

Northern Community Health Centre Re-development: Preliminary Aboriginal Cultural Heritage Assessment

FINAL

Prepared for Johnstaff on behalf of Health Infrastructure

05 June 2014

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LGA: Pittwater

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Aboriginal Community Groups

- Metropolitan Local Aboriginal Land Council

Biosis

- Alexander Beben for assistance in the field and technical support
- Ashleigh Pritchard for mapping

Abbreviations

ACHAR	Aboriginal Cultural Heritage Assessment Report
AGD	Australian Geodetic Datum
AHIMS	Aboriginal Heritage Information Management System
c.	Circa
CHL	Commonwealth Heritage List
CMA	Catchment Management Authority
CMP	Construction Management Plan
CoB	Close of Business
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water
DoP	Department of Planning
DP	Deposited Plan
DSEWPC	Department of Sustainability, Environment, Water, Population and Community
DV	Distance Visibility
DEWHA	Department of Environment, Water, Heritage and Arts
EPA	Environment Planning and Assessment

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1 Introduction

1.1 Project Background

Biosis Pty Ltd has been commissioned by Johnstaff on behalf of Health Infrastructure to undertake a preliminary Aboriginal cultural heritage assessment for the proposed re-development of a community health centre at Mona Vale Hospital. The assessment is undertaken in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005*.

The proposed development at Mona Vale Hospital is being undertaken as State Significant Development under the Part 4 of the *Environmental Planning and Assessment Act 1979 (EP & A Act)*. Director General's Environmental Assessment Requirements (DGRs) for the Mona Vale Community Centre were issued on 18 October 2013. This report presents an assessment of disturbance levels within the project area and its corresponding archaeological potential. The level of assessment undertaken for this report is considered sufficient to support an SSD application, considering the fact that all the proposed works will stay within the areas of previous disturbance and that all the topsoil has been previously removed from the area.

1.2 Project Area

The Project Area is located within Mona Vale Hospital on Coronation Street in Mona Vale (Figure 1). It is located within the Pittwater Local Government Area within an area designated Zone 5a – Special Uses. (Figure 2).

1.3 Planning Approvals

The proposed development will be assessed against Part 3 of the *Environmental Planning and Assessment Act 1979 NSW*. Director General's Environmental Assessment Requirements (DGRs) for the Mona Vale Community Centre were issued on 18 October 2013. Section 10 states that Aboriginal heritage should be addressed according to the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005) and *Aboriginal Cultural Heritage Consultation requirements for Proponents 2010*.

1.4 Assessment Objectives

The following is a summary of the major objectives of the assessment:

- Conduct background research in order to recognise any identifiable trends in site distribution and location.
- To search statutory and non-statutory registers and planning instruments to identify listed Aboriginal cultural heritage sites within the project area.
- To highlight environmental information considered relevant to past Aboriginal occupation of the locality and associated land use and the identification and integrity/preservation of Aboriginal sites.
- To summarise past Aboriginal occupation in the locality of the project area using ethnohistory and the archaeological record.
- To formulate a model to broadly predict the type and character of Aboriginal sites likely to exist throughout the project area, their location, frequency and integrity.

- To conduct a field survey of the project area to locate unrecorded or previously recorded Aboriginal sites and to further assess the archaeological potential of the project area
- To identify the impacts of the proposed development on any known or potential Aboriginal sites within the project area.
- To recommend strategies for the management of Aboriginal cultural heritage within the context of the proposed development.

Consultation with the Aboriginal community to identify potential Aboriginal cultural significance associated with the Project Area as per the *Aboriginal cultural heritage consultation requirements for proponents 2010* will be undertaken under separate instructions. Preliminary consultation for the current assessment was only undertaken with the Metropolitan Local Aboriginal Land Council.

The main purpose of this assessment is to identify whether there are Aboriginal cultural heritage values associated with the subject site, as required by Step 1 – Preliminary Assessment of the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005).

1.5 Investigators and Contributors

The roles, previous experience and qualifications of the Biosis project team involved in the preparation of this archaeological report are described below in Table 1.

Table 1: Investigators and Contributors

Ana Jakovljevic	Ba (PostGrad Diploma)	7 years experience
Ana Jakovljevic has over seven years experience as an archaeologist which includes archaeological surveys and excavations, documentation and analysis of cultural material and cultural heritage site assessments. Her skills also include site significance assessments and preparing cultural heritage management plans. Ana has also extensive experience during the construction phase of projects implementing recommendations set out as cultural heritage requirements. Working extensively on monitoring programs, Ana has developed excellent technical skills in baseline recording and impact assessments of Aboriginal shelter and grinding grooves sites. She has also worked on and has extensive technical skills in shell midden excavations and analysis. Ana has also authored and co-authored numerous cultural heritage assessment reports, archaeological reports and due diligence assessments.		Project Roles • Lead cultural heritage advisor • Aboriginal community consultation • Preparation of the report. • Development of test excavation methodology and recommendations
Alexander Beben	HA (Hons), MA (Archaeology)	8 years experience

Alexander Beben is a Senior Archaeologist with Biosis Pty Ltd Wollongong office. Alex has eight years archaeological experience and has conducted over 100 heritage projects across Australia and internationally in the UK and Italy. Alex has primarily undertaken projects on the east coast in New South Wales and Victoria and has a detailed understanding of the heritage values within the Illawarra, Sydney Basin, Cumberland Plain, Hunter Valley and rural areas such as Northern, Central West and Southern NSW. He has extensive experience in the successful completion of Aboriginal and Historical assessments, archaeological surveys, excavations, permits and management plans.

Alex is accomplished in obtaining approvals under the NSW *National Parks and Wildlife Act 1974* and NSW *Heritage Act 1977*. He has operated as the heritage consultant within large multidisciplinary teams tasked with delivering Environmental Impact Assessments (EIAs) under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and Commonwealth projects under the *Environment Protection and Biodiversity Act 1999* (EPBC Act).

Project Roles

- Technical Review
- Archaeological survey

Ashleigh Pritchard

Diploma of Spatial Information Services (GIS)

5 years experience

Ashleigh is a GIS Operator with the Wollongong office of Biosis Pty Ltd. She has five years experience in the field of mapping and has contributed to over 400 consultant reports in both the Natural and Cultural heritage teams across New South Wales, Victoria and Queensland for a diverse range of clients.

Ashleigh has utilised the functionality of GIS to undertake spatial analysis projects such as calculations of habitat loss as well as georeferencing and digitising. She has extensive experience in spatial data management and map production for large, ongoing impact monitoring projects in New South Wales

Ashleigh has experience in the use of GIS in assessing and preparing high quality maps to support information for biodiversity offset requirements, including mapping of vegetation at a regional scale, assessment of 100 hectare and 1000 hectare assessment circles, connectivity assessment, calculation of vegetation cover pre- and post-development and development of assessment tools using remote sensing and handheld computers (tablets).

Ashleigh has utilised a variety of software packages to create map products throughout her career including ArcMap, AutoCad and MapInfo Professional

Project Roles

- Mapping

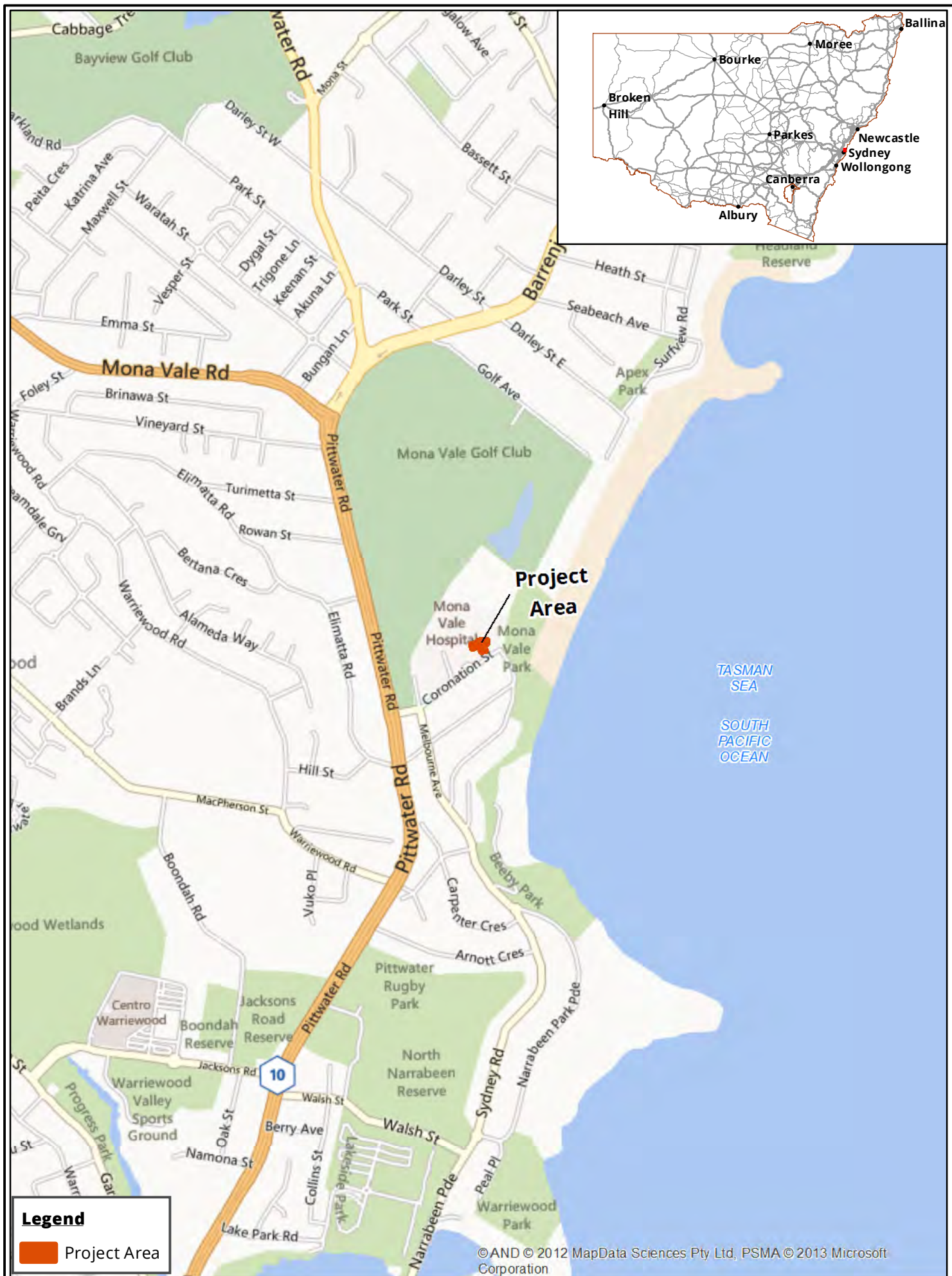
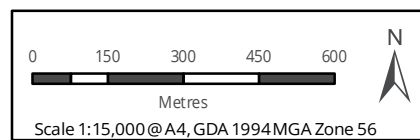


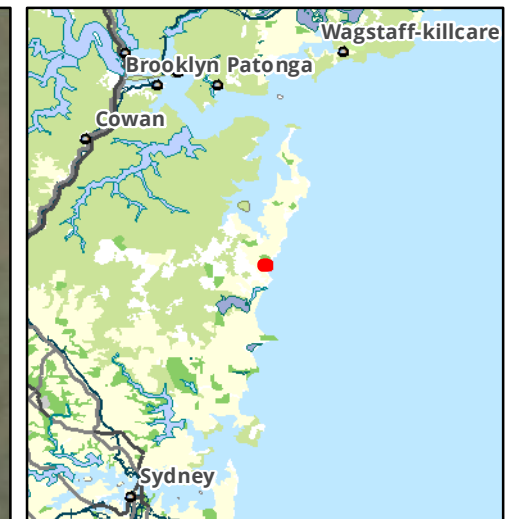
Figure 1: Location of the Project Area



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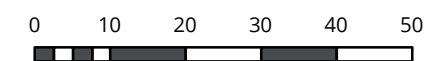


Legend

Survey Area

Project Area

Figure 2: Proposed Works



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



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

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2 Development Proposal

The proposed works consist of constructing a new building on the existing footprint of the existing Community Health Centre (Building 14) to its western and southern sides (Figure 2). Excavations are expected to be to a maximum depth of 3m below existing surface levels.

3 Desktop Assessment

A desktop assessment has been undertaken to review existing archaeological studies for the Project Area and surrounding region. This information has synthesised to develop an Aboriginal site prediction model for the Project Area and identify known Aboriginal sites and/or Places recorded in the Project Area. This Desktop Assessment has been prepared in accordance with requirements for Preliminary Assessment (Step 1) of the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005).

3.1 Landscape Context

It is important to consider the local environment of the Project Area in any heritage assessment. The local environmental characteristics can influence human occupation and associated land use and consequently the distribution and character of cultural material. Environmental characteristics and geomorphological processes can affect the preservation of cultural heritage materials to varying degrees or even destroy them completely. Lastly landscape features can contribute to the cultural significance that places can have for people.

3.1.1 Topography, Soil Landscapes and Hydrology

The Project Area is physiographically within *Erina Hills* region within the Sydney area (Chapman and Murphy 1989: 1). It is characterised by the low undulating hills. The underlying geology consists of the Narrabeen Group Triassic in age (251 to 201 million years ago). Sediments consist of interbedded laminate, shale, quartz sandstone and lithic sandstone. No watercourses cross the Project Area. The coast is approximately 270m to the east, and the closest waterway is Narrabeen Creek approximately 1km to the west of the Project Area.

The Project Area is situated within rolling low hills. The landform pattern of the Project Area is described as "Low Hills", defined by Speight as a 'gentle to very steep slopes, typically with fixed, erosional stream channels, closely to very widely spaced, which form a non-directional or convergent, integrated tributary pattern with continuously active sheet flow, creep and channelled stream flow' (2009: 66). Landform element associated with the Low Hills landform pattern and present within the Project Area is hillslope. Hillslope is defined as 'very gently inclined to precipitous slope, commonly simple and maximal, eroded by sheet wash, creep or water-aided mass movement' (Speight 2009: 39).

The soils derived from the above mentioned geological formations within the Project Area are within Watagan (wa) soil landscape as mapped on the Sydney 1:100,000 mapsheet (Chapman and Murphy 1989). Each soil landscape has distinct morphological and topological characteristics that result in different archaeological potential. Soil landscapes are defined by a combination of soils, topography, vegetation and weathering conditions and, therefore, they are terrain units that provide a useful way to summarise archaeological potential and exposure.

Watagan soil landscape is colluvial, consisting of soil and debris that accumulate at the base of a slope by mass wasting or sheet erosion. The Watagan soil landscape is characterised by rolling to very steep low hills with local relief of 60 to 120m. Hillslopes are usually moderately steep containing sandstone boulders. The soils are moderately deep (100-200cm), slightly acidic to acidic (pH 6 – 5) with boundaries of soil material often clear to sharp. Typical Watagan soil landscape occurring on moderately steep hillslopes with shale bedrock which is within the Project Area is detailed in Table 2 below.

Table 2: Watagan Soil Landscape Characteristics (Chapman and Murphy 1989).

Soil Material	Description
Watagan 1 (wa1)	Loose, stony, brownish black loamy sand to sandy loam; occurs as Horizon A1 – topsoil up to 15cm depth; colour varies from brownish black to black with pH moderately to slightly acid (pH 5 -6).
Watagan 2 (wa2)	Hardsetting brown loam to fine sandy clay loam; occurs as Horizon A2 to depths of between 20 and 30cm; colour varies from brownish black to yellowish brown with pH from 5 to 6; sandstone fragments may be common and often occur as a stone line in the base of this material.
Watagan 4 (wa4)	Light to medium clay that occurs as subsoil – Horizon B - on shale or siltstone bedrock; colours range from dark brown to dark reddish brown in drained areas; it occurs to depths between 30 and 90cm; this soil is usually moderately acid with pH 5.5.

Colluvial soils are less likely to retain any archaeological materials *in situ* as the movement of sediments can cause post-depositional movements of cultural material. Archaeological potential is greater in areas that have sandstone outcrops or overhangs that very often contain shelters or engraving and grinding grooves sites.

3.1.2 Landscape Resources

The Project Area and its vicinity provided a variety of food, material and shelter resources extensively used by Aboriginal people in the past. Rock shelters formed in the Hawkesbury sandstone were used by Aboriginal people for occupation and protection from elements. Rock shelters are usually found on the edges of steep gullies in the plateau but can occur on suitable sandstone outcrops in a variety of landform elements. Exposed sandstone platforms with running or leaching water were used for sharpening of axes and other edge ground tools.

Other lithic materials, such as Quartz, provided the main stone raw material suitable for tool manufacturing and can be found in the form of pebbles derived from the Hawkesbury Sandstone that outcrops within Hornsby Plateau, a physiographical region located to the immediate west of the *Erina Hills* region (Chapman and Murphy 1989: vi).

Diverse landforms and perennial water sources would have supported a diverse range flora and fauna communities. Headlands that are located within the vicinity of the Project Area would consist predominantly of coastal heath with the bedrock usually determining the dominant species. Coastal headland Clay Heath is restricted to the headlands present within the vicinity of the Project Area such as Turimetta Head. Dominant species are Kangaroo Grass (*Themeda australis*) coastal rosemary (*Westringia fruticosa*), rusty petals (*Lasiopetalum ferrugineum*) and coastal wattle (*Acacia longifolia*). These vegetation communities support wallabies, bandicoots, quolls as well as birds (NPSW 2002). Along the waterways there would also have been frogs, platypus and within the waters numerous fish species such as perch, eels and galaxias.

Many plants found within the Project Area and its surroundings were important to Aboriginal people and were used for food, making implements, shelter and medicines. Within the project area it was noted that burrawang or *Macrozamia communis* were present, this is an unusual food plant within the Sydney area. It is a poisonous kernel of pine or nut which required preparation before it was edible. Historical observations of this plant's use relate to the Broken Bay area around Pittwater (Attenbrow 2010: 78) to the north of the Project Area. Animals were hunted for food and materials, but they have also provided significant contribution to the social and ceremonial aspects of Aboriginal life. Mammals such as kangaroos and wallabies and arboreal mammals such as possums can be used as a food source and also for tool making.

Tail sinews are known to have been used as a fastening cord, whilst 'bone points' would have functioned as awls or piercers. Animal bone, teeth, fur, feathers, sinew, claws, talons and shell were noted by the early colonists to have been used by Aboriginal people for making implements, weapons and as personal adornments (Attenbrow 2010: 117).

3.1.3 Land Use History and Previous Disturbance

The project Area and its surroundings have been previously significantly disturbed due to the urbanisation. Extensive clearings and modifications of the landscape have taken place over the last 150 years. Construction of roads and hospital buildings has removed the topsoil in its entirety that might have contained Aboriginal cultural material.

Environmental Investigation Services (2013) have undertaken Preliminary Contamination Assessment for the proposed community health centre. Geotechnical investigations have been carried out with seven boreholes excavated throughout the Project Area. One borehole (BH 1) was excavated to the north of the existing building 14. It revealed fill material to the depth of 1.05m and then natural clay deposit to the end of the borehole at 6.45m. Three boreholes (BH 2, 3 and 7) were excavated to the west of the existing building 14, within the grassed area toward the existing building 15. Borehole 2 was the closest to the existing building 14 and it revealed fill material to the depth of 700mm, and the natural clay to the end of borehole at 6.45m. Boreholes 3 and 7 were excavated further away towards the existing building 15 and they revealed fill to the levels of 1.25m and 1m respectively. Three boreholes were excavated to the south of the existing building 14 within the grassed area. Boreholes 5 and 6 were placed to the southwest end of the building 14 and they revealed fill material to depths of 750mm and 700mm respectively with the natural clay layers to the end of boreholes at 6.45m. Borehole 4 was excavated to the south-east of the existing building 14. It revealed a fill material to the depth of 2.4m, natural clay layer to 5.1m that overlies sandstone to the end of borehole at 6.1m. Fill material within the geotechnical report was described as comprising of silty sand or silty clay that has been brought from various sources that contain inclusions of gravel and root fibres (EIA 2013: 12-13).

The geotechnical results indicate that the area has undergone significant modifications in the past that have resulted in total removal of natural topsoils. Fill materials are confirmed to be present to the depths between 700 and 2400mm and then natural subsoil clay deposits with the bedrock encountered in one of the boreholes. Topsoil deposits Horizons A1 and A20 are not present within the Project Area.

3.2 Review of Previous Archaeological Work

A large number of cultural heritage surface (surveys) and sub-surface (excavations) investigations have been conducted throughout New South Wales in the past 30 years. There has been an increasing focus on cultural heritage assessments in NSW due to ever increasing development, along with the legislative requirements for this work and greater cultural awareness of Aboriginal cultural heritage.

The majority of south coast Aboriginal sites date to the last 6,000 years when the sea-level stabilised following the end of the last Ice Age. Prior to this, sea levels were lower and the coast was located much further inland, about 14km to the east of its current position. Coastal sites older than 6,000 years are rare, as most would have been most likely inundated by the rising sea. Pleistocene-age Aboriginal sites on the south coast include a rock shelter at Burrill lake (located approximately 150km south of the study area) which has been dated to 20,830±810BP (ANU-138) (Lampert 1971:122) and a coastal midden at Bass Point dated to 17,010±650BP (ANU-536) (Bowdler 1976:254).

3.2.1 Regional overview

A number of Aboriginal cultural heritage investigations have been conducted for the Sydney region. Models for predicting the location and type of Aboriginal sites with a general applicability to the Sydney region and

thus relevant to the Project Area have also been formulated, some as a part of these investigations and others from cultural heritage investigations for relatively large developments.

Over 5,000 archaeological sites have been recorded in the Sydney region. Middens and artefacts scatters that occur both in shelters and open locations, comprise more than half of all recorded sites. More middens are recorded in rock shelters (60%) than in open locations (40%), but more artefact scatters are recorded in open locations (74%) than in shelters (26%) (Attenbrow 2010: 49). Not all the site types are uniformly distributed across the Sydney region and they will depend on geomorphological, environmental and cultural characteristics, as well as preservation levels. Larger number of sites are associated directly with sandstone - rock shelters with art, middens and deposits, engraved images and grinding grooves on rock platforms and stone arrangements – and they constitute almost 70% of all recorded sites.

Very little archaeological works has been undertaken previously within the vicinity of the Project Area. **Byrne (1984)** has undertaken archaeological survey of the northern section of the Palm Beach Barrier that is located approximately 10km north of the Project Area. He reviewed middens that occur within Pittwater side and on the pacific side of Barrenjoey Peninsula. It was concluded that middens n the pacific side contain large amount of estuarine species.

Brayshaw & McDonald conducted in **1987** an archaeological survey of Bicentennial Coastal Walkway from Queenscliff to Palm Beach. The current Project Area is approximately 200m from one section of this surveyed walkway. Total of five new sites and one area of scattered shell were recorded during this survey, comprising of shell middens, three of them within shelters and two in the open. Only one shelter with midden deposit required further assessment as it was the only site that was in good condition and relatively undisturbed. All of the other sites were either completely or partially destroyed and had a very low or none archaeological potential.

3.2.2 Ethnography

It is generally accepted that people have inhabited the Australian landmass for the last 50,000 years (Allen and O'Connell 2003). Dates of the earliest occupation of the continent by Aboriginal people are subject to continued revision as more research is undertaken. The timing for the human occupation of the Sydney Basin is still uncertain. While there is some possible evidence for occupation of the region around 40,000 years ago, the earliest known radiocarbon date for the Aboriginal occupation of the Sydney Basin is associated with a cultural / archaeological deposit at Parramatta, which was dated to $30,735 \pm 407$ BP (JMCHM 2005a and 2005b).

Our knowledge of Aboriginal people and their land-use patterns and lifestyles prior to European contact is mainly reliant on documents written by non-Aboriginal people. These documents are affected by the inherent bias of the class and cultures of their authors, who were also often describing a culture that they did not fully understand - a culture that was in a heightened state of disruption given the arrival of settlers and disease. Early written records can however be used in conjunction with archaeological information and surviving oral histories from members of the Aboriginal community in order to gain a picture of Aboriginal life in the region.

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

David Collins, Governor Phillip, Philip Gadley King and Watkin Tench described several named groups, and one of them particularly refers to the Project Area:

- Garigal refers to as the name of 'a man, or a tribe, who resided to the northward'; 'the man's name was Caregal... he lived at, or near Broken-Bay' (Philip in Hunter 1793 [1969]:465; in: Attenbrow 2010: 25).

There is some confusion relating to group names, which can be explained by the use of differing terminologies in early historical references. Language groups were not the main political or social units in Aboriginal life. Instead, land custodianship and ownership centred on the smaller named groups that comprised the broader language grouping. There is some variation in the terminology used to categorise these smaller groups; the terms used by Attenbrow (2010) will be used here.

The project area is within in the vicinity of the Darug (coastal) language group. Attenbrow (2010: 34) suggests:

- Darug, coastal dialect(s) – the Sydney Peninsula (north of Botany Bay, south of Port Jackson, west to Parramatta), as well as the country to the north of Port Jackson, possibly as far as Broken Bay.

These areas are considered to be indicative only and would have changed through time.

After the arrival of European settlers the movement of Aboriginal hunter-gatherers became increasingly restricted. European expansion along the Cumberland Plain was swift 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 (Brooks et al 2003: 16). At the same time diseases such as small pox were having a devastating affect 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.

3.2.3 AHIMS site analyses

The Office of Environment and Heritage (OEH) maintains a database of Aboriginal sites within NSW under Part 6 of the NSW National Parks and Wildlife Act 1974. Aboriginal objects and places in NSW are legally required to be registered on the Aboriginal Heritage Information Management System (AHIMS) register.

A search of the NSW Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) was conducted on the 15 November 2013. No Aboriginal archaeological sites listed on AHIMS are currently within the Project Area; three sites are located within 1km (Table 3). Previously recorded Aboriginal archaeological sites are shown in Figure 3. *This figure and table contain sensitive cultural information and they should not be made public.*

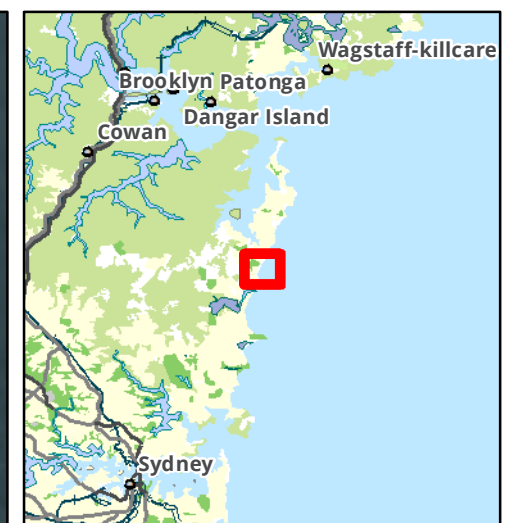
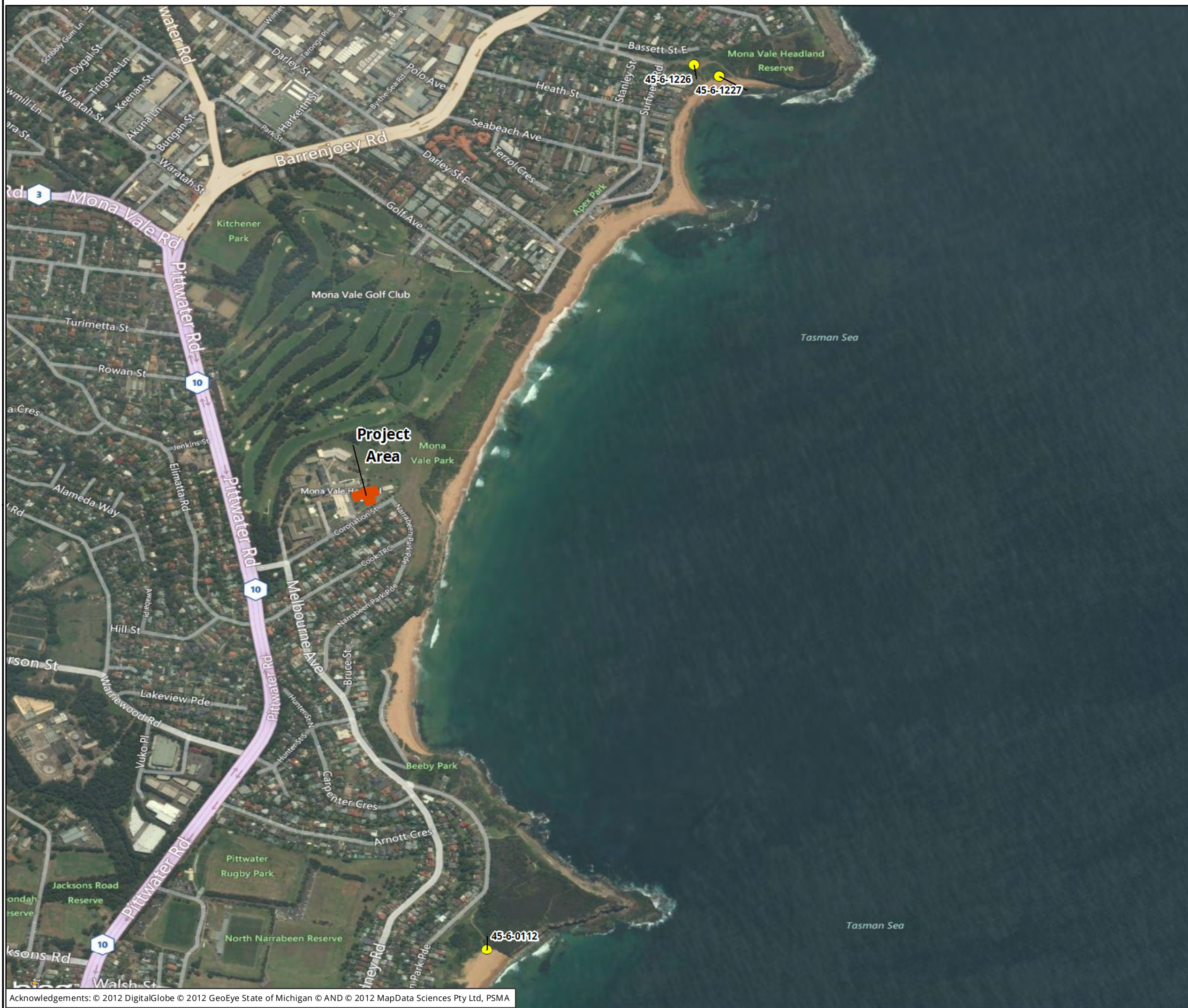
Table 3: AHIMS sites present within the Vicinity of the Project Area.

AHIMS Site No.	Site Name	Site Type
45-6-1226	Mona Vale Beach; Midden	Shell Midden
45-6-0112	Turimetta Head	Shelter with Midden
45-6-1227	Mona Vale Beach	Shell Midden

All three previously recorded Aboriginal sites are middens, one of them located within the shelter. The closest is approximately 800m to the south (Turimetta Head, AHIMS 45-6-0112) and is a shelter with midden deposit. This site was revisited during the archaeological survey by Brayshaw & McDonald in 1987 and it was observed that there was a lot of European garbage dumped at the site (1987: 16). The site is located under a cliff line at Turimetta Head and contains black humic sandy loam deposit with shell material and one artefact. Two other

sites (AHIMS 45-6-1226 and 45-6-1227) are located within the coastal landform in the open, approximately 900m north of the Project Area.

None of the previously recorded Aboriginal sites within the vicinity of the Project Area are located within the same landform as the Project Area.



Legend

● AHIMS Records

Survey Area

■ Project Area

Figure : AHIMS records near the Project Area

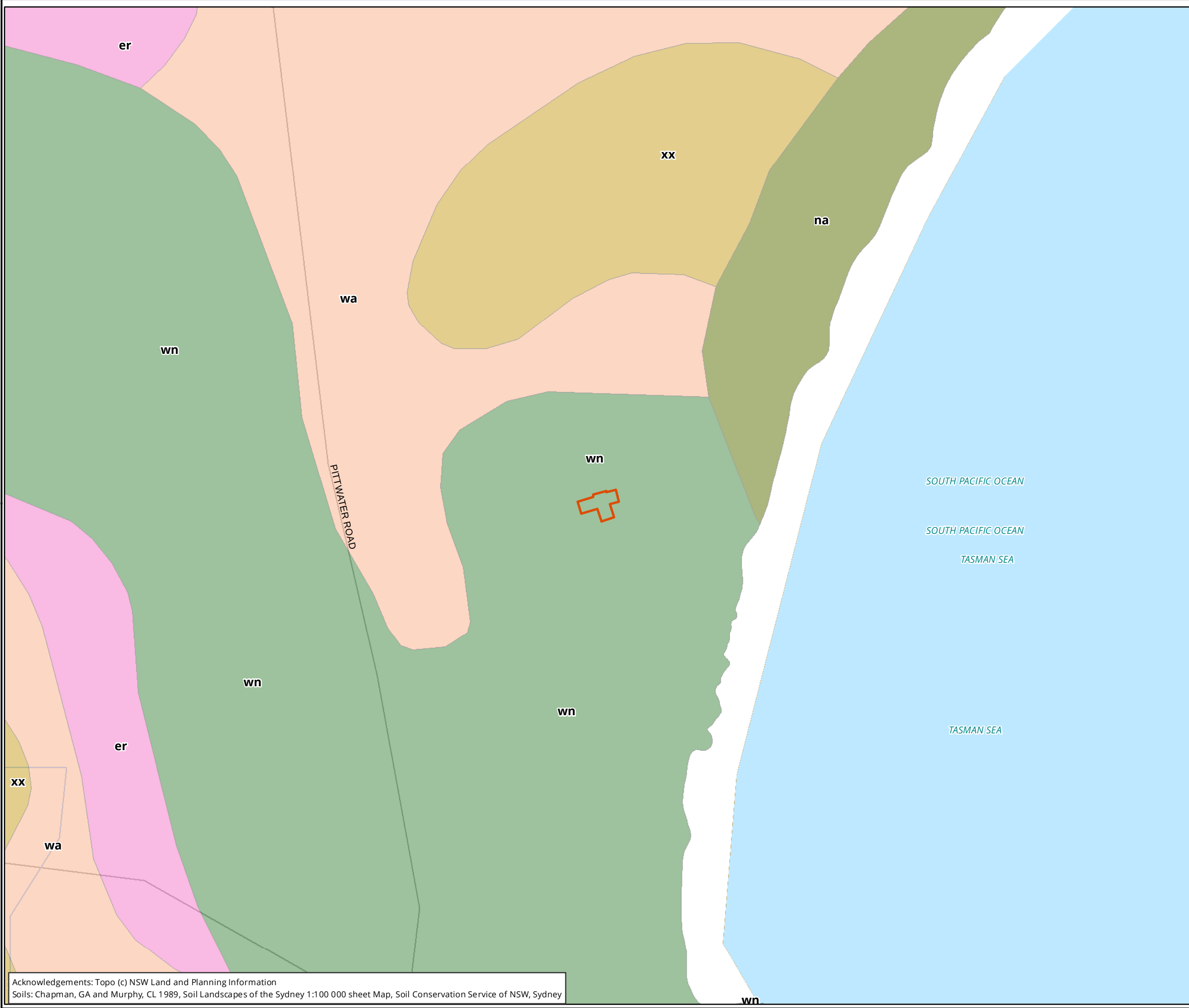
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Location: P:\17400s\17412\Mapping\17412_F3_AHIMS.mxd



Legend

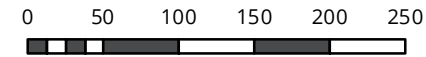
NAME, CODE

-  DISTURBED TERRAIN (xx)
-  ERINA (er)
-  NARRABEEN (na)
-  WARRIEWOOD (wa)
-  WATAGAN (wn)

Survey Area

-  Project Area

Figure 4: 100,000 soil landscapes near the Project Area



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

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

Matter: 17412
Date: 21 November 2013
Checked by: AJ, Drawn by: ANP, Last edited by: apritchard
Location: P:\17400s\17412\Mapping\17412_F4_Soils

Acknowledgements: Topo (c) NSW Land and Planning Information
Soils: Chapman, GA and Murphy, CL 1989, Soil Landscapes of the Sydney 1:100 000 sheet Map, Soil Conservation Service of NSW, Sydney

3.2.4 Predictive Model

A model has been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist(ed) throughout the Project Area and where they are more likely to be located.

This model is based on:

- Site distribution in relation to landscape descriptions within the Project Area
- Consideration of site type, raw material types and site densities likely to be present within the Project Area
- Findings of the ethnohistorical research on the potential for material traces to present within the Project Area
- Potential Aboriginal use of natural resources present or once present within the Project Area
- Consideration of the temporal and spatial relationships of sites within the Project Area and surrounding region

Based on this information, a predictive model has been developed, indicating the site types most likely to be encountered during the survey and any potential future sub-surface investigations across the present Project Area (Table 44). The definition of each site type is described firstly, followed by the predicted likelihood of this site type occurring within the Project Area.

Table 4: Aboriginal Site Prediction Statements

Site Type	Site Description	Potential
Flaked Stone Artefact Scatters and Isolated Artefacts	Artefact scatter sites can range from high-density concentrations of flaked stone and ground stone artefacts to sparse, low-density 'background' scatters and isolated finds.	Moderate: Stone artefact sites have been previously recorded in the region across a wide range of landforms; they have moderate potential to be present in undisturbed areas within the Project Area.
Shell Middens	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Moderate: Shell midden sites have not been recorded within the vicinity of the Project Area. There is a potential for shell middens to be located on the high grounds within the easy access to rock platforms. There is a medium potential of Shell Middens being present within the Project Area within the undisturbed areas.
Quarries	Raw stone material procurement sites.	Low: There is no record of any quarries being within or surrounding the Project Area.
Potential Archaeological Deposits (PADs)	Potential sub surface deposits of cultural material.	Moderate: They have the potential to be present in undisturbed landforms.

Site Type	Site Description	Potential
Scarred Trees	Trees with cultural modifications	Very Low: No mature native trees have survived within the Project Area, due to extensive vegetation clearing from the 1800's onwards.
Axe Grinding Grooves	Grooves created in stone platforms through ground stone tool manufacture.	Very Low: The geology of the Study Area lacks suitable horizontal sandstone rock outcrops for axe-grinding grooves. Therefore there is low potential for axe grinding grooves to occur in the Project Area.
Burials	Aboriginal burial sites.	Very Low: Aboriginal burial sites are generally situated within deep, soft sediments, caves or hollow trees. Areas of deep sandy deposits will have the potential for Aboriginal burials. The soil profiles associated with the Project Area are not commonly associated with burials.
Rock shelters with art and / or deposit	Rock shelter sites include rock overhangs, shelters or caves, and generally occur on, or next to, moderate to steeply sloping ground characterised by cliff lines and escarpments. These naturally formed features may contain rock art, stone artefacts or midden deposits and may also be associated with grinding grooves.	Very Low: The sites will only occur where suitable sandstone exposures or overhangs possessing sufficient sheltered space exist, which are not present in the Project Area.
Aboriginal Ceremony and Dreaming Sites	Such sites are often intangible places and features and are identified through oral histories, ethnohistoric data, or Aboriginal informants.	Low: There are currently no recorded mythological stories for the Project Area.
Post-Contact Sites	These are sites relating to the shared history of Aboriginal and non-Aboriginal people of an area and may include places such as missions, massacre sites, post-contact camp sites and buildings associated with post-contact Aboriginal use.	Low: There are no post-contact sites previously recorded in the Project Area and historical sources do not identify one.
Aboriginal Places	Aboriginal places may not contain any "archaeological" indicators of a site, but are nonetheless important to Aboriginal people. They may be places of cultural,	Low: There are currently no recorded Aboriginal historical associations for the Project Area.

Site Type	Site Description	Potential
	spiritual or historic significance. Often they are places tied to community history and may include natural features (such as swimming and fishing holes), places where Aboriginal political events commenced or particular buildings.	

4 Archaeological Survey

A field survey of the Project Area was undertaken on the 13 December 2013. The field survey sampling strategy, methodology and a discussion of results are provided below.

4.1 Archaeological Survey Aims

The principle aims of the survey were to:

- To undertake a systematic survey of the Project Area targeting areas with the potential for Aboriginal heritage.
- Identify and record Aboriginal archaeological sites visible on the ground surface; and,
- Identify and record areas of potential archaeological deposits (PADs).

4.2 Archaeological Survey Methodology

The survey methods were intended to assess the Project Area to determine whether any archaeological material from Aboriginal occupation or land use exists within the Study Area.

4.2.1 Survey Methods

The archaeological survey was conducted on foot with a field team of two members, Alexander Beben (Biosis archaeologist) and Adam madden (Metropolitan LALC Site Officer).

Where possible, identification of natural soil deposits within the Project Area was undertaken. Photographs and recording techniques were incorporated into the survey including representative photographs of survey units, landform, vegetation coverage, ground surface visibility and the recording of soil information for each survey unit were possible. Any potential Aboriginal objects observed during the survey were documented and photographed. The location of Aboriginal cultural heritage and points marking the boundary of the landform elements were recorded using a hand-held Global Positioning System and the Map Grid of Australia (94) coordinate system.

4.3 Survey Results

4.3.1 Ground Surface Visibility and Observed Disturbance

Ground surface visibility is usually a percentage estimate of the ground surface that is visible and allowing for the detection of cultural material that may be present on the ground surface. The primary factor that affects visibility is vegetation cover; however other factors such as introduced fill will also significantly hamper visibility and surface site detection. The Project Area has an existing building, carpark and grassed landscaped areas to the north, west and south of the building (Plate 1). Ground surface visibility varied from 0% within the existing concrete pathways and carpark, and about 2% in other grassed areas. There were limited areas of exposures, approximately 5% (Plate 2).

Observed disturbances during the site visit included existing building, carpark and pathways. Previous extensive landscaping was also observed throughout the Project Area (Plate 3), as well as numerous existing services (Plate 4). These previous works would most likely have removed topsoils and significantly modified the original, natural landscape.



Plate 1: Typical ground surface visibility within the Project Area.



Plate 2: Noticed disturbances within the Project Area.



Plate 3: Observed landscaping and the existing services and structures within the Project Area.

No Aboriginal objects were located within the Project Area.

A representative from Metropolitan LALC, Adam Madden, attended the site on 13 December 2013. He agreed that the areas have undergone significant modifications in the past and that the potential for Aboriginal cultural material to be present was very low.

5 Impact Assessment

No known Aboriginal objects or places will be impacted by the proposed works.

The Project Area is located approximately 270m from the coast on the hillslope landform within easy access to the rock platform. All of the previously recorded Aboriginal sites are located within beaches and areas that have suitable sandstone overhangs for shelter sites. Background review of the soil characteristics within the Project Area indicates that the topsoil is very shallow and is not more than 300mm deep. Topsoil is the only soil horizon that has potential to contain archaeological deposits. However, the Project Area has undergone previous extensive disturbance due to the construction of existing Community Health Centre and car park at its southern side. Geotechnical investigations undertaken to the north, west and south of the existing building 14 have confirmed that the natural topsoil has been totally removed from the entire area. The potential for Aboriginal cultural material to be present within the Project Area is assessed as very low.

All proposed works are within areas that have proven to have undergone significant previous ground disturbance and do not contain topsoils. No further Aboriginal cultural heritage investigations are required; however, work should proceed with caution. Contingency plans should be put in place to cover finds of unanticipated cultural material.

This assessment has been prepared in accordance with a robust methodology designed to ascertain the likelihood of Aboriginal archaeological objects or sites. This included a desktop assessment, analysis of geotechnical investigations undertaken in the Project Area, results of the site survey and the consultation with Metropolitan LALC. The assessment has concluded that further investigation would be excessive and unlikely to yield information which would alter the management recommendations made in this document. This conclusion is in line with the Step 1 of the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005). Consequently, further assessment is not required, as the primary assessment concluded that it is not likely that any cultural heritage values will occur within the proposed development.

6 Recommendations

Strategies have been developed based on the archaeological (significance) of cultural heritage relevant to the Project Area and influenced by:

- Predicted impacts to Aboriginal cultural heritage;
- The planning approvals framework;
- Current best conservation practise, widely considered to include:
 - The Burra Charter; The Australia ICOMOS charter for the conservation of places of cultural significance (2013: Burra Charter); and,
 - *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005).

Prior to any impacts occurring within the Project Area, the following is recommended:

Recommendation 1: Proposal to proceed without further archaeological input

The work described in this report can proceed without further assessment or approval as no Aboriginal objects or places have been identified as occurring within the Project Area and the potential of locating them during the proposed works is assessed as low. This recommendation is according to the Step 1 – Preliminary Assessment of the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005) that states if it is determined that Aboriginal cultural heritage values are not likely to occur on the proposed development site, no further assessment is required.

Recommendation 2: Consultation with the Aboriginal community as required by DGRs in accordance with the OEH Aboriginal cultural heritage consultation guidelines 2010.

As required by DGRs consultation with the Aboriginal community will be undertaken as per the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW).

Recommendation 3: Discovery of unanticipated Aboriginal cultural material

If Aboriginal objects are unearthed during construction, their management should be included in the EIS, that should include procedures for dealing with unexpected finds. The following contingency plan describes the actions that should be taken in instances where Aboriginal cultural material any such discovery at the activity area must follow these steps:

1. **Discovery:** Should unanticipated Aboriginal cultural material be identified during any works, works must cease in the vicinity of the find.
2. **Notification:** A qualified archaeologist should be notified, as well as OEH and Aboriginal stakeholders.
3. **Management:** In consultation with OEH, the Metropolitan Local Aboriginal Land Council and a qualified archaeologist, a management strategy should be developed to manage the identified Aboriginal cultural material.
4. **Recording:** The find will be recorded in accordance with the requirements of the OEH guidelines.

Recommendation 4: Discovery of Unanticipated Human Remains

The following contingency plan describes the actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the activity area must follow these steps:

1. **Discovery:** If suspected human remains are discovered all activity in the vicinity of the human remains must stop to ensure minimal damage is caused to the remains, and the remains must be left in place, and protected from harm or damage.
2. **Notification:** Once suspected human skeletal remains have been found, the Coroners Office and the NSW Police must be notified immediately. Following this, the find must be reported to OEH and it is recommended that it is also reported to the Metropolitan Local Aboriginal Land Council.
3. **Management:** If the human remains are of Aboriginal ancestral origin an appropriate management strategy will be developed in consultation with Aboriginal Stakeholders and OEH.
4. **Recording:** The find will be recorded in accordance with the requirements of the OEH guidelines.

References

Attenbrow, V. 2010. *Sydney's Aboriginal Past. Investigating the Archaeological and Historical Records*. University of New South Wales. Sydney.

Brayshaw McDonald Pty Ltd. 1987. Archaeological Survey of Bicentennial Coastal Walkway Queenscliff – Palm Beach. Unpublished report prepared for Warringah Shire Council.

Byrne, D. 1984. Aboriginal Sites on the Palm Beach Barrier: An archaeological survey of the northern section of the Palm Beach Sand Barrier. N.P.W.S.

Chapman, G.A. and C.L. Murphy. 1989. *Soil Landscapes of the Sydney 1:100000 Sheet*. Soil Conservation Service of NSW, Sydney.

Department of Environment and Conservation (now Department of Environment, Climate Change and Water). (2005). *'Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation'*. NSW Department of Environment, Climate Change and Water, Sydney NSW.

Appendices

Appendix 1 - AHIMS Results

THE FOLLOWING APPENDIX IS NOT TO BE MADE PUBLIC

