetation is removed, any sandstone sheeting is to be inspected and if necessary, soil removed by machine or hand under the supervision of a heritage consultant and a representative of the RAPs. The sandstone sheets are then to be inspected to identify if they contain Aboriginal engravings or grinding grooves. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs.

Vegetation clearance in the vicinity of WWR8 is needed to confirm if it is present at that location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site.

6.3.4 General mitigation strategies

The Aboriginal sites are to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

6.4 Sustainable Development

Under the NSW *Protection of the Environmental Administration Act 1991* Ecologically sustainable development principles (ESD) are to be considered in the assessment of environmental impacts; and this includes impacts to heritage. The consideration of ESD principles is required under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales 2010*. In particular, the precautionary principle and the principle of inter-generational equity are to be considered where there are proposed impacts to the environment (which includes heritage).

6.4.1 Precautionary Principal

The precautionary principle states that if there are threats of serious or irreversible damage to the environment, then a lack of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

The proposed works will not impact the identified sites and therefore the works do not pose a threat of serious or irreversible damage to the environment. The mitigation measures have also addressed the potential for inadvertent impacts and provide excellent conservation outcomes for the Aboriginal sites.

6.4.2 Inter-generational Equity

The principle of inter-generational equity states that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

The mitigation measures proposed will ensure that the Aboriginal sites are either conserved in-situ and avoided and thus satisfies the principle of inter-generational equity.

6.5 Summary

There are no Aboriginal sites within the impact area of the Project, however, archaeologically sensitive sandstone sheets have been identified. Aboriginal sites (AHIMS#45-3-3052, HN-WW-E02 and WWR4) within 20 metres of the impact area and thus fencing during construction is required to ensure there are no inadvertent impacts to these sites. AHIMS#45-3044, HN-WW-E01, WWR3, WWR5 and WWR7 are to be marked on construction maps as no-go areas along with AHIMS#45-3-3052, HN-WW-E02 and WWR4.

Archaeologically sensitive sandstone sheets are to be inspected after vegetation removal. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs.

Vegetation clearance in the vicinity of WWR8 is needed to confirm if it is present at that location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

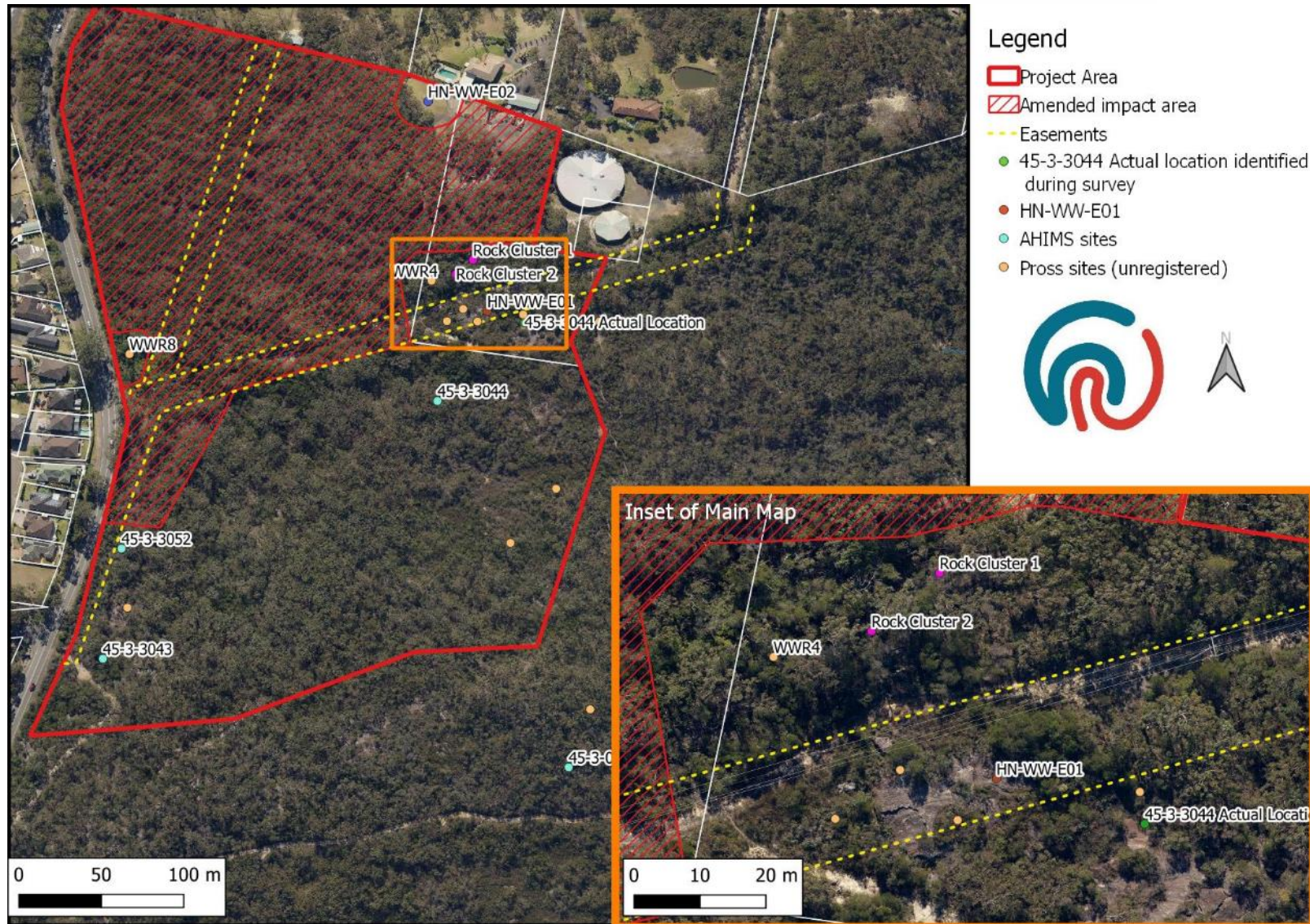


Figure 5: Impact Area with Aboriginal sites

7 Conclusions and Recommendations

The archaeological survey was undertaken on 17 March 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with RAP representatives: Amanda Shields of Darkinjung Local Aboriginal Land Council and Tracey Howie of Awabakal Traditional Aboriginal Owners Corporation. The survey focussed on the northern portion of the Project Area which is to be impacted. An additional survey was undertaken on 29 July 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Paul Boyd of Didge Ngunawal Clan in the northern portion of the Impact Area.

AHIMS#45-3-3044 was ground-truthed and identified to be approximately 70 metres north west of its recorded location in the AHIMS database. This updated information has been submitted to the Aboriginal Heritage Information Management System (AHIMS).

Site WWR4 (not registered on AHIMS) was identified by Pross (2007) as a stone arrangement measuring 3 metres in length 1 metre wide and 0.75 metres high. This location was ground-truthed. The area contains a sandstone sheet (Plate 11) which is highly vegetated, as well as having many fallen branches, there at least two locations where rocks are clustered on the surface of the sandstone sheet (Plate 12 and Plate 13), but are barely observable due to the amount of vegetation. It is very difficult to identify if these clusters are of Aboriginal origin and thus are stone arrangements associated with Aboriginal cultural activities. They do not match Pross' description the site.

The location of AHIMS#45-3-3052 was inspected, but the site was not observed. One Aboriginal site within 20 metres of the impact area, as yet unregistered on the AHIMS database (WWR8) was ground-truthed, but not identified at its recorded location. For WWR8 the recorded location of this site when ground-truthed was within a drainage channel, with no outcropping sandstone, thus the recorded location is likely incorrect and it is located in the eastern part of the Project Area (which also aligns with the stated site description by Pross 2007). Other unregistered Pross sites WWR3, WWR5 and WWR7 were also not observed during the survey. A previously unrecorded site, HN-WW-E01, was identified and contained two mundoe engravings near a waterhole. It has been registered on AHIMS as 45-3-4461. A second previously unrecorded site, HN-WW-E02 was identified containing a zoomorph figure and crescent.

In addition, archaeologically sensitive sandstone sheets were identified which were too obscured to positively identify if they contained Aboriginal engravings or grinding grooves, these were identified throughout the impact area.

AHIMS#45-3-3044, HN-WW-E01 and HN-WW-E02 were identified to be of high local significance and moderate regional significance. The significance of WWR4 could not be determined due to the thickness of the vegetation. The significance of remaining Aboriginal sites could not be assessed, as they were not located during the survey. A significance assessment of the archaeologically sensitive sandstone sheets could not be made, as they were obscured by soil and vegetation.

There are no Aboriginal sites within the impact area of the Project, however, archaeologically sensitive sandstone sheets have been identified. Aboriginal sites (AHIMS#45-3-3052, HN-WW-E02 and WWR4) are within 20 metres of the impact area and thus fencing during construction is required to ensure there are no inadvertent impacts to these sites. AHIMS#45-3044, HN-WW-E01, WWR3, WWR5 and WWR7 are to be marked on construction maps as no-go areas along with AHIMS#45-3-3052 and WWR4.

Archaeologically sensitive sandstone sheets are to be inspected after vegetation removal. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs.

Vegetation is also needed to be cleared around WWR8 to confirm if it is present at that location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

The works are to be undertaken in accordance with the below recommendations.

Recommendation 1

High visibility barrier fencing is to be erected along the buffer for Aboriginal sites AHIMS#45-3-3052, HN-WW-E02 and WWR4. The high visibility barrier fence is to be erected prior to construction and remain in place until the cessation of construction.

Recommendation 2

The archaeologically sensitive sandstone sheets are to be inspected by a RAP representative after vegetation removal, but before ground disturbance works and levelling to verify if they contain Aboriginal engravings or grinding grooves. If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs and a heritage consultant.

Recommendation 4

Vegetation is to be cleared in the vicinity of WWR8 in order to confirm if this site is present at its recorded location. If it is not present then there is potential for that portion of the land to be developed. If it is present, then a 20 metre buffer is to be placed between the site and the construction zone. High visibility barrier fencing will need to be installed prior to works commencing and remain in place until works are completed to prevent access and inadvertent harm to the site.

Recommendation 5

Aboriginal sites are to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant.

Recommendation 6

If Aboriginal engravings, grooves or other site type is identified during this process, then mitigation and management measures are to be identified and implemented in consultation with the RAPs and the heritage consultant.

Recommendation 7

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite Aboriginal Cultural Heritage induction or other suitable format.

8 References

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Pross, D. (2007). *Preliminary Archaeological Heritage Assessment: Lot 512 and Lot 513 in DP 7552517 Woy Woy Road Kariong*. Report to Darkinjung Local Aboriginal Land Council.

Roberts, A., & Pross, D. (2008). *Archaeological Assessment Bambara Road Kariong, NSW*. Report to Glendinning Minto and Associates.

Taçon, P., Hooper, S. B., Brennan, W., King, G., Kelleher, M., Domicelj, J., & Merson, J. (2007). *Assessment of the Aboriginal Cultural Heritage Values of the Greater Blue Mountains World Heritage Area*. Blue Mountains World Heritage Institute & Griffith University .

Tindale, N. (1974). *Tribal Boundaries in Aboriginal Australia*. South Australian Museum .

Plates



Plate 1: Northern portion of survey unit



Plate 2: Example of exposure in northern portion of survey unit



Plate 3: Sandstone near northern Project Area boundary



Plate 4: Sandstone sheet south of fire trail



Plate 5: Low quality, coarse grained sandstone – not suitable for engraving



Plate 6: Thick vegetation covering sandstone, including banksia trees



Plate 7: Banksia, stringy bark and gum trees in Project Area



Plate 8: AHIMS 45-3-3044 with string facing south west



Plate 9: AHIMS 45-3-3044 facing north east



Plate 10: Close up of engraving at AHIMS #45-3-3044



Plate 11: Location of WWR4 groundtruthed



Plate 12: Rock cluster 1 at WWR4



Plate 13: Rock cluster 2 at WWR4



Plate 14: Drainage Channel cut north of WWR4



Plate 15: HN-WW-E01 with string and marked by arrows, facing south



Plate 16: HN-WW-E01 without string, facing south

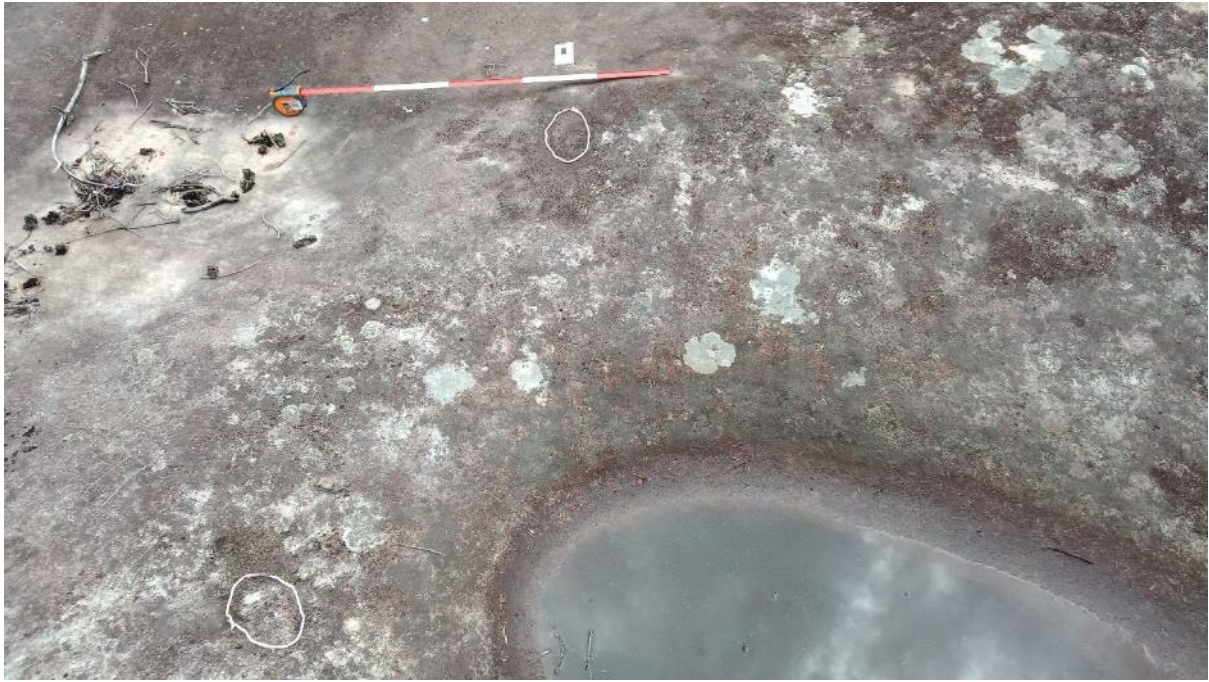


Plate 17: HN-WW-E01 with string, facing north



Plate 18: HN-WW-E02 view to south



Plate 19: HN-WW-E02 view to north



Plate 20: HN-WW-E02 with string



Plate 21: HN-WW-E02 no string

Appendix 1 Aboriginal Consultation

Contact	Organisation	Contacted by	Organisation	Method	Date	Comment/response
Agency Letter						
Sir or Madam	Native Title Services Corp	Crystal Phillips	Heritage Now	Email	28/01/2020	
Sir or Madam	Register of Aboriginal Owners	Crystal Phillips	Heritage Now	Email	28/01/2020	
Sir or Madam	Department of Planning Industry and Environment	Crystal Phillips	Heritage Now	Email	28/01/2020	
CEO	Darkinjung Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	28/01/2020	
Sir or Madam	Central Coast Local Council	Crystal Phillips	Heritage Now	Email	28/01/2020	
Sir or Madam	National Native Title Tribunal	Crystal Phillips	Heritage Now	Email	28/01/2020	
Sir or Madam	Greater Sydney Local Land Services	Crystal Phillips	Heritage Now	Email	28/01/2020	
Agency Letter Response						
Crystal Phillips	Heritage Now	Geospatial Services	National Native Title Tribunal	Email	28/01/2020	Prompt for more info
Crystal Phillips	Heritage Now	Susan Faleafaga	Register pf Aboriginal Owners	Email	28/01/2020	Suggested to contact DLALC
Follow up with geospatial						
Geospatial Services	National Native Title Tribunal	Crystal Phillips	Heritage Now	Email	31/01/2020	Sent form for search
Agency Letter Response						
Crystal Phillips	Heritage Now	Laura Dafter	Department of Planning Industry and Environment	Email	3/02/2020	Provided a list of stakeholders
Crystal Phillips	Heritage Now	Geospatial Services	National Native Title Tribunal	Email	4/02/2020	Land is freehold
Expressions of Interest Letters						
Carolyn Hickey	A1 Indigenous Services	Crystal Phillips	Heritage Now	Email	5/02/2020	
Amanda Hickey	Amanda Hickey Cultural Services	Crystal Phillips	Heritage Now	Email	5/02/2020	
Tracey Howie and Kerrie Brauer	Awabakal & Guringai Pty Ltd	Crystal Phillips	Heritage Now	Email	5/02/2020	
Peter Leven	Awabakal Descendants Traditional Owners	Crystal Phillips	Heritage Now	Email	5/02/2020	
Kerrie Brauer	Awabakal Traditional Owners Aboriginal Corporation	Crystal Phillips	Heritage Now	Email	5/02/2020	
Nola, Darren, and Ralph Hampton	B-H Heritage Consultants	Crystal Phillips	Heritage Now	Email	5/02/2020	
Marilyn Carroll-Johnson	Corroboree Aboriginal Corporation	Crystal Phillips	Heritage Now	Email	5/02/2020	
CEO	Darkinjung Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	5/02/2020	
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Crystal Phillips	Heritage Now	Email	5/02/2020	
Arthur Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Crystal Phillips	Heritage Now	Email	5/02/2020	

Contact	Organisation	Contacted by	Organisation	Method	Date	Comment/response
David Ahoy	Lower Hunter Aboriginal Incorporated	Crystal Phillips	Heritage Now	Email	5/02/2020	
CEO	Metropolitan Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	5/02/2020	
Nathan Moran	Metropolitan Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	5/02/2020	
Roger Matthews	Roger Matthews Consultancy	Crystal Phillips	Heritage Now	Mail	5/02/2020	
Des Hickey	Wattaka Wonnarua CC Service	Crystal Phillips	Heritage Now	Email	5/02/2020	
Steven Hickey	Widescope Indigenous Group	Crystal Phillips	Heritage Now	Email	5/02/2020	
Kathleen Steward Kinchela	Yinarr Cultural Services	Crystal Phillips	Heritage Now	Email	5/02/2020	
Kevin Duncan		Crystal Phillips	Heritage Now	Email	5/02/2020	
Sharon Hodgetts		Crystal Phillips	Heritage Now	Email	5/02/2020	
Kyle Howie		Crystal Phillips	Heritage Now	Email	5/02/2020	
David Pross		Crystal Phillips	Heritage Now	Email	5/02/2020	
Trudy Smith		Crystal Phillips	Heritage Now	Email	5/02/2020	
Yvette and Jackson Walker		Crystal Phillips	Heritage Now	Email	5/02/2020	
Tracey Howie	Walkaloo	Crystal Phillips	Heritage Now	Email	5/02/2020	
Expressions of Interest Responses						
Crystal Phillips	Heritage Now	Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Email	5/02/2020	
Crystal Phillips	Heritage Now	Tracey Howie	Awabakal and Guringai Pty Ltd	Email	5/02/2020	
Crystal Phillips	Heritage Now	Tracey Howie	Guringai Tribal Link Corporation	Email	5/02/2020	
Crystal Phillips	Heritage Now	Tracey Howie	Walkola	Email	5/02/2020	
Crystal Phillips	Heritage Now	Arthur Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Email	6/02/2020	
Crystal Phillips	Heritage Now	Sharon Hodgetts		Email	7/02/2020	
Crystal Phillips	Heritage Now	Steven Hickey	Widescope Indigenous Group	Email	9/02/2020	
Crystal Phillips	Heritage Now	Carolyn Hickey	A1 Indigenous Services	Email	9/02/2020	
Crystal Phillips	Heritage Now	Confidential	Confidential RAP	Email	11/02/2020	
Crystal Phillips	Heritage Now	Kerrie Brauer	Awabakal Traditional Owners Aboriginal Corporation	Email	13/02/2020	
Crystal Phillips	Heritage Now	Trudy Smith		Email	19/02/2020	
Methodology Letter sent						
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Crystal Phillips	Heritage Now	Email	19/02/2020	
Tracey Howie	Awabakal and Guringai Pty Ltd	Crystal Phillips	Heritage Now	Email	19/02/2020	
Tracey Howie	Guringai Tribal Link Corporation	Crystal Phillips	Heritage Now	Email	19/02/2020	
Tracey Howie	Walkola	Crystal Phillips	Heritage Now	Email	19/02/2020	

Contact	Organisation	Contacted by	Organisation	Method	Date	Comment/response
Arthur Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Crystal Phillips	Heritage Now	Email	19/02/2020	
Sharon Hodgetts		Crystal Phillips	Heritage Now	Email	19/02/2020	
Steven Hickey	Widescope Indigenous Group	Crystal Phillips	Heritage Now	Email	19/02/2020	
Carolyn Hickey	A1 Indigenous Services	Crystal Phillips	Heritage Now	Email	19/02/2020	
Confidential	Confidential RAP	Crystal Phillips	Heritage Now	Email	19/02/2020	
Kerrie Brauer	Awabakal Traditional Owners Aboriginal Corporation	Crystal Phillips	Heritage Now	Email	19/02/2020	
Trudy Smith		Crystal Phillips	Heritage Now	Email	20/02/2020	
Confidential	Confidential RAP	Crystal Phillips	Heritage Now	Email	19/02/2020	
Methodology Responses						
Crystal Phillips	Heritage Now	Carolyn Hickey	A1 Indigenous Services	Email	19/02/2020	Agrees with methodology
Crystal Phillips	Heritage Now	Tracey Howie	Walkola	Email	20/02/2020	Agrees with methodology
Crystal Phillips	Heritage Now	Tracey Howie	Guringai Tribal Link	Email	20/02/2020	Agrees with methodology
Notification Letter						
CEO	Darkinjung Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	24/02/2020	
Sir or Madam	Department of Planning Industry and Environment	Crystal Phillips	Heritage Now	Email	24/02/2020	
Methodology Responses						
Crystal Phillips	Heritage Now	Steven Hickey	Widescope Indigenous Group	Email	27/02/2020	Agrees with methodology
RAPs engaged for field work						
Amanda Shields	Darkinjung Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	17/03/2020	groups recommended on behalf of the proponent
Tracey Howie	Awabakal Traditional Owners Aboriginal Corporation	Crystal Phillips	Heritage Now	Email	17/03/2020	
Frank Smith	Didge Ngunawal Clan	Crystal Phillips	Heritage Now	Email	17/03/2020	
Draft ACHAR sent for Review						
Carolyn Hickey	A1 Indigenous Services	Crystal Phillips	Heritage Now	Email	9/06/2020	
Tracey Howie	Awabakal and Guringai Pty Ltd	Crystal Phillips	Heritage Now	Email	9/06/2020	
Kerrie Brauer	Awabakal Descendants Traditional Owners	Crystal Phillips	Heritage Now	Email	9/06/2020	
Confidential	Confidential RAP	Crystal Phillips	Heritage Now	Email	9/06/2020	
Amanda Shields and Barry Williams	Darkinjung Local Aboriginal Land Council	Crystal Phillips	Heritage Now	Email	9/06/2020	
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Crystal Phillips	Heritage Now	Email	9/06/2020	
Tracey Howie	Guringai Tribal Link Corporation	Crystal Phillips	Heritage Now	Email	9/06/2020	
Arthur and Lynne Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Crystal Phillips	Heritage Now	Email	9/06/2020	

Contact	Organisation	Contacted by	Organisation	Method	Date	Comment/response
Tracey Howie	Walkaloo	Crystal Phillips	Heritage Now	Email	9/06/2020	
Steven Hickey	Widescope Indigenous Group	Crystal Phillips	Heritage Now	Email	9/06/2020	
Sharon Hodgetts		Crystal Phillips	Heritage Now	Email	9/06/2020	
Trudy Smith		Crystal Phillips	Heritage Now	Email	9/06/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	9/06/2020	
Reminder to respond to Draft Report						
Carolyn Hickey	A1 Indigenous Services	Trish Palconit	Heritage Now	Email	1/07/2020	
Tracey Howie & Kerrie Brauer	Awabakal Descendants Traditional Owners	Trish Palconit	Heritage Now	Email	1/07/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	1/07/2020	
Amanda Shields and Barry Williams	Darkinjung Local Aboriginal Land Council	Trish Palconit	Heritage Now	Email	1/07/2020	
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Trish Palconit	Heritage Now	Email	1/07/2020	
Tracey Howie	Guringai Tribal Link Corporation	Trish Palconit	Heritage Now	Email	1/07/2020	
Arthur and Lynne Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Trish Palconit	Heritage Now	Email	1/07/2020	
Sharon Hodgetts		Trish Palconit	Heritage Now	Email	1/07/2020	
Trudy Smith		Trish Palconit	Heritage Now	Email	1/07/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	1/10/2020	
Trish Palconit	Heritage Now	Tracey Howie	Guringai Tribal Link Corporation/Awabakal Traditional Owners Aboriginal Corporation	Email	1/07/2020	GTLAC has received the report and will send comments prior to due date; ATOAC has received the report and will respond c/o Kerrie Brauer
Responses to Draft Report						
Crystal Phillips	Heritage Now	Steven Hickey	Widescope Indigenous Group	Email	11/06/2020	Agrees with recommendations
Final Report - pending consultation sent						
Carolyn Hickey	A1 Indigenous Services	Trish Palconit	Heritage Now	Email	7/10/2020	
Tracey Howie & Kerrie Brauer	Awabakal Descendants Traditional Owners	Trish Palconit	Heritage Now	Email	7/10/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	7/10/2020	
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Trish Palconit	Heritage Now	Email	7/10/2020	
Tracey Howie	Guringai Tribal Link Corporation	Trish Palconit	Heritage Now	Email	7/10/2020	
Arthur and Lynne Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Trish Palconit	Heritage Now	Email	7/10/2020	
Sharon Hodgetts		Trish Palconit	Heritage Now	Email	7/10/2020	
Steven Hickey	Widescope Indigenous Group	Trish Palconit	Heritage Now	Email	7/10/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	7/10/2020	

Contact	Organisation	Contacted by	Organisation	Method	Date	Comment/response
Trudy Smith		Trish Palconit	Heritage Now	Email	7/10/2020	
Reminder to respond to Final Report						
Carolyn Hickey	A1 Indigenous Services	Trish Palconit	Heritage Now	Email	30/10/2020	
Tracey Howie & Kerrie Brauer	Awabakal Descendants Traditional Owners	Trish Palconit	Heritage Now	Email	30/10/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	30/10/2020	
Paul Boyd and Lilly Carroll	Didge Ngunawal Clan	Trish Palconit	Heritage Now	Email	30/10/2020	
Tracey Howie	Guringai Tribal Link Corporation	Trish Palconit	Heritage Now	Email	30/10/2020	
Arthur and Lynne Fletcher	Kawul Pty Ltd trading as Wonn1 Sites	Trish Palconit	Heritage Now	Email	30/10/2020	
Sharon Hodgetts	Individual	Trish Palconit	Heritage Now	Email	30/10/2020	
Steven Hickey	Widescope Indigenous Group	Trish Palconit	Heritage Now	Email	30/10/2020	
Trudy Smith	Individual	Trish Palconit	Heritage Now	Email	30/10/2020	
Confidential	Confidential RAP	Trish Palconit	Heritage Now	Email	30/10/2020	
Responses received						
Crystal Phillips	Heritage Now	Confidential	Confidential RAP	Email	3/11/2020	Supports the recommendations in the report
Crystal Phillips	Heritage Now	Sharon Hodgetts	Individual	Email	4/11/2020	Is in support of the recommendations but requested some additional recommendations, including developing a cultural heritage management plan and further
Crystal Phillips	Heritage Now	Carolyn Hickey	A1 Indigenous Services	Email	7/11/2020	Supports the recommendations in the report
Further consultation						
Sharon Hodgetts	Individual	Tessa Boer-Mah	Heritage Now	Phone	16/11/2020	Thanked Sharon for her detailed feedback and explained that some of the comments would be integrated into the concept planning proposal and others would be addressed at DA stage - Sharon was satisfied with that approach

Appendix 2 AHIMS

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3138	BWNP	AGD	56	341040	6297050	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3139	BWNP	AGD	56	341040	6297450	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3077	BWNP Lyre Trig;B.W. National Park;	AGD	56	342010	6297210	Open site	Valid	Stone Arrangement : -	Stone Arrangement	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3078	BWNP Lyre Trig;B.W. National Park;	AGD	56	341670	6297190	Open site	Valid	Stone Arrangement : -	Stone Arrangement	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3079	B.W.N.P. Lyre Trig;B.W. National Park;	AGD	56	342040	6297310	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3080	B.W.N.P. Lyre Trig;B.W. National Park;	AGD	56	341740	6297370	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3081	B.W.N.P. Lyre Trig;B.W. National Park;	AGD	56	341710	6297400	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3082	B.W.N.P. Lyre Trig;B.W. National Park;	AGD	56	341730	6297410	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3083	B.W.N.P. Lyre Trig;B.W. National Park;	AGD	56	341750	6297400	Open site	Valid	Art (Pigment or Engraved) : -, Stone Arrangement : -	Rock Engraving, Stone Arrangement	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3043	Lyre Trig B.W. National Park;B.W. National Park;	AGD	56	341250	6297520	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3044	B.W. National Park;	AGD	56	341450	6297710	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3047	B.W. National Park;	AGD	56	342120	6297210	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact									
	Recorders			Warren Bluff						
45-3-3049	Lyre Trig B.W. National Park;B.W. National Park;	AGD	56	342050	6297400	Open site	Valid	Stone Arrangement : -	Stone Arrangement	1333
	Contact									
	Recorders			Warren Bluff						

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3052	B.W. National Park;	AGD	56	341260	6297600	Open site	Valid	Water Hole : -	Water Hole/Well	1333
	Contact	Recorders	Warren Bluff					Permits		
45-3-3028	Lyre Trig B.W. National Park;B.W.N.P.;	AGD	56	341420	6297210	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact	Recorders	Warren Bluff					Permits		
45-3-3086	Lyre Trig BWNP;B.W. National Park;	AGD	56	341150	6297400	Open site	Valid	Grinding Groove : -, Water Hole : -	Axe Grinding Groove,Water Hole/Well	1333
	Contact	Recorders	Warren Bluff,Marc Verey					Permits		
45-3-2416	Kariong Fire Trail	AGD	56	341000	6297500	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3499
	Contact	Recorders	J Drew					Permits		
45-3-0526	Tascott;	AGD	56	341804	6297634	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Ms.Lisa Campbell					Permits		
45-3-0610	White Trig;Glenworth Valley;	AGD	56	340333	6298063	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS					Permits		
45-3-1338	Lyre Trig;	AGD	56	342272	6297094	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS					Permits		
45-3-0448	Staple's Lookout;	AGD	56	340718	6297064	Open site	Valid	Art (Pigment or Engraved) : -, Grinding Groove : -	Axe Grinding Groove,Rock Engraving	1333
	Contact	Recorders	I.M Sim					Permits		
45-3-0450	Staple's Lookout; Bulgandry Art Site Aboriginal Place	GDA	56	340695	6297098	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-1422	Piles Creek;	AGD	56	340330	6298530	Open site	Valid	Grinding Groove : -, Art (Pigment or Engraved) : -	Axe Grinding Groove,Rock Engraving	
	Contact	Recorders	J.C Lough					Permits		
45-3-2387	Brisbane Water N.P.;	AGD	56	342280	6298410	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1333
	Contact	Recorders	Warren Bluff					Permits		
45-3-2389	Brisbane Water N.P.;	AGD	56	342200	6298420	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333
	Contact	Recorders	Warren Bluff					Permits		
45-3-2390	B.W.N.P.;	AGD	56	342130	6298570	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333

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	Contact	Recorders	Warren Bluff					Permits		
45-3-2402	B.W.N.P.;	AGD	56	342110	6298560	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333
	Contact	Recorders	Warren Bluff,Cheryl Szpak					Permits		
45-3-2412	Kariong	AGD	56	341010	6297510	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3499
	Contact	Recorders	J Drew					Permits		
45-3-2413	Kariong (Gosford)	AGD	56	341060	6297470	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3499
	Contact	Recorders	J Drew					Permits		
45-3-2414	Kariong-Gosford	AGD	56	341090	6297480	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3499
	Contact	Recorders	J Drew					Permits		
45-3-2415	Kariong Gosford	AGD	56	341120	6297480	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3499
	Contact	Recorders	J Drew					Permits		
45-3-2267	BWNP;	AGD	56	340400	6296800	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333
	Contact	Recorders	Warren Bluff					Permits		
45-3-0699	Staple's Lookout;	AGD	56	340500	6297300	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	C Paul					Permits		
45-3-1362	Piles Creek;MtW-K-25;	AGD	56	340330	6298530	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	Contact	Recorders	ASRSYS					Permits		
45-3-1363	Piles Creek;MtW-K-26;	AGD	56	340290	6298570	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	Contact	Recorders	ASRSYS					Permits		
45-3-0704	Tascott;	AGD	56	340500	6297900	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS					Permits		
45-3-0705	Tascott.	AGD	56	340820	6297580	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1100
	Contact	Recorders	Warren Bluff,Mary Dallas Consulting Archaeologists (MDCA)					Permits		
45-3-0482	Tascott;	AGD	56	341890	6297520	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Ms.Lisa Campbell					Permits		
45-3-0485	Tascott;	AGD	56	342172	6297550	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Webb					Permits		

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45-3-0486	Tascott;	AGD	56	342100	6297280	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0487	Tascott;	AGD	56	342360	6297279	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0488	Tascott;	AGD	56	342172	6297550	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Webb					Permits		
45-3-0495	Point Clare;	AGD	56	342330	6298833	Open site	Valid	Grinding Groove : -, Art (Pigment or Engraved) : -	Axe Grinding Groove,Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0496	Tascott.	AGD	56	341680	6297120	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	100932,100999
	Contact	Recorders	Ms.Lisa Campbell					Permits		9
45-3-0497	Tascott;	AGD	56	342093	6296908	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	100932,100999
	Contact	Recorders	I.M Sim					Permits		9
45-3-0498	Tascott	AGD	56	341990	6297110	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	100932,100999
	Contact	Recorders	I.M Sim					Permits		9
45-3-0499	Tascott;	AGD	56	342093	6296908	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	100932,100999
	Contact	Recorders	I.M Sim					Permits		9
45-3-0500	Tascott;	AGD	56	342093	6296908	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0501	Tascott;	AGD	56	342100	6297200	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0502	Tascott	AGD	56	341990	6297110	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	100932,100999
	Contact	Recorders	I.M Sim					Permits		9
45-3-0503	Tascott;;	GDA	56	342181	6297448	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim					Permits		
45-3-0504	TASCOTT LYRE TRIG ENGS	GDA	56	342169	6297424	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	I.M Sim,Ms.Collette Douchkov					Permits		

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45-3-0505	Tascott;	AGD	56	342093	6296908	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0506	Tascott;	AGD	56	341990	6297080	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	100932,100999
	<u>Contact</u>							<u>Permits</u>		9
45-3-0509	Point Clare;	AGD	56	342339	6298376	Closed site	Valid	Art (Pigment or Engraved) :-, Grinding Groove :-	Axe Grinding Groove,Rock Engraving,Shelter with Art	
	<u>Contact</u>							<u>Permits</u>		
45-3-0510	Point Clare;	AGD	56	342339	6298376	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0513	Point Clare;	AGD	56	342339	6298376	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0514	Point Clare;	AGD	56	342339	6298376	Open site	Valid	Grinding Groove :-, Art (Pigment or Engraved) :-	Axe Grinding Groove,Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0518	Point Clare;	AGD	56	342339	6298376	Closed site	Valid	Art (Pigment or Engraved) :-, Grinding Groove :-	Axe Grinding Groove,Rock Engraving,Shelter with Art	
	<u>Contact</u>							<u>Permits</u>		
45-3-0246	Kariong Public School Langford Drive;Kariong;	AGD	56	340900	6298300	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0059	Point Clare;Tascott;	AGD	56	342063	6298462	Open site	Valid	Art (Pigment or Engraved) :-	Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		
45-3-0062	Point Clare;Tascott; Woy Woy Road;	GDA	56	342020	6297645	Open site	Valid	Art (Pigment or Engraved) :-, Grinding Groove :-	Axe Grinding Groove,Rock Engraving	2120
	<u>Contact</u>							<u>Permits</u>		
45-3-0066	Tascott;	AGD	56	340813	6296883	Open site	Valid	Art (Pigment or Engraved) :-, Grinding Groove :-	Axe Grinding Groove,Rock Engraving	
	<u>Contact</u>							<u>Permits</u>		

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45-3-3005	Lyre Trig BWNP;	AGD	56	341190	6297320	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Warren Bluff, Marc Verey					Permits		
45-3-0470	Tascot (Tascott) & B.W.N.P	AGD	56	341534	6297446	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1100
	Contact	Recorders	Warren Bluff, I.M Sim					Permits		
45-3-0477	Tascott;	AGD	56	341620	6297430	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Webb					Permits		
45-3-1293	Kariong.	AGD	56	341170	6297348	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1100
	Contact	Recorders	ASRSYS					Permits		
45-3-1294	Kariong;	AGD	56	341066	6297986	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1100
	Contact	Recorders	ASRSYS					Permits		
45-3-1295	Kariong;	AGD	56	340971	6298167	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	1100
	Contact	Recorders	ASRSYS					Permits		
45-3-3215	BWNP-ENGRAVING	AGD	56	340330	6297850	Open site	Valid	Art (Pigment or Engraved) : -		
	Contact	Recorders	Warren Bluff					Permits		
45-3-1247	Tascott;	AGD	56	342360	6297279	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS					Permits		
45-3-3247	B.W.N.P.-12	AGD	56	342410	6298200	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact T Russell	Recorders	Warren Bluff					Permits		
45-3-3248	B.W.N.P.-13	AGD	56	342150	6298430	Open site	Valid	Art (Pigment or Engraved) : 2		
	Contact T Russell	Recorders	Warren Bluff					Permits		
45-3-3249	B.W.N.P.14	AGD	56	342250	6298190	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact T Russell	Recorders	Warren Bluff					Permits		
45-3-3233	BWNR	GDA	56	342342	6298199	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact T Russell	Recorders	Warren Bluff					Permits		
45-3-3237	B.W.N.P.-2	AGD	56	342280	6298180	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact T Russell	Recorders	Warren Bluff					Permits		

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45-3-3238	B.W.N.P-3	AGD	56	342340	6298160	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact					T Russell				Recorders
						Warren Bluff				Permits
45-3-3243	B.W.N.P-8	AGD	56	342430	6298200	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact					T Russell				Recorders
						Warren Bluff				Permits
45-3-0511	Point Clare;	AGD	56	342339	6298376	Closed site	Valid	Art (Pigment or Engraved) : -, Grinding Groove : -	Axe Grinding Groove,Rock Engraving,Shelter with Art	
	Contact									Recorders
						Webb				Permits
45-3-0476	Tascott;	AGD	56	342172	6297550	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact									Recorders
						Webb				Permits
45-3-3398	Bambara Road Kariong NSW KA8	GDA	56	341275	6297420	Open site	Valid	Artefact : 2		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3399	Bambara Road Kariong NSW KA9	GDA	56	341349	6297459	Closed site	Valid	Artefact : 1		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3400	Bamba Road Kariong NSW KA20	GDA	56	341773	6297377	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3401	Bambara Road Kariong NSW KA24	GDA	56	341680	6297333	Closed site	Valid	Grinding Groove : 1, Water Hole : -		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3402	Bambara Road Kariong NSW KA31	GDA	56	341655	6297317	Open site	Valid	Water Hole : 1		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3395	Bambara Road KA6	AGD	56	342083	6297108	Open site	Valid	Grinding Groove : 1, Potential Archaeological Deposit (PAD) : -		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3396	Bambara Road KA33	AGD	56	341218	6297194	Open site	Valid	Artefact : 2		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3397	Bambara Road KA7	AGD	56	341621	6297363	Open site	Valid	Grinding Groove : 15		
	Contact									Recorders
						ARC - Andrew Roberts Consulting				Permits
45-3-3650	Bambara Fishery	GDA	56	341208	6297258	Open site	Valid	Art (Pigment or Engraved) : -		
	Contact									Recorders
						Mr.Peter Ridgeway				Permits

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45-3-3669	Milyerra 1	GDA	56	342429	6298110	Open site	Valid	Art (Pigment or Engraved) : -, Water Hole : -			
	Contact	Recorders	Ms.Sharon Hodgetts						Permits		
45-3-4099	Kariong kangaroo dance	GDA	56	340612	6298007	Open site	Valid	Aboriginal Ceremony and Dreaming : -			
	Contact	Recorders	Guringai Tribal Link Aboriginal Corporation,Mrs.Tracey Howie						Permits		
45-3-4338	BAMBARA SOUTH PECKED ROO ENG	GDA	56	340941	6296977	Open site	Valid	Art (Pigment or Engraved) : -			
	Contact	Recorders	Mr.Jeff Betteridge,OEH						Permits		

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