

Tallawarra Lands Concept Plan
Approval Modification

APPENDIX

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ARCHAEOLOGICAL REPORT: NORTH PUNTA CINCT

Tallawarra Lands North Precinct: Aboriginal Cultural Heritage Assessment

DRAFT REPORT

Prepared for Cardno

31 August 2017

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Registered Aboriginal Parties

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
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Glossary

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water (now OEH)
DP	Deposited Plan
EPA	Environment Planning and Assessment
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NHL	National Heritage List
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
REF	Review of Environmental Factors
REP	Regional Environmental Plan
SEPP	State Environmental Planning Policy
NNTT	National Native Title Tribunal
ICOMOS	International Council on Monuments and Sites

Summary

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal cultural heritage assessment (ACHA) of a proposed development at Tallawarra, Yallah NSW (Northern Precinct).

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Cardno on behalf of Bridgehill Group intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precincts (MP 09_0131 MOD 1). Wollongong City Council is the Determining Authority (DA) and will assess the application to help them determine if the proposed development is likely to have a significant effect on the environment, including Aboriginal cultural heritage.

This ACHA covers the Northern Precinct (the study area), and aims to determine whether the proposed modification will have any additional impacts on Aboriginal cultural values. The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves.

This report has responded to Section 6.10.1 Aboriginal Cultural Heritage of the *Tallawarra Lands, Yallah: Request for Secretary's Environmental Assessment Requirements* (Urbis 2016) to:

- Confirm the location of archaeological sites relative to the proposed expanded areas.
- Consultation with relevant stakeholders prior to preparation of the EIS.
- Identify the nature and extent of impacts on Aboriginal and cultural heritage values across the project area; and
- Provide the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal cultural heritage values.

SEARs Item	Response
12. Aboriginal Cultural Heritage Aboriginal Cultural Heritage Assessment in accordance with the Guide to investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011) and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW)	<p>This report has been conducted in accordance with the <i>Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (OEH 2011).</p> <p>This report supports the Aboriginal cultural heritage assessment, which has been conducted in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW 2010a). Consultation with Registered Aboriginal Parties is currently underway.</p>

There are 86 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register in a 5 square kilometre area around the study area. Two AHIMS sites are located within the study area (Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-

0225). Two AHIMS sites are located within 10 metres of the study area (Gilba Road 1 (52-5-0642), and Gilba Road 2 Fill 1 (AHIMS 52-5-0643).

An archaeological survey was conducted on 29 June 2017. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility combined with a low amount of exposures.

No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey. One area of moderate archaeological potential, previously identified by the 2010 Biosis assessment was redefined.

The proposed modification and associated development will not impact on any additional Aboriginal sites or areas of archaeological potential.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value.

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Consultation

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process outlined in the DECCW document, *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a) (consultation requirements). The appropriate government bodies were notified and advertisements placed in the Illawarra Mercury newspaper (20 June 2017), which resulted in the following Aboriginal organisations registering their interest:

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
- Murramarang (Murrin Clan/Peoples)
- Minnamunnung
- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
- Biamanga (Murrin Clan/Peoples)

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* listed no Aboriginal Owners with land within the study area. The National Native Title Tribunal did not respond to the request for Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area.

Upon registration, the Aboriginal parties were invited to provide their knowledge on the study area and on the proposal provided in *Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW*. Responses from the Registered Aboriginal Parties (RAPs) are included in Appendix 3.

The outcome of the consultation process will be documented in this assessment report once RAP's have reviewed this report. The 2010 Aboriginal archaeological assessment conducted for the study area identified that the study area is considered to have high cultural significance due to the presence of Aboriginal

archaeological sites and the study area proximity to Lake Illawarra, Duck Creek and Mount Brown (Biosis 2010).

The recommendations that resulted from the consultation process are provided below.

Conclusions

This assessment has concluded that the proposed modification and subsequent development will not have any impacts on additional AHIMS sites or areas of archaeological potential.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage
- The planning approvals framework
- Current best conservation practice, widely considered to include:
 - Ethos of the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter
 - The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010) (the code)

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended:

Recommendation 1: Continued consultation with the registered Aboriginal parties

It is recommended that Cardno continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project. This recommendation is in keeping with the consultation requirements.

Recommendation 2: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 5). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010a) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010c).

Recommendation 3: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 4: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 5: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contractors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 6: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the *NSW National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 7: Cardno must abide by the conditions of the AHIP once obtained from OEH

The AHIP will be issued with conditions pertaining to the management and mitigation of Aboriginal heritage sites within the study area. These conditions will be outlined in Schedules A, B and C as follows:

- Schedule A: Aboriginal objects which must not be harmed.
- Schedule B: Aboriginal objects that may be harmed through certain actions.
- Schedule C: Aboriginal objects which may be harmed through the proposed works.

Cardno must undertake all further works to ensure the condition of the AHIP are met before construction begins.

Recommendation 8: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 9: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
3. Not recommence work at that location unless authorised in writing by OEH.

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed Northern Precinct at Tallawarra, Yallah NSW (Figure 3). The purpose of this assessment is to support a development application for the Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

A previous Aboriginal archaeological assessment for the Tallawarra Lands Part 3A Concept Plan (MP 09_0131) was conducted by Biosis in 2010. The previous assessment consisted of an Aboriginal archaeological survey, Aboriginal Community consultation, and Aboriginal archaeological test excavations (Biosis 2010). An impact assessment conducted as part of the 2010 assessment concluded that two Aboriginal archaeological sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225); would be impacted on by the proposed development. Both Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225) were assessed as having moderate archaeological significance. Boomberry Point 1 (AHIMS 52-5-0223) was assessed as having low subsurface archaeological potential, while Elizabeth Point (AHIMS 52-5-0225) was assessed as having moderate subsurface archaeological potential based on the results of the archaeological test excavations. Further assessment in the form of additional archaeological test excavations were recommended prior to development in order to establish the significance and extent of the archaeological resource.

The purpose of this assessment is to determine if the proposed modification will impact on any additional areas of archaeological potential or Aboriginal sites or objects. This investigation has been carried out under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act). It has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a) ('the code'). The code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the code.

It is stated in section 1.2 of the code that where the Aboriginal cultural heritage assessment concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an Aboriginal Heritage Impact Permit (AHIP) will be required. This application must be supported by an Aboriginal Cultural Heritage Assessment Report (ACHAR) and archaeological report (AR).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain an LEP that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977*.

1.2 Study area

The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2).

The study area is within the:

- Wollongong Local Government Area (LGA).
- Parish of Calderwood
- County of Camden

The study area is bounded by Lake Illawarra to the east, the suburb of Koonawarra to the north, Energy Australia Tallawarra Power Station to the south, and rural land to the west.

1.3 Proposed development

The Tallawarra Northern Precinct comprises Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2). The development of the Northern Precinct will comprise commercial, retail, industrial, open space and associated civil works.

The modification to the concept approval seeks to increase the footprint and residential yield for the Northern Precinct from 310 lots to 542 lots. Currently approved components of the concept plan for the Northern Precinct include:

- Approximately 310 residential lots (22.3 hectares).
- Environmental management areas in the vicinity of Mount Brown.
- Open space areas on the foreshore of Lake Illawarra (87 hectares).
- The Northshore Precinct has existing vehicular access via Gilba Road.

The following amendments are proposed to the Concept Plan for the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road;
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge.
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m² and 12.5 metres frontages, where suited to the topography of the site.

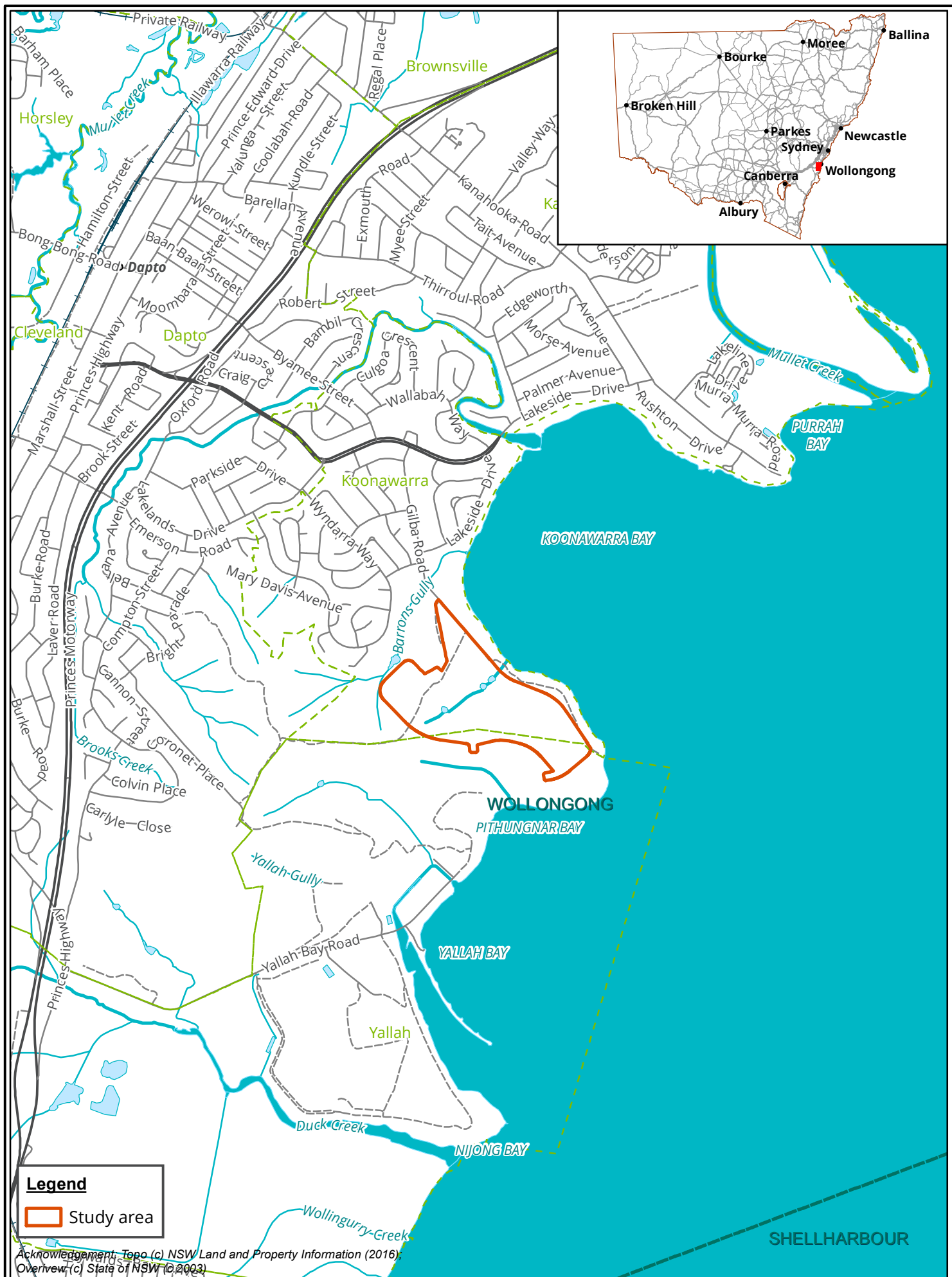
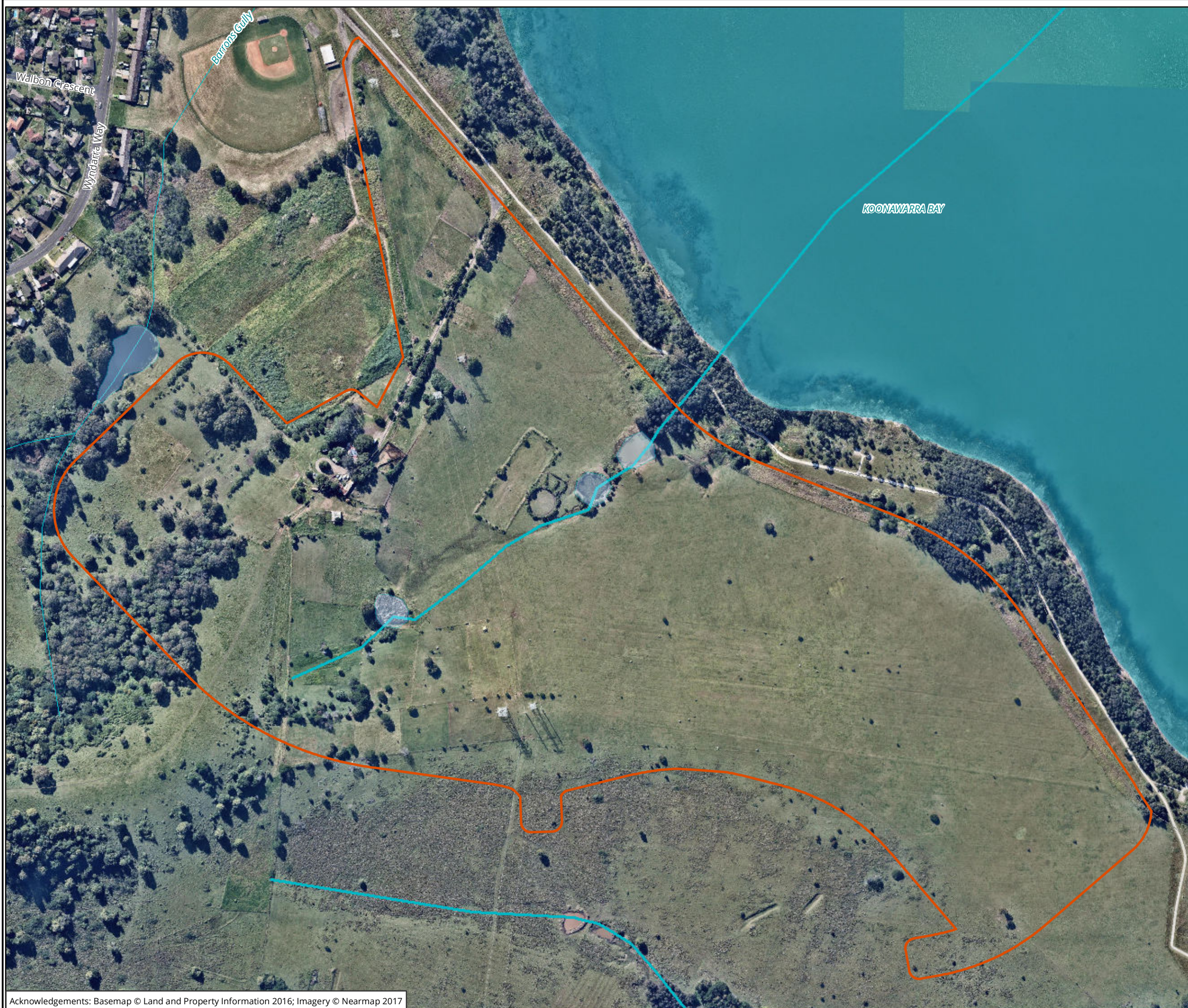


Figure 1: Location of the study area in a regional context



Legend

 Study area

Figure 2: Study area detail

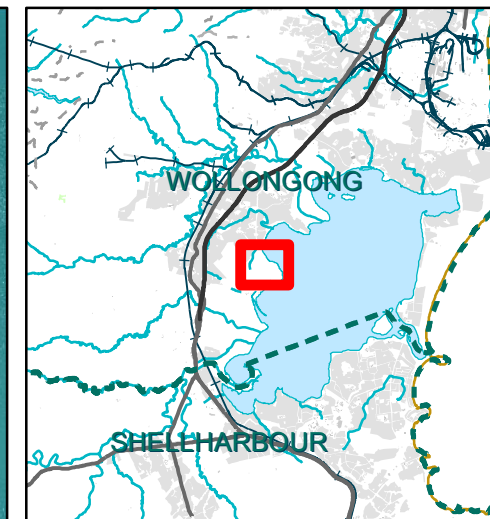
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Newcastle, Sydney, Wangaratta & Wollongong

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Legend

- Study area
- Proposed development

Figure 3: Proposed development

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Newcastle, Sydney, Wangaratta & Wollongong

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1.4 Planning approvals

The proposed modification will be assessed against Part 3A section 75W of the *Environmental Planning and Assessment Act 1979* NSW (EP&A Act). The Development Application (DA) will be assessed under Part 4 of the EP&A Act.

Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.
- NSW *National Parks and Wildlife Act 1974* (NPW Act).
- NSW *National Parks and Wildlife Amendment Act 2010*.
- Infrastructure State Environmental Planning Policy 2007.
- Wollongong Development Control Plan 2009.

1.5 Restricted and confidential information

Appendix 1 in the Archaeological Report contains AHIMS information which is confidential and not to be made public. This is clearly marked on the title page for the Attachment.

1.6 Aboriginal cultural heritage

1.6.1 General description

According to Allen and O'Connell (2003), Aboriginal people have inhabited the Australian continent for the last 50,000 years. New evidence out of the Northern Territory has pushed this date back to around 60,000 years with the Malakanunja II rock shelter dated at 61,000 ±9000/-13,000 BP (Clarkson *et al* 2015). In NSW, according to Bowler *et al* (2003), Aboriginal people have occupied the land for over 42,000 years. However, preliminary evidence presented by Biosis (2016) from a subsurface testing program in south-western NSW suggests Aboriginal people may have occupied the semi-arid zone of the region for 50,000 years.

Without being part of the Aboriginal culture and the productions of this culture, it is not possible for non-Aboriginal people to fully understand the meaning of site, objects and places to Aboriginal people – only to move closer towards understanding this meaning with the help of the Aboriginal community. Similarly, definitions of Aboriginal culture and cultural heritage without this involvement constitute outsider interpretations.

With this preface Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010a p.3). There is an understanding in Aboriginal culture that everything is interconnected. In essence Aboriginal cultural heritage can be viewed as potentially encompassing any part of the physical and/or mental landscape, that is, 'Country' (DECCW 2010a p.iii).

Aboriginal people's interpretation of cultural value is based on their "traditions, observance, lore, customs, beliefs and history" (DECCW 2010a p.3). The things associated with Aboriginal cultural heritage are continually and actively being defined by Aboriginal people (DECCW 2010a p.3). These things can be associated with traditional, historical or contemporary Aboriginal culture (DECCW 2010a p.3).

1.6.2 Tangible Aboriginal cultural heritage

Three categories of tangible Aboriginal cultural heritage may be defined:

- Things that have been observably modified by Aboriginal people.

- Things that may have been modified by Aboriginal people but no discernible traces of that activity remain.
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

1.6.3 Intangible Aboriginal cultural heritage

Examples of intangible Aboriginal cultural heritage would include memories of stories and 'ways of doing', which would include language and ceremonies (DECCW 2010a p.3).

1.6.4 Statutory

Currently Aboriginal cultural heritage, as statutorily defined by the NPW Act, consists of objects and places which are protected under Part 6 of the Act.

Aboriginal objects are defined as:

"any deposit, object or material evidence...relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains"

Aboriginal places are defined as a place that is or was of special Aboriginal cultural significance. Places are declared under section 84 of the NPW Act.

1.6.5 Values

Aboriginal cultural heritage is valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010a p.iii). More specifically it is used:

- To provide a:
 - *"connection and sense of belonging to Country"* (DECCW 2010a p.iii)
 - Link between the present and the past (DECCW 2010a p.iii).
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010a p.3).
- As further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010a p.3).

2 Study area context

This section discusses the study area in regards to its landscape, environmental and Aboriginal cultural heritage context. This section should be read in conjunction with the archaeological report attached in Appendix 6. The background research has been undertaken in accordance with the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).

2.1 Topography and hydrology

The Illawarra region forms part of the Sydney Basin; a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age overlying older basement rocks of the Lachlan Fold Belt. The Illawarra subregion of the Sydney Basin is characterised by Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. The geology of the region provides useful stone resources for toolmaking, included volcanic rocks useful for manufacture of edge ground axes.

The study area is situated on the Coastal Plain on the edge of Lake Illawarra and the Escarpment. This physiographic unit has formed from the gradual recession westward of the Plateau (Bowman 1971). The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. It is dissected by easterly flowing streams at intervals that become more frequent towards the north (Fuller 1982: 18). The Coastal Plain is widest at the points where Macquarie Rivulet has entrenched into the Plateau at Macquarie Pass and where other waterways that provide the catchment area of Lake Illawarra, such as Duck and Wollingurrie Creek systems, have carved into the Escarpment (Bowman 1971).

The Northern Precinct is located approximately 50 metres inland from the shore of Lake Illawarra. Situated Lake Illawarra was formed from the drowning of the Macquarie Rivulet valley during the raising of Holocene sea levels (6-7,000 years ago); the estuary was subsequently formed behind the large sand barrier that now forms the Windang Peninsula. Lake Illawarra is the largest estuarine lagoon on the south coast of NSW, covering an area of 33 square kilometres and extending over 9 kilometres in length and 5 kilometres in width. It receives salt water from the Pacific Ocean and fresh water from the Illawarra Escarpment (Roy 1984). Lake Illawarra is classified as an early Intermediate Barrier Estuary or an estuarine lagoon. Barrier estuaries are characterised by 'narrow elongated entrance channels with broad tidal and back barrier sand flats' (Roy 1984: 5).

The proximity to Lake Illawarra would have provided abundant food resources and is likely to result in the presence of Aboriginal sites, such as middens, in the vicinity of the study area.

2.2 Climate

The climate within the Study Area is generally temperate with a maritime influence. Summers in the coastal regions are generally warm, while winters are mild. In the escarpment areas to the west, winters are cold. Moderate to high temperatures, high humidity, onshore winds and peak rainfall characterise summer and autumn (Hazelton 1992). One third of the mean annual rainfall occurs between January and March, with a secondary rainfall peak in June. Winter winds are predominantly westerly, producing drier, cooler conditions.

2.3 Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure. The study area contains one erosional soil landscape called the Shellharbour soil landscape. Erosional soil landscapes comprise soils that are derived from the erosive action of running water, primarily well-defined streams that have the ability to transport their sediment load. Soils may be either absent, derived from water-washed parent materials, or derived from *in situ* weathered bedrock.

The characteristics of the Shellharbour soil landscape are summarised in Table 1.

Table 1 Shellharbour soil landscape characteristics (Hazelton 1992: 58-60)

Soil Landscape	Topography	Soils
Shellharbour	Rolling low hills with long side slopes and broad drainage lines. Relief 30-50 metres. Slopes <20% incline.	<p>Crests and upper slopes: Hard setting black rich clays overlying <100 cm of brown strongly pedal heavy clay.</p> <p>Mid slopes: Up to 20 cm of brownish black sandy loam overlies <50 cm of strongly pedal reddish brown sandy clay. 50 cm of mottled reddish brown sandy clay overlies <50 cm of brown strongly pedal heavy clay.</p> <p>Foot slopes and drainage plains: Up to 40 cm of reddish brown sandy clay overlies >50 cm of strongly pedal brown heavy clay.</p>

The Shellharbour soil landscape has a high to very high erodibility rating would therefore be susceptible to frequent soil movement. This would result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.

2.4 Landscape resources

The Coastal Plain of the Illawarra region provides a number of resources used by Aboriginal inhabitants. The geology of the region provides an abundant supply of raw materials. Quartz is the main stone raw-material type suitable for Aboriginal tool manufacture that is likely to occur in the vicinity of the study area in any abundance. This would have been available locally and also from trading with other groups (Donlon and Sefton, 1988: 23). Igneous material would have come from the south of the study area in areas like Gerrigong (Donlon and Sefton, 1988: 55) due to its volcanic nature. Some of the other fine grain siliceous material may have come from the Cumberland Plain. Silcrete cobbles are known to have occurred along the Cumberland Plain (McDonald 1992), to the north of the study area. Elsewhere on the Illawarra coastal Plain, the potential raw materials for stone artefact making include silicified wood, tuff, mudstone, quartz, quartzite and basalt. River gravels and cobbles containing silcrete, chert, and other fine grained volcanic rocks were also used (Attenbrow 2010). While previous archaeological work within the region has not identified any specific stone sources, the presence of the volcanic Dapto Latite Member in the region may have provided a suitable source of raw material, providing lithic material for stone axes. Resources would have been accessible in the outcrops of siltstone, shale and tuffaceous sandstones of the Berry Siltstone formation.

Aerial imagery and vegetation mapping undertaken by the National parks and Wildlife Service (NPWS) shows that the study area has been cleared of native vegetation; however, native vegetation communities in the vicinity of the study area and around Lake Illawarra would have been comparable to vegetation found in the study area prior to clearing. These vegetation communities include (NPWS 2002):

- Saltmarsh located in the intertidal zone around estuaries of Lake Illawarra. It contains salt tolerant estuarine species with the dominant species being Glasswort (*Sarcocornia quinqueflora* subsp. *Quinqueflora*). The mosaic of saltmarsh is patchy and low growing in small areas adjoining mudflats and lake fringes.
- Estuarine Alluvial Wetland occurring in small pockets of low-lying poorly drained soils on the coastal floodplains and estuaries. Common and abundant species that adjoin permanent water bodies are Common Reed (*Phragmites australis*) and Broadleaf Cumbungi (*Typha orientalis*). Isolated small trees of Swamp Oak (*Casuarina glauca*), Prickly-leaved Tea Tree (*Melaleuca styphelioides*) occur on drier banks and margins.
- Estuarine Seagrass-Mudflats can be found on shallow subtidal sediments and mudflats in estuarine environments in and around Lake Illawarra, in coastal lake system. Eelgrass (*Zostera capricorni*) is the dominant species.

A number of these plant species would have been used by Aboriginal groups to make various wooden implements. Wood from the Swamp oak was used to make tools such as nulla nullas while the bark was removed and made into canoe hulls (Robinson 1991:152). Bark from the tea tree was also used for bedding and to make torches. In addition to tool making, some plants also provided a food source. The rhizomes, green shoots, and young flower spikes of the broad leaf cumbungi were all eaten, and left over fibres could then be used to make string (Robinson 1991: 432).

Local Aboriginal groups would have had access to an abundant range of marine, terrestrial and avian species present in the coastal resource zone which would have provided a variety of uses. Marine animals such as cockles, lobster and periwinkles were eaten. Abalone and stingrays were also used to make fish hooks and tools in addition to their use as a food source. Terrestrial species on the coastal plain, such as kangaroos, possums and wombats would have been exploited for food and to make cloaks, and tools. Avian species were used as a food source, and in the case of the pelican and black duck were often totem animals for Aboriginal groups (Wesson 2009).

2.5 Land use history

Within the proposed study area, soil disturbance is associated with historic pastoral land-use practices and recreational usage. The entire area between Koonawarra and Yallah bays have been subjected to extensive grazing and agricultural practices from 1880's onwards (McDonald 1976). As well as vegetation clearing for pasture and agriculture, other land disturbances within the property include construction of the high voltage transmission lines and towers; recreational usage resulting in impact trails particularly by trail bikes and pedestrian traffic in the low lying areas along the foreshore.

Although these past land activities caused disturbances, they may have impacted only the surface contexts of any existing Aboriginal archaeological site; it is unlikely that they would have destroyed sites. Clearing of the land would have most likely removed a great number of native culturally modified trees.

3 Aboriginal cultural heritage context

3.1 Ethnohistory

Despite a proliferation of known indigenous sites there is considerable ongoing debate about the nature, territory and range of pre-contact indigenous language groups in the greater Sydney. These debates have arisen largely due to the lack of ethnographic and linguistic information recorded at the time of European contact. By the time colonial diarists, missionaries and proto-anthropologists began making detailed records of indigenous people in the late 19th century; pre-European indigenous groups had been broken up and reconfigured by European settlement activity. The following information relating to indigenous people on the Illawarra is based on early ethnographic accounts.

Despite conflicting views between historical sources of the exact boundaries of tribal groups in the region, the linguistic evidence does identify distinct language groups at the time of European contact. Based on this information it appears that the study area was situated within the Tharawal (also Dharawal, Darawal, Carawal, Turawal, Thurawal) linguistic group. The named groups (often referred to as 'clans', 'bands' or 'tribes') belonging to the Tharawal/Dharawal language group included the following: Gweagal, Norongerraga, Illawarra, Threawal, Tagary, Wandandega, Wodi Wodi and Ory-ang-ora (Tindale 1974). In his overview of Australian Aboriginal tribal boundaries, Tindale (1974:199-201), places the Illawarra area within the territories of the Wodi Wodi tribe (or 'named group'). Tindale (1940:194-195) describes the Wodi Wodi named group as occupying the area north of the Shoalhaven River to Wollongong.

The areas inhabited by each of the groups are considered to be indicative only and would have changed through time and possibly due to circumstances (i.e. availability and distribution of resources). The type and quantity of interactions between different social groupings would have varied with seasons and resource availability. Interactions between the groups inhabiting the many resource zones of the Sydney Basin (coastal and inland) would have varied but been continuous. This is reflected in the relatively homogenous observable cultural features such as art motifs, technology and resource use (McDonald 1992).

Ethnographic evidence considered by Donlon and Sefton (1988, pp. 22-29) indicates high population mobility on the Woronora Plateau with frequent contact between the neighbouring Gandangarra, Cobrakall (Liverpool and Cabramatta) and Wodi Wodi (Illawarra). The traditional Wodi Wodi land extended from around Stanwell Park to the Shoalhaven River, and as far inland as Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language, however Dharawal (Tharawal) was not a word they had heard of or used themselves (Tindale 1974, Navin Officer Heritage Consultants 2000). Many of the town and place names of the Illawarra are derived from the Dharawal language.

The first European explorers in the area were Bass and Flinders when they travelled to Port Kembla in 1796. Flinders wrote about 'Canoe River' in his journal, making reference to the Lake Illawarra entrance (Flinders 1796 in Organ 1990:11).

'This part is called Alowrie, by the natives, and is very low and sandy near the sides of the rivulet. About four miles up it, to the north-west, is the lagoon: and behind, stands a semi-circular range of hills, of which the highest is Hat Hill. The water in the lagoon was distinctly seen, and appeared to be several miles in circumference. The land around it is probable fertile, and the slopes of the back hills had certainly that appearance.'

Lake Illawarra also provided a rich variety of food resources. Allan Cunningham, Government Botanist, wrote in 1818:

...we came out upon the margin of the Lake, which is extensive, but very shoaly on its expanded surface. Pelicans, ducks and teal and some other aquatic birds were swimming, and in detached parties I observed natives of the Lake...in canoes, spearing fish, which is said to be abundant.

After the arrival of European settlers the movement of Aboriginal hunter-gatherers began to be increasingly restricted. European expansion was swift following the initial exploration by Bass and Flinders, and soon there had been considerable loss of land to agriculture. This led to violence and conflict between Europeans and Aboriginal people as both groups sought to compete for the same resources (Attenbrow 2010). At the same time diseases such as small pox were having a devastating effect on the Aboriginal population. Death, starvation and disease were some of the disrupting factors that led to a reorganisation of the social practices of Aboriginal communities after European contact.

The formation of new social groups and alliances were made as Aboriginal people sought to retain some semblance of their previous lifestyle. In 1820, approximately 3000 Aboriginal people were living in the Illawarra, but by 1899 their numbers had declined to only 33 people of non-mixed descent (Organ 1990). Today many Wodi Wodi and Tharawal people continue to live in the Illawarra.

3.2 Aboriginal heritage located in the study area

The archaeological assessment of the study area identified the following Aboriginal sites in the study area:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

The following Aboriginal sites are located within 10 metres of the study area:

- Gilba Road 1 (52-5-0642) - The location of Gilba Road 1 (52-5-0642) has been incorrectly recorded on the AHIMS database. A review of the site card and description indicates that this site is located along Gilba Road within 10 metres of the study area.
- Gilba Road 2 Fill 1 (AHIMS 52-5-0643).

One area of moderate subsurface archaeological potential was identified within the study area. The archaeological report attached in Appendix 6 provides details for Aboriginal sites and areas of potential identified during the archaeological assessment. Figure 4 details the Aboriginal sites within the study area. Areas of archaeological potential are shown in Figure 5. A brief description of each site is provided below.

52-5-0223 Boomberry Point 1

Consists of a small, dispersed shell midden located on Boomberry Point on a track exposure. The extent of the site has not been determined due to the level of grass cover around the site at the time of recording. *Anadara trapezia* appeared to be the only shell species present at the site. No artefacts were noted. The northern part of the site had been impacted through the dumping of industrial and building rubble.

52-5-0225 Elizabeth Point

Consists of an isolated artefact located on an exposed vehicle track. The flake is of a grey chert and has suffered disturbance due to traffic along the track.

Area of moderate archaeological potential

The area of moderate archaeological potential identified in the 2010 Biosis assessment was redefined based on the findings of the predictive statement and the field survey. The low spur/crest running roughly east-west

through the center of the study area has been assessed as having moderate subsurface archaeological potential. Previous research indicates that the landform is likely contain low density artefact sites or isolated artefacts that were discarded as Aboriginal people travelled through the landscape. The test excavation program conducted by Biosis in 2010 indicated that this landform unit has been subject to low levels of previous ground disturbance with four distinct and intact soil horizons identified throughout the testing locations in the northern precinct.

3.3 Interpretation of past Aboriginal land use

Ethno-historical information points out that the area was intensively occupied by people of the Dharawal language group. Tangible evidence of this occupation is reflected across the landscape by many recorded sites around Lake Illawarra, the majority of them shell middens and artefacts.

Previous archaeological work around Lake Illawarra has recognised archaeological and cultural landscape values of the locality. All of the previous studies provide a general overview of the Aboriginal archaeological site patterning and predictive behaviour around the lake. Results of previous archaeological assessments indicate that areas of archaeological potential will occur where disturbance has been limited in all the landforms around the lake, with shell middens and artefact sites most likely to be present in the area (Figure 5).

Due to the proximity of the study area to Lake Illawarra, it would have provided have provided access to a range of terrestrial and aquatic flora and fauna species that could be utilised by Aboriginal groups in the region. Aquatic species in the area would have included a range of shellfish species that could be exploited, and this would result in the potential for shell midden sites in the study area. Several sites are recorded in the study area, including three isolated artefacts and a shell midden (Figure 4). This indicates that the study area was utilised by Aboriginal people in the past.

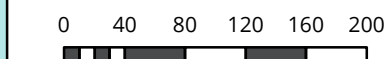


Legend

- AHIMS Records
- ▭ Study area

Figure 4: AHIMS sites

NOT TO BE MADE PUBLIC



Metres
Scale: 1:5,000 @ A3
Coordinate System: GCS GDA 1994



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter:
Date: 22 August 2017,
Checked by: lharley, Generated by: lharley
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24090_AR_F8_AHIMS.mxd



Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Aboriginal archaeological sensitivity located in the study area

0 30 60 90 120 150
Metres

Scale: 1:3,500 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017
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4 Aboriginal community consultation

Consultation with the Aboriginal community has been undertaken in compliance with the consultation requirements as detailed below. A consultation log of all communications with RAPs is provided in Appendix 1.

4.1 Stage 1: Notification of project proposal and registration of interest

4.1.1 Identification of relevant Aboriginal stakeholders

In accordance with the consultation guidelines, Biosis Pty Ltd notified the following bodies regarding the Proposal:

- Wollongong City Council.
- NSW Office of Environment and Water (OEH).
- NSW Native Title Services Corporation Limited (NTSCORP Limited).
- Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners.
- National Native Title Tribunal (NNTT).
- South Coast Local Land Services.
- Illawarra Local Aboriginal Land Council (ILALC).

A list of known Aboriginal stakeholders in the Illawarra was provided by OEH (a copy of these responses are provided in Appendix 2 and included:

A search conducted by the Office of the Registrar, Aboriginal Land Rights Act 1983 (NSW) listed no Aboriginal Owners with land within the study area. The National Native Title Tribunal did not respond to the request to find Aboriginal stakeholders. Both Wollongong City Council and South Coast Local Land Services recommended contacting OEH.

4.1.2 Public notice

In accordance with the consultation guidelines, a public notification was placed in the following newspapers:

- Illawarra Mercury (20 June 2017)

The advertisement invited Aboriginal people who hold cultural knowledge to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. A copy of the public notice is provided in Appendix 2.

4.1.3 Registration of Aboriginal parties

Aboriginal groups identified in Section 4.1.1 were sent a letter inviting them to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. In response to the letters and public notice, a total of 14 groups registered their interest in the project. Responses to registration from Aboriginal parties are provided in Appendix 3. A full list of Aboriginal parties who registered for consultation is provided below:

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (murrin Clan/Peoples)
- Murramarang (Murrin Clan/Peoples)
- Minnamunnung
- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
- Biamanga (Murrin Clan/Peoples)

4.2 Stage 2: Presentation of information about the proposed project

On 28 August 2017 Biosis provided RAPs with details about the proposed development works (project information pack). Once the review period has closed this report will be updated with comments received and Biosis responses. A copy of the project information pack is provided in Appendix 3.

4.3 Stage 3: Gathering information about cultural significance

4.3.1 Archaeological assessment methodology information pack

On 28 August 2017 Biosis provided each RAP with a copy of the project methodology outlining the proposed Aboriginal cultural heritage assessment process and methodology for this project. RAPs were given 28 days to review and prepare feedback on the proposed methodology. Once the review period has closed this report will be updated with comments received and Biosis responses. A copy of the project methodology pack is provided in Appendix 4.

4.4 Stage 4: Review of draft Aboriginal cultural heritage assessment report - TBC

Following completion of the DRAFT Aboriginal cultural heritage assessment report, it was provided to RAPs on [DATE] for review and comment. RAPs were given 28 days to provide comments, once the review period has closed this report will be updated with comments received and Biosis responses. Comments on the draft report will be provided in Appendix 5.

5 Aboriginal cultural significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess the cultural values of Aboriginal sites in the study area. Details of the scientific significance assessment of Aboriginal sites in the study area are provided in Appendix 6.

5.1 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS 2013) ('the Burra Charter'). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Australian

Government, the NSW OEH and the Heritage Branch, and the NSW Department of Planning and Environment. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the OEH *Guidelines to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists and the Aboriginal community. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2 Cultural (social significance) values

Cultural or social significance refers to the spiritual, traditional, historical and/or contemporary associations and values attached to a place or objects by Aboriginal people. Aboriginal cultural heritage is broadly valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010a p.iii). More specifically it provides a:

- "connection and sense of belonging to Country" (DECCW 2010a p.iii).
- Link between the present and the past (DECCW 2010a p.3).
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010a p.3).
- Further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010a p.3).

It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage. Table 2 below outlines areas identified as having Aboriginal cultural significance based on the previous Aboriginal consultation for the study area in 2010 (Biosis 2010).

Table 2 Areas of Aboriginal cultural sensitivity, identified through stakeholder consultation in Biosis (2010)

Defined area of Aboriginal cultural sensitivity	Description of component area	Identified cultural values
Duck Creek	Easterly trending creek with fluvial deposits located on the southern and northern banks of the creek.	It would have been used as an access way to the lake and for its resources.
Fig Tree	SSE trending basal slope	Men's business or women's business, a meeting place, birthing tree
Lake Illawarra Foreshore	Open, sloping lake shores and floodplain / swamp land	The lake itself, the foreshore, the midden sites and its association with the birth of Queen Rosie.
Wollingurrie Point	Open low slope towards Lake Illawarra	Large midden site situated on a point that extends out into the lake
Ridgeline Access – Mt Brown to the Lake	Steep to moderate slopes trending south east towards Lake Illawarra	Ridgeline - access way from Mt Brown to Lake Illawarra <ul style="list-style-type: none"> - camping - vista
Mount Brown	Steep to moderate slopes trending south east towards Lake Illawarra	Mt Brown - lookout

5.3 Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to the Aboriginal and other communities. The study area is not known to have any historic associations.

5.4 Archaeological (scientific significance) values

An archaeological (scientific) assessment was undertaken for the study area and is presented in detail as part of the attached Archaeological Report (Appendix 6).

5.5 Aesthetic values

The study area is located in close proximity to Lake Illawarra with some areas of disturbance present throughout. The landscape of the study area has undergone tree clearing and farming practices but due to its proximity to Lake Illawarra and Mount Brown is still closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place.

5.6 Statements of significance

The significance of the Aboriginal sites has been assessed in accordance with the following criteria:

- Requirements of the Code

- The Burra Charter
- Guide to Investigating and reporting on Aboriginal Heritage.

The combined use of these guidelines is widely considered to represent the best practice for assessments of Aboriginal cultural heritage. The identification and assessment of cultural heritage values includes the four values of the Burra Charter: social, historical, scientific and aesthetic values. The resultant statement of significance has been constructed for the study area based on the significance ranking criteria assessed in Table 3.

5.6.1 Statement of significance for Boomberry Point 1 (AHIMS 52-5-0223)

Boomberry Point 1 (52-5-0223) consisted of shell midden containing one shell species. The site was exposed on the side of a track in a hill slope landform. The site was noted to be badly disturbed with highly fragmented shell. The site has no direct historical associations and has low scientific potential. The site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.2 Statement of significance for Elizabeth Point 1 (AHIMS 52-5-0225)

Elizabeth Point 1 (52-5-0225) was recorded as an isolated stone artefact located on a walking track. The artefact was a grey chert flake piece, common in the region and was observed to have been disturbed by the walking track. The site has no direct historical associations and has low scientific potential. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.3 Statement of significance for Gilba Road 1 (AHIMS 52-5-0642)

Gilba Road 1 (52-5-0642) was recorded as a stone artefact located at the very beginning of a concrete pathway. Based off the location of this artefact and current aerial imagery the artefact has been disturbed as the concrete pathway now extends through the area the artefact was initially found in. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

5.6.4 Statement of significance for Gilba Road 2 Fill (AHIMS 52-5-0643)

Gilba Road 2 Fill (52-5-0643) site was recorded as an artefact located in an area of fill, with shell and pottery also present. The location of the artefact in an area of fill indicates that it has been disturbed. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

Table 3 Significance assessment criteria

Site name	Criteria	Ranking
Boomberry Point 1 52-5-0223	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains a shell midden with one species present. The site type is common in the region, and it is located in an area of previous disturbance. It is assessed with low scientific	Low

Site name	Criteria	Ranking
	significance.	
	Aesthetic – the site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed.	Moderate
Elizabeth Point 1 52-5-0225	Cultural – discussions with the local Aboriginal communities reflect that all sites are high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact which is common in the region. The site is located on a walking track and is disturbed. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to its location.	Moderate
Gilba Road 1 52-5-0642	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate
Gilba Road 2 Fill 52-5-0643	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage. It is assessed with low historical significance	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate

6 Proposed development limitations & mitigation measures

As previously outlined, Cardno on behalf of Bridgehill is proposing to submit a development application for the Tallawarra Lands Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

The proposed development will involve the following activities that have the potential to impact on Aboriginal archaeological sites or objects:

- earthworks
- subdivision
- new housing stock
- public open space areas
- new recreation facilities
- environmental management and conservation areas and riparian corridors
- new internal roads
- new pedestrian and cycle pathways
- landscaping
- power station buffer areas
- installation of services (water, gas, power)

The following amendments are proposed to the Concept Plan in the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road;
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge.
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m² and 12.5 metres frontages, where suited to the topography of the site.

6.1 Predicted physical impacts

The proposed modification and associated development will not impact on any additional Aboriginal sites or areas of archaeological potential.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value.

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Strategies to avoid or minimise harm to Aboriginal heritage in or near the study area are discussed below. A summary of impacts is provided below in Table 4. Figure 5 shows the proposed development footprint and the AHIMS sites in and adjacent to the study area.

Table 4 Summary of potential archaeological impacts

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm
52-5-0223	Boomberry Point 1	Low	Direct	Total	Total loss of value
52-5-0225	Elizabeth Point	Low	Direct	Total	Total loss of value
52-5-0642	Gilba Road 1	Low	Indirect	Partial	Partial loss of value
52-5-0643	Gilba Road 2 Fill	Low	Indirect	Partial	Partial loss of value

6.2 Avoiding harm to Aboriginal heritage

Aboriginal sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225), and the area of moderate archaeological potential are located within the centre of the development footprint and impacts cannot be avoided by the proposed development.

Aboriginal sites Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the area of proposed works. The proposed works are not expected to directly impact on these sites.

Strategies to avoid or minimise harm to Aboriginal heritage in or adjacent to the study area are discussed below.

6.3 Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of *“doing as much as necessary, as little as possible”* (Marquis-Kyle and Walker 1994: 13). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

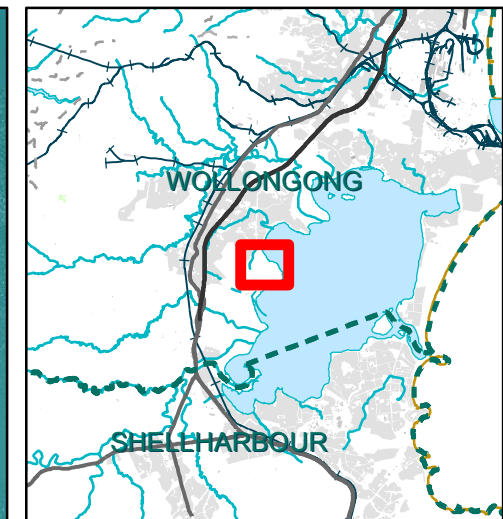
Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the proposed development area. The proposed development will not have any direct impacts on Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643), however indirect impacts due to changes in the landscape and possible unintentional impacts during construction may occur. Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) should be fenced prior to commencement of development activities. Construction workers and contractors should be made aware of the sites in order to prevent any unintentional impacts. The

Boomberry Point 1 (AHIMS 52-5-0223), Elizabeth Point (AHIMS 52-5-0225), are currently located within the proposed development area and impacts cannot be avoided. Boomberry Point 1 (AHIMS 52-5-0223),

Elizabeth Point (AHIMS 52-5-0225), should be salvaged under an AHIP prior to development in order to mitigate impacts to the AHIMS sites.

Previous assessments, including a limited archaeological test excavation program conducted by Biosis (2010), identified an area of moderate subsurface archaeological potential within the study area. Further testing is therefore recommended in the area of moderate archaeological potential prior to development, to fully identify the nature and extent of Aboriginal occupation within the study area.



Legend




-  Study area
-  AHIMS Records
-  Proposed development

Figure 3: Proposed development showing Aboriginal sites located in the study area and vicinity

0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 23 August 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location: P:\24000s\24090\Mapping\24090_AR_E3_PropDev

7 Recommendations

The recommendations below respond specifically to the wishes of the registered Aboriginal parties. Recommendations regarding the archaeological value of the site, and the subsequent management of Aboriginal cultural heritage is provided in the archaeological report (Appendix 6).

Recommendation 1: Continued consultation with the registered Aboriginal parties

It is recommended that Cardno continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project. This recommendation is in keeping with the consultation requirements.

Recommendation 2: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 5). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010b) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010a).

Recommendation 3: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 4: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 5: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contractors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 6: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the *NSW National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 7: Cardno must abide by the conditions of the AHIP once obtained from OEH

The AHIP will be issued with conditions pertaining to the management and mitigation of Aboriginal heritage sites within the study area. These conditions will be outlined in Schedules A, B and C as follows:

- Schedule A: Aboriginal objects which must not be harmed.
- Schedule B: Aboriginal objects that may be harmed through certain actions.
- Schedule C: Aboriginal objects which may be harmed through the proposed works.

Cardno must undertake all further works to ensure the condition of the AHIP are met before construction begins.

Recommendation 8: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 9: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

4. Immediately cease all work at that location and not further move or disturb the remains
5. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
6. Not recommence work at that location unless authorised in writing by OEH.

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Appendices

Appendix 1 Consultation log

A1.1 Stage 1 – Notification of project proposal and registration of interest

Step 1- Identification of Aboriginal people/parties with an interest in the proposed study area.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Wollongong City Council (WCC)	15/06/2017 - Letter	29/06/2017 - email	Encouraged to refer to OEH List
NSW Office of Environment and Water (OEH)	15/06/2017 - Letter	26/08/2017 - email	Provided list of Aboriginal stakeholders
NSW Native Title Services Corporation Limited (NTSCORP Limited)	15/06/2017 - Letter	N/A	
Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners	15/06/2017 - Letter	26/08/2017 - email	Indicated there were no Aboriginal owners and to contact ILALC
National Native Title Tribunal (NNTT)	15/06/2017 - Letter	N/A	
South East Local Land Services	15/06/2017 - Letter	23/06/2017 - letter	Recommended to contact OEH
Illawarra Local Aboriginal Land Council (ILALC)	15/06/2017 - Letter	N/A	

Step 2- Public advertisement

The public notice was published in the Illawarra Mercury on the 20 June 2017. A copy of the advertisement is provided in Appendix 2.

Step 3- Registration of interest.

The registration period ran from the 27 June 2017 to the 11 June 2017. Leeway was given to Aboriginal parties/groups who provided responses shortly after the close of this period and they have been registered as Aboriginal parties for consultation.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Badu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bellambi Indigenous Corporation Gandangarra Traditional Owners	27/06/2017 - email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Bilinga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bilinga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Coomaditchie United Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Cullendulla (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Darug Land Observations	27/06/2017 - email	21/06/2017 - email	Registered interest
Dharug (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Duncan Falk Consultancy	27/06/2017 - email	10/07/2017 - email	Registered interest
Gadhu Dreaming	27/06/2017 - email	N/A	N/A
Garrara Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Goobah Development Pty Ltd (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Gundungurra Tribal Technical Services	27/06/2017 - email	N/A	N/A
Gunyu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Gunyu Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	27/06/2017 - letter	27/06/2017 - email	Registered interest
Illawarra Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Illawarra Local Aboriginal Land Council	27/06/2017 - email	N/A	N/A
Jerringong (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Karrial (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
Korewal Elouera Jerrungurah Tribal Elders Council	27/06/2017 - letter	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Kulila Site Consultants & Koori Site Management	27/06/2017 - letter	N/A	N/A
La Perouse Botany Bay Corporation	27/06/2017 - email	N/A	N/A
Minnamunnung	27/06/2017 - email	10/07/2017 - email	Registered interest
Munyunga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Munyunga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Murramarang (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Murrumbul (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Murrumbul Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - letter	N/A	N/A
NIAC	27/06/2017 - email	N/A	N/A
Nundagurri (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Pemulwuy (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
South West Rocks Corporation	27/06/2017 - letter	N/A	N/A
The Wodi Wodi Elders Corporation	27/06/2017 - email	N/A	N/A
Three Ducks Dreaming Surveying and Consulting	27/06/2017 - email	27/06/2017 - email	Registered interest
Walbunja (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Walgalu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Warra Bingi Nunda Gurri	27/06/2017 - email	21/06/2017 - email	Registered interest
Wingikara Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Gary Caines	27/06/2017 - email	N/A	N/A
James Davis	27/06/2017 - letter	30/06/2017 - email	Registered interest

Organisation contacted	Date and type of contact	Date and type of response	Response details
Ken Foster	27/06/2017 - letter	N/A	N/A
Norman Simms	27/06/2017 - email	N/A	N/A
Woronora Plateau Gundungara Elders Council	27/06/2017 - email	27/06/2017 - email	Registered interest
Wullung (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
The Wadi Wadi Coomaditchie Aboriginal Corporation	27/06/2017 - email	28/06/2017 - verbal	Registered interest
Tungai Tonghi	27/06/2017 - email	N/A	N/A

A1.2 Stage 2 – Presentation of information about the proposed project

Step 1- Provision of project information pack.

This information is currently out for review.

A1.3 Stage 3 – Gathering information about cultural significance

Step 1- Provision of project methodology pack and consultation meeting.

This information is currently out for review.

Step 2- Field survey

This section will be completed once comments are received from RAPs.

A1.4 Stage 4 – Review of draft report

This section will be completed once comments are received from RAPs.

Appendix 2 Stage 1: Notification of project proposal and registration of interest

Details will be inserted after draft stage.

Appendix 3 Stage 2: Presentation of information about the proposed project

Details will be inserted after draft stage.

Appendix 4 Stage 3: Gathering information about cultural significance

Details will be inserted after draft stage.

Appendix 5 Stage 4: Review of draft cultural heritage assessment report

Details will be inserted after draft stage.

Appendix 6 Archaeological report

Details will be inserted after draft stage.