# Aboriginal Due Diligence

## 682A COLERIDGE ROAD BATEAU BAY NSW

## 20222497

28 September 2022

KLEINFELDER
Bright People. Right Solutions.

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# Aboriginal Due Diligence

## 682A COLERIDGE ROAD BATEAU BAY NSW

Kleinfelder Project: 20222497



Prepared for:

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# 1 INTRODUCTION

## 1.1 PURPOSE OF REPORT

Kleinfelder Australia was engaged to prepare the Aboriginal due diligence (ADD) assessment of 682a Coleridge Road, Bateau Bay as part of a planning proposal to rezone the site.

## 1.2 THE PROPOSED ACTIVITY

The planning proposal would seek to rezone the land to R1 General Residential, the equivalent of adjoining lands to the north and south of the site. In order for the existing bus depot to remain operational for as long as possible it is proposed to include "transport depot" as an Additional Permitted Use.

The scope for the due diligence will address:

- Desktop research including environmental context, heritage searches, cultural and archaeological context;
- Field survey of project area; and
- Analysis of results with mitigation measures and recommendations.

## 1.3 INVESTIGATORS AND CONTRIBUTORS

Jake Brown is the author of this report. Jake has four years' experience in archaeology including consulting projects in NSW, Qld and ACT. He has undertaken Aboriginal and historic heritage assessments, inclusive of full scale Aboriginal Cultural Heritage Assessments, Aboriginal Heritage Impact Permits, test excavations and Preliminary European Assessments. The report has been reviewed internally by Kleinfelder with a technical and a quality reviewer.

## 1.4 LEGISLATION AND STATUTORY OBLIGATIONS

All work described in this report was carried out in accordance with the following legislation:

- National Parks and Wildlife Act, 1974 (NPW Act);
- National Parks and Wildlife Amendment Regulation, 2009 (NPW Regulation);
- Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010a);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b) insofar as this relates to the assessment; and
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) insofar as this relates to the assessment.


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PROJECT REFERENCE: 20222479

DATE DRAWN: 2021-09-16 16:23Version 1

DRAWN BY: JCBrown

DATA SOURCE:
NSW Government - 2021
Esri - 2021

**Locality**

Progressive Property Soloutions
682a Coleridge Road Bateau Bay NSW
Aboriginal Due Diligence Assessment

FIGURE:

**1**

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Under the NPW Act, it is an offence to harm an Aboriginal object whether or not a person knows it is an Aboriginal object. Property owners, developers and land managers are required to consider their proposed activities, and whether any harm may occur to Aboriginal objects and places under several pieces of legislation. The NPW Act is administered by the Department of Planning, Industry and Environment (DPIE) and is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. Under Part 6 of the Act, it is an offence to knowingly harm or desecrate an Aboriginal object or Aboriginal place. If harm to an object or place is anticipated, an Aboriginal Heritage Impact Permit (AHIP) must be applied for and DPIE may issue an AHIP under s90 of the Act.

The following legislation also relates to the protection of Aboriginal Heritage:

**Environmental Planning and Assessment Act 1979 (EPA Act)**

The potential impacts of a development on Aboriginal heritage are a key component of the environmental impact assessment process under the EPA Act. In NSW, the EPA Act is the principal law overseeing the assessment and determination of development proposals which are considered under the Act.

**Heritage Act 1977 (NSW) (the Heritage Act)**

The Heritage Act protects the natural and cultural history of NSW with emphasis on non-indigenous cultural heritage through protection provisions and the establishment of a Heritage Council. While Aboriginal heritage sites and objects are protected primarily by the NPW Act 1974, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

**The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (as amended 1987) (Commonwealth)**

The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition.

**The Aboriginal Land Rights Act 1983 (NSW)**

The NSW Aboriginal Land Rights Act 1983 is administered by the Department of Human Services: Aboriginal Affairs NSW and establishes the NSW Aboriginal Land Council and local Aboriginal land councils. The Act requires these bodies to take action to protect the culture and heritage of Aboriginal persons in the council's area and promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

**The Native Title Act 1993 (Commonwealth)**

The Native Title Act 1993 provides the legislative framework to recognise and protect native title, establishes ways in which future dealings affecting native title may proceed and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title.

**The Australian Heritage Commission Act 1975 (Commonwealth)**

The Australian Heritage Commission Act 1975 established the Australian Heritage Commission, which assesses places to be included in the National Estate and maintains a register of these places, which are significant in terms of their association with particular community or social groups for social, cultural or spiritual reasons. The Act does not include specific protective clauses.

# 2 LANDSCAPE AND ENVIRONMENTAL CONTEXT

## 2.1 TOPOGRAPHY AND GEOMORPHOLOGY

The site is classified as two soil landscapes. The majority of the site is classified as the landscape Disturbed Terrain (DPIE) n.d. a. The description of the topography is:

> *Terrain disturbed by human activity including areas of landfill, gravel pits, sandmining, ash deposits and sludge dispersal areas. The land surfaces are varied, most areas of landfill being level whilst many quarries have irregular steep sides.*

The peripheral area of the site is recorded as the Norah Head Soil Landscape (DPIE) n.d. b. The topography for this landscape is described as:

> *Elevated undulating plain to rolling rises consisting of aeolian quartz sand deposits which include dunefields 5–20 m in height with slope gradients <15% as well as gently sloping sandsheets over bedrock. These sand deposits are perched on bedrock, commonly on headlands. Rock outcrop is usually absent. Although occasionally present, swales are often absent due to sloping nature of the underlying land surface. Swampy swales have often been reshaped and land filled during development.*

## 2.2 HYDROLOGY

The project site is situated between Tuggerah Lake and Wamberal Lagoon. Hydrolines exist in the general vicinity which are generally mapped as connecting to other watercourses such as Tumbi Umbi Creek which flows to Tuggerah Lake (NSW Government 2018).

## 2.3 GEOLOGY AND SOILS

The core area is the Disturbed Terrain Landscape with geology including quaternary, tertiary and Permian sediments. The soils for Disturbed Terrain are said to be mainly introduced due to the highly disturbed nature of this part of the site (DPIE) n.d. a. This is cited as having a variable effect on soil fertility and erodibility due to the differing nature of the area such as introduced soils, and coverings (e.g. bitumen and concrete).

As previously noted, the peripheral area of the site is classified as the Norah Head soil landscape. The geology of this area is recorded as Aeolian quartz dunes and sandsheets of Pleistocene age on top of Triassic and Permian bedrock (DPIE) n.d. b. Dominant soils are:

- nr1—Loose speckled grey brown sand. Sand or loamy sand with apedal single-grained structure and sandy fabric. It usually occurs as topsoil (A1 horizon).
- nr2—Bleached loose sand. Bleached sand with apedal single-grained structure and porous sandy fabric. It occurs as shallow subsoil (A2 horizon).
- nr3—Black soft sandy organic pan. Black organic-stained sand to loamy sand with apedal massive structure and sandy fabric. It generally occurs as deep subsoil (B horizon).
- nr4—Brown soft sandy iron pan. Brown iron-stained sand to loamy sand with apedal massive structure and sandy fabric. It commonly occurs as subsoil (B horizon).
- nr5—Yellow orange loose sand. Sand or occasionally loamy sand with apedal single-grained structure and sandy fabric. It generally occurs as deep subsoil (B horizon).

## 2.4 FLORA AND FAUNA

The majority of the subject site has been cleared. Vegetation on site is predominantly along the north and western boundaries. It is mapped as Red Bloodwood/ Sydney Peppermint/ Podocarpus spinulosus shrubby open forest of the southern Central Coast on the Greater Hunter Vegetation mapping (SEED n.d.). The neighbouring Wyrrabalong National Park has two main habitat types the coastal headland complex and coastal sand

communities (NSW NPWS 2013, pp 19-22). Bird life was observed with a range of species noted. Some evidence of rabbits was also observed.

## 2.5 LANDSCAPE HISTORY, DISTURBANCES AND IMPACTS

Based on historical images and history of the area as documented in the Wyrrabalong National Park management plan the area was cleared and appeared to be mined/quarried. Aerial images from the 1960's, 1970's and 1990's show heavy disturbance as well as the development of residential infrastructure such as roads, housing, tank (presumably water) and the bus depot, as well as the rehabilitation of land now incorporated into the national park. Based on the aerials it is assumed that none of the vegetation, except potentially a few trees in the north west corner (entrance to site), have the potential to be remnant. The Wyrrabalong National Park Management Plan (NSW NPWS 2013, pp. 26-27) cites that sand mining occurred from 1969 onwards, particularly targeting rutile, zircon and monazite. The planning proposal states that the bus depot has operated since 1981.

Additional European land use such as clearing and occupation would have also altered the original landscape with depths cited for ploughing at 10-12 cm, with potential lateral movement depending on equipment of one centimetre to 18 metres with bioturbation also providing item movement within soil (McCardle 2010b, pp.23-25). The surface level, depth and slope also contribute to the potential for movement. Given the slope of the study area (relatively flat with flood plain character), this would affect the distribution rate. Rick (1976, pp. 141-144) discusses that morphology and ground cover influences the dispersal of items, with heavier and denser items more prone to downward slope movements. Balek (2002, pp. 48-49) also warns that a stable geomorphic surface does not mean that the soil is static, with biomechanical processes creating the potential for artefact movement. The grass ground cover would provide limited resistant to item movement depending upon the size of the item.

The level of impact can also depend upon the type of land use and movement patterns such as pedestrian, vehicle and animal. Weaver and Dale (1978, pp. 453-456) researched the impact of different movements on an area and determined slopes are more impacted than flat sites. This would relate to any slope close to the bank, especially before sealing occurred. Additionally, they also documented whilst horses and pedestrians have greater impact on vegetation and soil downhill, motorbikes have a greater effect when travelling uphill. Given the nature of the locality with long-term use evident (200 years approximately), disturbance will have affected the distribution of any potential heritage items on the surface and to a relevant depth. When considering the discussion about bioturbation, human and animal influence on environment, discussions such as Laurent (2011) with consideration of human activities influencing urban soil through socio-spatial elements and urban space (town development and continued evolution) and Anichini et al (2011) become import in the consideration of modelling deposits and their origin, influence current state. Anichini et al (2011) notes that depth of deposit, type of settlement, movability of the deposit (human or natural) as well as any potential layering of deposits all influence the predictive nature of Potential Archaeological Deposits (PADs). Based on the information available, and physical site inspection the area is disturbed and unlikely to hold PADs.

## 2.6 ENVIRONMENTAL CONTEXT SUMMARY

The environmental context is one of a disturbed landscape with what appears to be previous mining activity. The area has been developed for commercial use and rehabilitated with trees and other landscaping. This, in general, means that the trees are unlikely to be old enough to have cultural modification and subsurface deposits are also unlikely or to be displaced from their original context.

# 3 CULTURAL CONTEXT

The way that perceptions, beliefs, stories, experiences and practices give shape, form and meaning to a landscape is termed a cultural landscape. An Aboriginal cultural landscape is 'a place or area valued by an Aboriginal group (or groups) because of their long and complex relationship with that land. It expresses their unity with the natural and spiritual environment and embodies their traditional knowledge of spirits, places, land uses, and ecology'. Material remains of the association may be prominent, but will often be minimal or absent (DECCW, 2010). The physical evidence of Aboriginal use of the landscape (such as campsites and art sites), stories and mythology, cultural resources and the landscape itself provide strong cultural links with the past for the present-day Aboriginal community (OEH, 2015). Just as there is connectivity between all parts of natural ecosystems (plants, animals, soils and water), there is connectivity between cultural objects and places through past human behaviour patterns. The cultural landscape concept emphasises the landscape scale of history and the connectivity between people, places and heritage items. It recognises that the present landscape is the product of long term and complex relationships between people and the environment. Aboriginal cultural landscapes are comprised of:

- Significant biodiversity and a diverse range of ecological systems and associations, all of which contributed to the continuing existence of Aboriginal peoples in the region over many thousands of years, and which are valued in different ways by Aboriginal communities today;
- Material remains of this continuing occupation in the form of a diverse array of Aboriginal sites and places known to the Aboriginal communities, some of which will be recorded on the Aboriginal Heritage Information Management System;
- Extensive historical records from 1788 through to today which record observations of Aboriginal people and lifestyles, wars, massacres, social and cultural events, population census, social interactions, language, and which influence Aboriginal community values today; and
- An Aboriginal population made up of people who have traditional association and knowledge of the region, as well as others who live, work and play within the region, all of whom may attribute various values with the area, derived from the distant and recent past, through to the present day.

For Aboriginal people, the significance of individual landscape features is derived from their interrelatedness within the cultural landscape. This means features cannot be assessed in isolation and any assessment must consider the feature and its associations in a holistic manner (DECCW, 2010). Landscapes had social and symbolic dimensions for people and some locations with unusually high or low artefact densities may represent the influence of non-environmental (social and or symbolic) factors (White and McDonald 2010). Aboriginal people have cultural associations with the landscape of Australia deriving from a long pre-contact history, historical interactions during settlement and contemporary attachments.

## 3.1 THE LANDSCAPE AND CULTURAL HERITAGE

The following is extracted from '*What is an Aboriginal Cultural Landscape*?' (DECCW 2010):

*All landscapes contain evidence of human use. The way that perceptions, beliefs, stories, experiences and practices give shape, form and meaning to a landscape is termed a cultural landscape (ACH 1998). An Aboriginal cultural landscape is 'a place or area valued by an Aboriginal group (or groups) because of their long and complex relationship with that land. It expresses their unity with the natural and spiritual environment and embodies their traditional knowledge of spirits, places, land uses, and ecology. Material remains of the association may be prominent but will often be minimal or absent.*

*The landscape scale of cultural heritage is similar to the concept of 'whole-of-landscape' in ecosystem conservation – just as there is connectivity between all parts of natural ecosystems (e.g. plants, animals, soils and water) there is connectivity between cultural objects and places through past human behaviour patterns. The cultural landscape concept emphasises the landscape-scale of history and the connectivity between people, places and heritage items. It recognises that the present landscape is the product of long-term and complex relationships between people and the environment.*

*Aboriginal cultural landscapes are comprised of:*

*Significant biodiversity and a diverse range of ecological systems and associations, all of which contributed to the continuing existence of Aboriginal peoples in the region over many thousands of years, and which are valued in different ways by Aboriginal communities today;*

- Material remains of this continuing occupation in the form of a diverse array of Aboriginal sites and places known to the Aboriginal communities, some of which will be recorded on the Department of Environment, Climate Change and Water's Aboriginal Heritage Information Management System.
- Extensive historical records from 1788 through to today which record observations of Aboriginal people and lifestyles, wars, massacres, social and cultural events, population census, social interactions, language etc, and which influence Aboriginal community values today.
- An Aboriginal population made up of people who have traditional association and knowledge of the region, as well as others who live, work and play within the region, all of whom may attribute various values with the area, derived from the distant and recent past, through to the present day.

*For Aboriginal people, the significance of individual landscape features is derived from their inter-relatedness within the cultural landscape. This means features cannot be assessed in isolation and any assessment must consider the feature and its associations in a holistic manner* (DECCW 2010).

### *3.1.1 Cultural Context*

Ethnohistorical descriptions from the late nineteenth century of various Aboriginal tribes who populated the surrounding area. Threlkeld (1892) depicts the hunting grounds (taurai) or territory of the Kuringgai extending from the Hawkesbury in the south to the Macleay River in the north. He also believed that the area around Sydney was occupied by sub tribes of the Kuringgai (Guringai tribal peoples). Therefore the Guringai probably occupied an area from the Port Jackson area (Sydney Harbour) to Lake Macquarie near Newcastle, whereas the Darkinjung people probably occupied the area from the west of Mangrove Creek to Rylstone and to the north to Cessnock and Wollombi (RPS 2009, pp. 11-12). According to Tindale (1974), the Kuringgai was divided into several other tribes, which included the Awabakal, Birpai, Darkinjang, Dharuk, Eora, Ngamba, Tharawal and Worimi; there were probably three different linguistic groups; the Darkinjung, the Guringai and Awabakal speakers.

# 4 ARCHAEOLOGICAL CONTEXT

## 4.1 AHIMS SITES AND DESKTOP SEARCHES

A basic AHIMS search was done on the 18 August 2021. The search area covered Lot: 3, DP716082 with a Buffer of 50. A copy is attached as **Appendix A**.

There are many variables that must be considered when using the Aboriginal Heritage Information System (AHIMS). More particularly, site coordinates, and descriptions are not always correct due to the following factors:

- Errors resulting from the evolution of subsequent computer systems used by Heritage NSW that have failed to account for or correctly translate old coordinate systems, such as topographic map references, to new systems;
- Errors resulting from human error or incorrect descriptions of locality on the site cards submitted to AHIMS;
- Errors resulting from data input. Most commonly the naming of the correct mapping system used; and
- Few sites have been updated on the AHIMS register to record if they have been subject to a s87 or s90 permit and, as such, what sites remain in the local area and what sites have been destroyed is unknown.

Variation in the classificatory definitions employed by archaeologists will significantly influence the range of artefact types identified in an assessment. Due to differences in recording techniques it is difficult to determine how many of each artefact type is represented across the region. Artefact types noted include flakes (broken, retouched, debitage, waste, chips), cores (multi-platform, single and bipolar), geometric microliths, backed blades, bondi points, scrapers, eloueras, burins, blades, hatchets, choppers (unifacial and bifacial), pebble tools, edge-ground axes, anvils and hammer stones. Due to variations in both the amount of data that is included in reports, and the terms different archaeologists used to describe artefact types, it is not practicable to provide a count of the different artefact types. It is therefore not productive to attempt to quantify the proportionate representation of artefact types identified in previous studies. An analysis of sites according to the number of artefacts present, the distance from water and the landform type may allow for the identification of a number of trends. However, there are various factors influencing these results, including, not limited to:

- A lack of substantial archaeological investigation of privately owned properties surrounding the study area. As the study area and the surrounding locations are part of the earliest properties to be developed and the active protection of Aboriginal heritage has only occurred within the last thirty years, insufficient investigative results are present to make an informed analysis of trends;
- The fact that the landform on which a site area is observed may not necessarily be its origin, for example, artefacts from a crest may be relocated by erosion such that they are recorded further down a slope;
- Effects of biased sampling of landforms due to decisions made by archaeologists and as a result of development area boundaries, levels of exposure on different landforms and variable recording by archaeologists. For example, the large percentage of sites found along creek lines may be (at least partially), a result of the biased focus of many cultural heritage surveys towards this landform. In addition, it was not possible to obtain sufficient information from a large number of site cards and reports; and
- Artefact counts can be skewed due to factors such as the differing fragmentation levels of discrete stone types and levels of ground surface visibility. Typically, a very large number of sites/artefacts are located on exposures and yet very few artefacts are visible away from these exposures.

In the case of this assessment and the study area, little reliance should be placed on the archaeological context due to the lack of information available by way of comparable studies in the locality and on the same landforms. However, some modelling of past Aboriginal use can be derived from the surrounding registered Aboriginal sites and studies.

Additional searches were conducted from heritage registers. The details are listed below in **Table 1**.

**Table 1: Desktop Search Results**

| Database | Results | Date of search |
|---|---|---|
| State Heritage Inventory | None within study area. | 9 September 2021 |
| Local Environmental Plan | None within study area. | 9 September 2021 |
| EPBC | None within study area. | 9 September 2021 |
| Australian Heritage Register | None within study area. | 9 September 2021 |

## 4.2 Local and Regional Context

A review of the context of local and regional archaeological assessments, when combined with environmental factors, provides the broad basis of a predictive archaeological model for the study area. The broader cultural landscape is highlighted when there is a modelling of expected site types, frequency of their occurrence and spatial distribution patterns across the wider area. However, previous archaeological investigations are somewhat limited in their utility regarding site locations quantities and type. These limitations arise from the variable way archaeologists have previously identified, classified and recorded Aboriginal objects, particularly lithic materials, and Aboriginal sites. Owing to these variations in the amount of data that is included in reports and the terms different archaeologists use to describe artefact types, a comparison of objects and tool types from each site is not considered to be representative or reliable for the purposes of predictive modelling other than on a broad and generalised basis. Overall, there is a moderate amount of substantial archaeological data for the region. The data available consists of projects relating to infrastructure or development projects and does not necessarily represent the same landscape and/or level of existing disturbance. Assessments from the local and regional area are summarised below:

**Kuskie, P and Webster, V (2003) Aboriginal heritage assessment and survey, Watanobbi to Warnervale, NSW**

An assessment of an arterial road linking Watanobbi and Warnervale was undertaken in 2003. The study area was divided into 35 survey areas and inspected. The landscape had been disturbed or modified from vegetation clearance, pasture grazing, roads and fences. The landforms varied across the study area from moderate to steep elevation to gently undulating plains. The survey resulted in the identification of two Aboriginal objects, an artefact scatter and an isolated artefact in association with low-to-mid elevations above ephemeral creek lines. The archaeological inspection identified low to moderate levels of ground disturbance resulting in low archaeological potential.

**Archaeological Surveys and Reports (2009) Archaeological Investigations for Indigenous Sites, Precinct 7A, Warnervale**

Wyong Shire Council engaged Archaeological Surveys and Reports to undertake an Indigenous sites investigation as part of a strategy for developing land use at Precinct 7A between Warnervale and Hamlyn Terrace on the Central Coast. The study area was located north of the Wadalba neighbourhood centre, bounded by Warnervale Aerodrome to west, Sparks Road to the north and the Pacific Highway to the south. To the north-east and south-east respectively, the site was bounded by Warnervale and Minnesota Roads. Eighteen sites containing stone artefactual material were recorded during the investigation. Three other sites previously recorded in the survey area by other investigators were unable to be relocated. Site Recording Forms for each of the 18 new sites were lodged with DECCW to list them on the AHIMS Sites Register. These sites were identified during the AHIMS search for this current RPS (2018) due diligence report. Their location illustrates the relationship between Aboriginal objects and places and elevations in close proximity to watercourses.

**RPS Harpers Somers O'Sullivan (2009) Aboriginal and European cultural heritage assessment, Somersby Falls Road, Somersby, NSW**

RPS Harpers Somers O'Sullivan (RPS HSO) was commissioned by Hunter Land to undertake a cultural heritage survey and assessment for a proposed rezoning of a parcel of land at Somersby, NSW. The study area was located on the Somersby Plateau seven kilometres north west of Gosford, NSW. The locality is comprised of gently undulating to rolling rises on deeply weathered Hawkesbury sandstone plateau with similar flora resources as the Woongarrah area, such as silvertop ash, eucalypts and geebung shrubs. The study area was located in a rurally zoned property which was partially cleared for stock grazing and was bordered by native bushland. The report concluded that much of the study area had been cleared and extensive past land use would have greatly impacted upon any evidence of past Aboriginal occupation. No sites were identified within the immediate study area. The report concluded that the area had low potential for Aboriginal objects to occur in areas covered by vegetation and dense ground cover.

**RPS Harpers Somers O'Sullivan (2009) Cultural heritage survey and assessment for Ramsgate Estate, Wyee Point, NSW**

RPS HSO was commissioned by Lake Macquarie City Council (LMCC) to assess the potential Aboriginal and European cultural heritage of an area known as Ramsgate Estate, Wyee Point in the LMCC Local Government Area (LGA) to support a Stage 1 Local Environment Study (LES). The study area was located in close proximity to a lake and the Pacific Ocean coastline. An unnamed creek also extended across the study area. A shell midden site was recorded close to the shoreline of Lake Macquarie, but no other Aboriginal objects were located across the study area. The report concluded that the lack of fresh water available in the immediate study area indicated a low potential for stone artefacts.

**Extent Heritage Advisors (2018) 15-41 Warnervale Road, Warnervale NSW Central Coast LGA – Rezoning and Redevelopment. Aboriginal Cultural Heritage Assessment Report.**

In 2018, Extent Heritage Advisors (Extent) were commissioned by ADW Johnson to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) of 15-41 Warnervale Road, Warnervale. Previous archaeological investigations of Precinct 7A identified 18 Aboriginal objects within the precinct, 11 of which were within the study area. An ACHAR was undertaken to identify whether any Aboriginal sites, objects or cultural values may be affected by the proposed development. A preliminary archaeological survey of the subject area identified four previously unidentified sites in addition to the 11 previously identified sites within the study area. All new finds were located along the southern ridgeline and slope on the properties. Test excavation was then undertaken to investigate the spatial distribution and characteristics of the identified Aboriginal sites, and the areas of low, moderate and high archaeological sensitivity. A total of 117 test pits were undertaken, the majority of which comprised soils consistent with the Gorokan soil landscape. 12 Aboriginal objects were recovered from the excavation. Silcrete was the dominant material followed by indurated mudstone tuff (IMT) and fine grained siliceous (FGS) material, also recovered was one piece of quartzite. Overall artefact density was calculated at 0.34 artefacts per square metre. The assessment identified that of the 15 discrete recordings or artefact sites, based on the survey and test excavation these Aboriginal objects reflected two low density surface and subsurface scatters along the crest and southern slopes of the ridgeline in the southern subject area. These were split into two discrete areas, 'Warnervale Residential Isolated Find 1' (#45-3-4055) of low heritage significance, and 'Warnervale Residential Artefact Scatter 1' (#45-3-4054) of moderate to high significance comprising the remaining previously identified sites. The test pitting undertaken for the project included a portion of land directly south of the Project Area. Within these test pits, no Aboriginal archaeological material was uncovered. These areas were not considered to have further heritage constraints. It was concluded that an AHIP was required for the area in the south of the subject area characterised by crests and southern slopes of the ridgeline, and in which archaeological material was uncovered throughout the course of the test excavation.

**AMAC Group 2016 – Test Excavation – 38 Mann Street, Gosford, Report to BLOC Pty Ltd**

Test excavation was conducted by AMAC group in 2016, on the ATO development property next door at 38 Mann Street, Gosford. A total of 10 pits were excavated of which two Aboriginal artefacts were located. A layer of fill was found to encompass the site from past filling event. The depths of fill varied along the landscape of the site. Below this fill, intact natural soil profiles were present including the A horizon – artefact bearing deposit. The soil landscape although initially identified as disturbed, contained soils of the Erina soil landscape.

**AMAC Group 2017 – Test Excavation – 32 Mann Street, Gosford to BLOC Pty Ltd**

Test excavation was recently conducted by AMAC Group in 2017 on the land bounding the study area towards the north and east as part of the initial 32 Mann Street, Gosford development. A total of 10 test pits were excavated resulting in no Aboriginal objects and/or features of archaeological and/or cultural significance. It was demonstrated that a significant amount of fill covered the western end of the site. This was found to extend >1.5m as part of the reclamation works of what would have been the intertidal zone of the original Brisbane Waters foreshore. An intact A horizon was located towards the eastern end of the site. The practical ramifications of the results of the previously mentioned archaeological assessments and excavations, infers that there is a potential for Aboriginal archaeological objects and/or deposits to be present within any intact original soil profiles located within study area. Higher order streams are located in the landscape units represented in the study area, chiefly Brisbane Waters. The lack of archaeological assessments near the study area is not a reflection of the archaeology present but a reflection of the development within the area where investigation has not been required.

**Mills, 2000. An Assessment of Impact to Indigenous Heritage Items from the Installation of Power Devices and Cabling along the F3 from Berowra to Mount White.**
The survey area included locations along the F3 highway and the Pacific Highway also areas linking between Berowra to Mooney and Mooney to Mount White. The survey found no Aboriginal sites or areas of potential archaeological deposits (PADs) although the surface visibility during the survey was greater than 50%.

### *4.2.1 Local and Regional Character of Aboriginal Land Use and its Material Traces*

Environmental factors strongly influence the suitability of a place for human occupation as well as the duration of that use. The known nature and distribution of cultural materials and resources derived from historical studies and existing known sites, combined with the environmental factors and contemporary cultural accounts, assist in forming a local and regional character of Aboriginal use. Academic investigation and research have expounded a variety of theories regarding the immigration route and timing of Aboriginal people's arrival in Australia (Bowdler, 1977; Horton, 1981, Smith, 1987). Archaeological investigation in the wider region has provided evidence of occupation at Burrill Lake 20,000 years BP, in the southern Tablelands, 10,000 years BP, in Birragai, 21,000 years BP and in the lower Blue Mountains, 17,000 years BP (Rich, 1988). Bowdler (1981) and Koettig (1985) submit that sites south of Sydney increased around 2,500 years ago and that this was indicative of changes in stone tool technology. About 19,000 years ago, after the Last Glacial Maximum, global temperatures began to warm. Approximately 10,000 years ago the climate is likely to have become broadly similar to that of today. While the fluctuations in the climate during the last 10,000 years is likely to have been complex, the sea reached its present level around 7,000 years ago and environmental changes after that time are likely to have been relatively minor when they are compared with those during the preceding Aboriginal occupation of the region. It is likely that, during this time, Aboriginal populations were small and use of the local area was transient, especially during the severe winter conditions that would have prevailed. Populations may have preferred to live near the coast, where the year-round climate would possibly have been more temperate, although occupation in the interior landscapes is not discounted and was also probable at different times and in different places over this long geomorphic time period. Archaeologists, historians and ethnographers have regularly considered why Aboriginal people chose specific locations for camps. Predominantly and generally, it is considered that camp sites were chosen for:

- Proximity to fresh water;
- Available vantage ground;
- Spiritual reasons and proximity to areas of ceremony and tribal gatherings; and
- Movement between resource zones (food, etc.), as well as territory and rights of access by and to such resources.

Other uses of the local landscape by Aboriginal people may have included ceremonial sites, corroboree sites, rock shelters (which may have been used for habitation, ceremony, signage and teaching); rock and ochre extraction quarries, fish traps within streams and rivers, trade routes, walking lines and burials.

## 4.3 MODELS OF OCCUPATION

A general model of forager settlement patterning in the archaeological record has been established by Foley (1981). Foley's model distinguishes the 'home base' site with peripheral 'activity locations'. Home base sites

generally occur in areas with good access to a wide range of resources (reliable water, raw materials, and so on). The degree of environmental reliability of these resources may influence the rate of return and length of occupation of sites. Further, Foley (1981) suggests that home base sites generally show a greater diversity of artefacts and raw material types reflecting that they are representative of a greater array of activities performed at both the site and immediate area. Activity locations occur within the foraging radius (approximately 10 km) of a home base camp and served as a focus of a specific activity (Renfrew and Bahn, 1991). Activity locations will show a low diversity in artefacts and are not likely to contain features reflecting a base camp (such as hearths). However, the location of certain activities cannot be predicted or identified. Kuskie and Kamminga (2000) established a general model of occupation strategies based primarily upon ethnographic research (see **Table 2**). The model distinguishes between short-term or extended long-term occupation and makes some predictions about the likely location of different foraging and settlement activities. For example, the presence of features that required a considerable amount of labour investment, such as stone-lined ovens, heat-treatment pits or grinding grooves, are likely to occur at places where occupation occurred for extended periods of time. Where band mobility was high and campsites frequently shifted throughout the landscape, artefact assemblages are not expected to contain elements such as grindstones, heat-treatment pits, ovens and the diversity of implements frequently discarded at places of extended residential occupation. **Table 2** has been adapted from Kuskie and Kamminga (2000).

**Table 2: Site Descriptions (adapted from Kuskie & Kamminga 2000)**

| Occupation Pattern | Activity Location | Proximity to water | Proximity to food | Archaeological expectations |
|---|---|---|---|---|
| Transitory movement | All landscape zones | Not important | Not important | ▪ Assemblages of low density & diversity<br>▪ Evidence of tool maintenance & repair<br>▪ Evidence for stone knapping |
| Hunting &/or gathering without camping | All landscape zones | Not important | Near food resources | ▪ Assemblages of low density & diversity<br>▪ Evidence of tool maintenance & repair<br>▪ Evidence for stone knapping<br>▪ High frequency of used tools |
| Camping by small groups | Associated with permanent & temporary water | Near (within 100m) | Near food resources | ▪ Assemblages of moderate density & diversity<br>▪ Evidence of tool maintenance & repair<br>▪ Evidence for stone knapping & hearths |

| Occupation Pattern | Activity Location | Proximity to water | Proximity to food | Archaeological expectations |
|---|---|---|---|---|
| Nuclear family base camp | Level or gently undulating ground | Near reliable source (within 50m) | Near food resources | ▪ Assemblages of high density &diversity<br>▪ Evidence of tool maintenance & repair & casual knapping<br>▪ Evidence for stone knapping<br>▪ Heat treatment pits, stone lined ovens<br>▪ grindstones |
| Community base camp | Level or gently undulating ground | Near reliable source (within 50m) | Near food resources | ▪ Assemblages of high density & diversity<br>▪ Evidence of tool maintenance & repair & casual knapping<br>▪ Evidence for stone knapping<br>▪ Heat treatment pits, stone lined ovens<br>▪ Grindstones & ochre<br>▪ Large area >100sqm with isolated camp sites |

Hunting would have comprised the major economic role of the men (Kohen 1986). Along the rivers, traps and snares would have been set for bandicoots and wallabies, while decoys for snaring birds were also a commonly employed technique, 'these are formed of underwood and reeds, long and narrow, shaped like a mound raised over a grave, with a small aperture at one end for the admission of the prey' (Tench 1793). Hunting methods included smoking out the animal by lighting a fire in the base of a hollow tree, burning large tracts of land and gathering the stranded animals, as well as cutting toe-holds in trees (Tench 1793).

## 4.4 PREDICTIVE MODEL FOR THE PROJECT AREA

A predictive model of site types and site patterning for the study area is generally achieved through a review of previous archaeological studies undertaken throughout the locality and the region, the AHIMS register and the environmental context of the study area. The aim of a predictive model is to understand the nature of previous Aboriginal occupation and determine the nature of land use. This theme often aims to identify and explain archaeological patterning in site type, content and distribution. General archaeological theories have been developed outlining the relationship between land use patterns and the resulting archaeological evidence.

Overall, based on the environmental and archaeological context and using Kuskie and Kaminga's (2000) model, it is considered that the study area would have been most likely suitable for occupation, transitory hunting and foraging. Proximity to water and relatively flat ground would have affected occupation patterns, though in the case of the site the location would be beneficial. Using this predictive model with an adapted regional model based on UCHQU (2017, pp. 33-35) which details that sites are more likely to occur within:

- 200m of a named watercourse;

- 100m of a mapped drainage line;
- 50m of a known Aboriginal cultural heritage site; and
- On landforms with a slope no greater than 30 degrees, except where sandstone bedrock or limestone outcrops are present.

In summary, the study area provides some suitable resources and landscape features such as proximity to a named watercourse to allow for occupation, foraging and hunting. Permanent potable water would have been favourable for occupation.

Limitations should be noted with the predictive model when attempting to predict past human actions and behaviour, including:

- Biases due to differential sampling of landforms based on decisions made by archaeologists;
- Aboriginal people involved in previous studies or surveys may not have disclosed the existence of places with cultural heritage values as they may not have been under immediate threat when the earlier study was undertaken;
- Variation in the classificatory definitions employed by archaeologists will significantly influence the range of artefact types identified within a study area. For example, the distinction between a waste flake, a debitage flake and a flaked piece may be heavily subject to the perspective of the recorder. Thus, it is not productive to attempt to quantify the proportionate representation of artefact types identified in previous studies; and
- Levels of exposure of different landforms.

# 5 SURVEY SAMPLING STRATEGY

The survey will be conducted using a systematic random sampling strategy. The systematic random sampling strategy (Burke and Smith 2004, p. 65-69) was chosen so a portion of every area is covered in the survey for this assessment. The following methods in **Table 3** have been adapted from Burke and Smith (2004) with be utilised were applicable.

**Table 3: Example of Recording Techniques**

| Item | Recording Action |
|---|---|
| Isolated Artefact/s (up to 5 within 1m²) | • Photos of multiple sides with scale card (e.g. flake ventral and dorsal)<br>• GPS location<br>• Field notes including measurements, material and artefact type |
| Open scatter (5+artefacts within 1m²) | • Photos of individual artefacts, extent of scatter<br>• GPS location<br>• Field notes including measurements, number of artefacts, material and artefacts type |
| Scar tree | • Photos of scar and tree<br>• GPS location<br>• Field notes including measurements, species, direction and condition of scar/s |
| Stone arrangement | • Photos of individual stones and pattern<br>• GPS location<br>• Sketch of pattern<br>• Field notes including type and size of stone |

# 6 RESULTS AND DISCUSSION

The subject site was surveyed on the 14 September 2021. The conditions were mixed with clear sunny skies at time along with rain during the last third of the survey.

**Transect 1**

Transect 1 covers the gentle sloping to flat area below the 50 metre contour line running through the middle of the site north to south. Area is disturbed. Most trees seem planted based on location as well as past aerial imagery. The area has an extensive drainage network with a dam and interconnecting channels, along with what appears to be an overflow channel which is grassed. A large portion of this area is grassland with stands of trees.

**Transect 2**

Transect 2 covers the elevated section above the 50 metre contour line. The area is disturbed with a predominate area paved and containing buildings. The area featured drainage, electrical infrastructure as well as vehicle tracks. The area also showed evidence of erosion and erosion management. Around the dam items such as slate and quartzite were located and due to the located are considered introduced, recent non-Aboriginal origin.

**Survey units**

Two survey units were documented during the field work. They are recorded in **Table 4**, **5**, and **6**.

**Table 4: Survey Unit**

| Survey Unit | Start Latitude | Start Longitude | End Latitude | End Longitude |
|---|---|---|---|---|
| Survey Unit 1 | -33.3974927 | -151.4742293 | -33.3973151 | 151.4741125 |
| Survey Unit 2 | -33.3973530 | -151.4755353 | -33.3986620 | 151.4744099 |

**Table 5: Survey effective coverage**

| SU | Landform | Area (sq m) | Vis. % | Exp. % | Exposure type | Previous disturbances | Effective coverage (sq m) | Effective Coverage % |
|---|---|---|---|---|---|---|---|---|
| 1 | Gentle sloping to flat area | 20900 | 10% | 10% | General use, commercial development, erosion | General use, commercial development | 209 | 1% |
| 2 | Slope (steeper) | 31500 | 20% | 20% | General use, commercial development, erosion | General use, commercial development | 1260 | 4% |

**Table 6: Landform**

| Landform | Landform area (sq m) | Area effectively surveyed (sq m) | % of landform surveyed | Number of Sites | Number of Artefacts or features |
|---|---|---|---|---|---|
| Gentle sloping to flat area | 20900 | 209 | 1% | 0 | 0 |
| Slope (steeper) | 31500 | 1260 | 4% | 0 | 0 |

### 6.1.1 Effective survey coverage

The survey coverage was affected by vegetation cover in general. Some areas have higher exposure and visibility. Survey unit 2 during the survey had more bare earth and some soil horizons were present in terracing. Overall, the combined effective coverage was 5%.

## 6.2 SUMMARY

The area has been disturbed through development and occupation for at least 40 years. Given the landscaping such as terraces for level surfaces, erosion/control measures as well as general disturbance such as parking and maintenance, the surface and it would be argued representative subsurface depth has a lower chance of containing Aboriginal heritage.


Metres
0 10 20 40 60 80 100
N

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PROJECT REFERENCE: 20222497
DATE DRAWN: 2021-09-16 16:25Version 1
DRAWN BY: JCBrown
DATA SOURCE:
NSW Government - 2021
Nearmap - 2021

**Survey**

Progressive Property Solutions
682A Coleridge Road Bateau Bay NSW
Aboriginal Due Diligence Assessment

FIGURE:
**2**

L:\GIS FOLDER\00 CLIENT FILES\125653_ProgressivePropertySolutions\20222497_RedBus_BateauBay_ADD\Mapping\20222497_Working.mxd

# 7 CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

## 7.1 CULTURAL SIGNIFICANCE

The Burra Charter (2013) defines 'cultural significance' very broadly to include 'aesthetic, historical, scientific, social or spiritual value for past, present or future generations'. This definition captures places of cultural significance to Indigenous cultures. It also includes places that provide a physical location that is integral to the existence, observation and practice of intangible heritage. The Burra Charter definition of cultural significance encompasses all forms of spirituality, regardless of the culture from which it emanates. Similarly, aesthetic value is not limited to a 'western' perception of aesthetics (taken from ICOMOS Practice Note: The Burra Charter and Indigenous Cultural Heritage Management).

### *7.1.1 Aesthetic Significance*

The survey led to no finds and given the disturbance that has occurred across the study area, it can be assumed that the area lacks physical evidence to warrant further investigation of Aboriginal heritage.

### *7.1.2 Historic Significance*

The survey led to no finds and given the disturbance that has occurred across the study area, it can be assumed that the area lacks physical evidence to warrant further investigation of Aboriginal heritage.

### *7.1.3 Scientific Significance*

The survey led to no finds and given the disturbance that has occurred across the study area, it can be assumed that the area lacks physical evidence to warrant further investigation of Aboriginal heritage.

### *7.1.4 Social/Spiritual Significance*

The survey led to no finds and given the disturbance that has occurred across the study area, it can be assumed that the area lacks physical evidence to warrant further investigation of Aboriginal heritage.

The significance of the scientific and cultural values that have been explored at project site using pedestrian survey. The survey has provided a level of certainty that the study area has not produced scientific data which could lead to a conclusion of significant cultural values being in the area. Cultural significance of the study area is limited, and it is hypothesised that the area would have had some value, though within the project footprint evident would be reduced due to high disturbance.

It should be noted that a due diligence does do not include community consultation and social and spiritual significance is determined based on the information available to the author. This may change from any information gathered from the Aboriginal community.

# 8 ASSESSMENT OF IMPACTS

## 8.1 IMPACTS

As no sites or PADs were identified in the project area, there are no impacts to the archaeological record.

The Heritage NSW (formerly DECCW) Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (2010b, p. 21) describes impacts to be rated as follows:

- Type of harm: is either direct, indirect or none
- Degree of harm is defined as either total, partial or none
- Consequence of harm is defined as either total loss, partial loss, or no loss of value

Based on the information available and this assessment it is expected no impact to heritage will occur.

# 9 MITIGATION AND MANAGEMENT STRATEGIES

Specific strategies considered below for the management of the study area relate to the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), and the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010c).

## 9.1 CONSERVATION/PROTECTION

Conservation is the first option considered and can be suitable for all sites, including high archaeological significance and/or cultural significance. Conservation considers the care required for an indigenous site or place so to retain its significance, whilst also managing the site in a way that considers the attachment that people have.

As no sites or PADs were identified conservation/protection is not required. Relevant cultural heritage inductions and unexpected finds procedure should be implemented.

## 9.2 FURTHER INVESTIGATION

If an excavation is conducted in accordance with the Code of Practice for Archaeological Investigations in NSW than an Aboriginal Heritage Impact Permit (AHIP) will not be required. Subsurface testing is appropriate when a PAD with sub-surface Aboriginal objects that have potential conservation value has been identified and the area cannot be avoided.

As no sites or PADs were identified in this study, no further investigations are recommended.

## 9.3 AHIP

If the project cannot avoid harm to an Aboriginal object or Place, then an AHIP is required. This can allow for an appropriate strategy to be undertaken such as salvage excavation or surface collection that must be approved by the Biodiversity Conservation Division.

As no sites or PADs were identified in this study, no further investigations are recommended.

# 10 RECOMMENDATIONS

## 10.1 GENERAL

1. The individual or persons responsible for the management of onsite works will ensure that all site personnel are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010, under the National Parks and Wildlife Act 1974; and

2. Should any Aboriginal objects be uncovered during works, activities should halt in that location and the Environmental Line contacted on 131 555 to report the discovery.

## 10.2 SITE SPECIFIC

No site-specific recommendations are advised at present.

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# APPENDIX A AHIMS

# AHIMS Web Services (AWS)
## Search Result

Your Ref/PO Number : Red Bus

Client Service ID : 614790

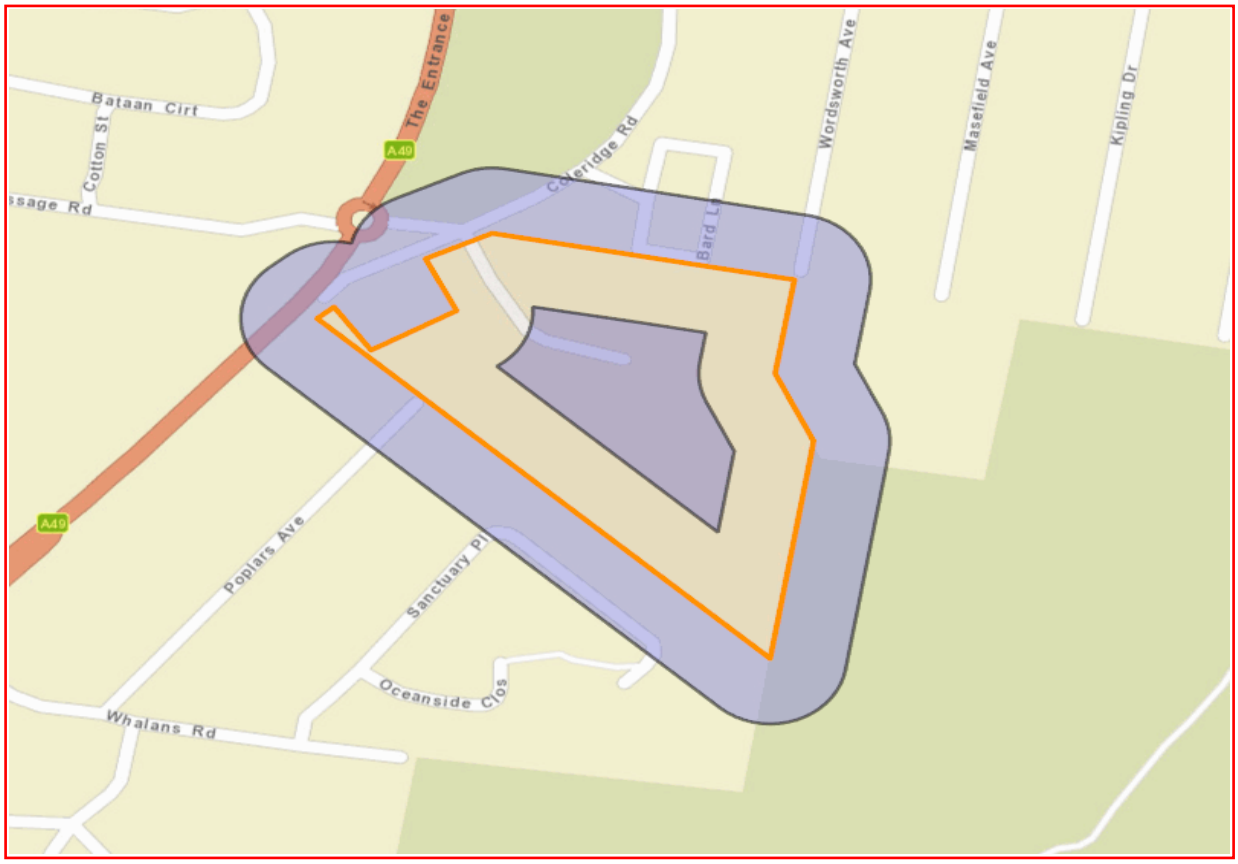
Kleinfelder Australia Pty Ltd - Cardiff
Suite 3, 240-244 Pacific Highway
Charlestown New South Wales 2290
Attention: Jake Brown
Email: jcbrown@kleinfelder.com

Date: 18 August 2021

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lot : 3, DP:DP716082, Section : - with a Buffer of 50 meters, conducted by Jake Brown on 18 August 2021.**

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




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

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

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

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

**Important information about your AHIMS search**

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

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

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

# APPENDIX B SITE PHOTOGRAPHS