

22 March 2018

Mr Luke Rollinson
Director, Town Planning
MMJ Real Estate
6-8 Regent St, PO Box 1167
Wollongong NSW 2500

Dear Mr Luke Rollinson

Re: Aboriginal due diligence advice: Lot 1 Military Road, Port Kembla
Our Ref: Matter 26366

Biosis Pty Ltd has been commissioned by MMJ real Estate on behalf of Mr Olly Vujic to provide Aboriginal due diligence advice for the proposed development at Lot 1 Military Road, Port Kembla (the study area) (Figure 1 and Figure 2). The project involves an assessment required to support a rezoning proposal to Wollongong City Council to rezone the land within the study area from B4 mixed use to R3 medium density residential and RE2 private recreation under the Wollongong *Local Environmental Plan 2009* (LEP). The purpose of this advice is to assist the client in exercising due diligence in determining whether the project will involve activities that may harm Aboriginal objects and to determine whether consent in the form of an Aboriginal Heritage Impact Permit (AHIP) is required.

The *National Parks and Wildlife Act 1974* (NPW Act) provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm. Harm is defined to mean destroying, defacing, damaging or moving an object from the land. There are a number of defences and exemptions to the offence of harming an Aboriginal object or place. The NPW Act states that a person or organisation who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence of unknowingly harming an object without an Aboriginal Heritage Impact Permit (AHIP).

The NPW Act allowed for a generic code of practice to explain what due diligence means. As a result, the National Parks and Wildlife Regulation 2009 (NPW Regulation) adopted the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010a) ('the code'). The code sets out the reasonable and practicable steps which individuals and organisations need to take in order to:

- Identify whether or not Aboriginal objects are, or are likely to be, present in an area.
- Determine whether or not their activities are likely to harm Aboriginal objects (if present).
- Determine whether an AHIP application is required.

This advice follows the code and includes a background review, as well as an archaeological survey in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) ('the Code') was conducted, in order adequately map areas of high, moderate and low

archaeological sensitivity. It is useful to determine whether the Code is applicable to the proposed project. The Code outlines a series of questions to clarify this, responses to these questions are outlined in Table 1.

Table 1 Questions required to determine the applicability of the code

Question	Response
Is the activity a declared project under Part 3A of the EP&A Act?	No
Is the activity an exempt activity listed in the National Parks and Wildlife Act or other legislation?	No
Will the activity involve harm that is trivial or negligible?	No
Is the activity in an Aboriginal Place or are you already aware of Aboriginal objects on the land?	No
Is the activity a low impact activity for which there is a defence in the Regulation?	No
Do you want to use an industry specific code of practice?	No
Do you wish to follow your own procedure?	No

As none of the above questions apply to the project, due diligence must be established through using the code. The code consists of a series of five steps outlined below.

Step 1: Will the activity disturb the ground surface or any culturally modified trees?

The proposed works are to include a small housing lot which fronts Marne Street to the south, medium density housing products, such as town houses and terraces, basement parking and some individual garages on ground level. Pedestrian access ways as through-links from Military road and Reservoir Street. Controlled access points for vehicular movements from Marne, Reservoir and Electrolytic Streets to and from the site. Three story residential flat buildings are proposed at the northern end of the site. A 'green zone' is proposed along the northern boundary as a buffer from nearby industry land and activities.

The activity will disturb the ground surface and/or any culturally modified trees and therefore consideration of Steps 2a and 2b of the code is required.

Step 2a. Search the AHIMS database and use any other sources of information of which you are already aware

An extensive search of the AHIMS database was conducted on 18th December 2017 (Client service ID: 318558). The search identified 87 Aboriginal archaeological sites within a 5 kilometre search area, centred on the proposed study area (Table 2). None of these registered sites are located *within* the study area (Figure 3). The mapping coordinates recorded for these sites were checked for consistency with their descriptions and location on maps from Aboriginal heritage reports where available. These descriptions and maps were relied where notable discrepancies occurred.

Table 2 AHIMS Sites within the vicinity of the study area

Site type	Occurrences	Frequency (%)
Burial	2	2.3
Burial, Midden	2	2.3
Burial, Open Camp Site	1	1.1
Ceremony/Dreaming	6	6.9
Isolated Find	2	2.3
Midden	27	31.0
Midden, Open Camp Site	15	17.2
Midden, Open Camp Site, Burial	1	1.1
Midden, PAD	3	3.4
Open Camp Site	24	27.5
PAD	3	3.45
Scarred Tree	1	1.1
TOTAL	87	100%

A simple analysis of the Aboriginal cultural heritage sites registered within 5km of the study area indicates that the dominant site type is Midden representing 31 % (n=27), with Open Camp Site of 27% (n=24). Midden, Open Camp Site was represented by 17% (n=15). All the sites were located within close proximity to the reliable sources of water, were either exposed by the land clearing works (artefact scatters), in the areas with remnant native vegetation (scarred trees) or within areas of relevant sandstone outcrops for grinding grooves and overhang development (shelters with art/deposit).

A review of the reports held by AHIMS identified several archaeological studies have been undertaken within/in the locality of the study area. These include:

AMBS (2010) conducted an Aboriginal and historic heritage assessment for the proposed water and wastewater infrastructure for the West Dapto Urban Release Area. Over the balance of the study area were there 309 registered Aboriginal sites and 328 heritage items. An assessment of the overall study area identified that 12% of the study area was assessed as having high archaeological significance, 74% as having moderate significance and 14% as having low significance. It was recommended that all registered Aboriginal sites and areas assessed of high archaeological significance, all 328 listed and 94 unlisted heritage items be avoided when planning the pipelines and other assets.

Niche (2015) were commissioned by Wollongong City Council (WCC) to complete a review and update an existing Conservation Management Plan for Hill 60 Reserve. It was concluded that the state significant heritage complex had tangible and non-tangible connections. The reserve contains a unique group of Aboriginal sites that demonstrates its Aboriginal use and evolving history in the struggle for land rights. Niche recommended that the reserve should be conserved and managed by WCC to ensure its heritage values were protected.

Step 2b. Activities in areas where landscape features indicate the presence of Aboriginal objects

In order to determine whether the activity within landscape features is likely to contain Aboriginal objects a review of information pertaining to ethnohistories, soils, geology, landform, disturbance and potential resources has been undertaken.

Ethnohistory

The earliest undisputed radiocarbon date from the region comes from a rockshelter site on the western side of the Nepean known as Shaws Creek K2 which has been dated to 14,700 years before present (BP)¹. This site is over 50 km north from the study area along the Nepean River. To the south, along the coast just north of Shellharbour, the site of Bass Point has been dated at 17,101 +/- 750 BP².

Our knowledge of the social organisation of Aboriginal people prior to European contact is, to a large extent, reliant on documents written by European people. Such documents are affected by the inherent bias of these authors. They can, however, be used in conjunction with archaeological information in order to gain a picture of Aboriginal life in the region.

The study area is recognised as being within the traditional lands of the Wodi Wodi tribal group, which extended from around Stanwell Park to the Shoalhaven River, and inland to Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language. However Dharawal (Tharwal) was not a word they had heard of or used themselves³. Many of the town and place names of the Illawarra are derived from the Dharawal language.

The Illawarra escarpment has significance to local Aboriginal people as it was used for ceremonial practices and gathering food and medicine. For example, the Dharawal knew Mt Keira as a gateway to the hereafter⁴. Aborigines travelled between areas on the coast and the escarpment and plateau and there are a number of places in the Illawarra Escarpment State Conservation Area where rock engravings, cave art and other archaeological evidence has been found. However, very few sites are found on the steep cliffs and slopes of the escarpment.

The first recorded contact between Aboriginal and European peoples occurred in 1770, when Captain Cook sailed down the east coast of Australia in the Endeavour and observed cook fires and Aboriginal people carrying canoes along the coast (Organ 1990, p. 2). The next recorded contact occurred in 1796, when Flinders and Bass travelled along the coast in the Tom Thumb (Organ 1990, p. 8). Organ (1993, p. 49) also notes an expedition from Jervis Bay by George William Evans, in which the expedition met several groups of Aboriginal people on the way through the Wollongong area in 1812.

Following the arrival of European settlers into the Illawarra the movement of Aboriginal hunter-gatherers began to become increasingly restricted. European expansion 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. 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 (Biosis 2016).

Geology, soils and hydrology

The area of Port Kembla is formed on inter-bedded quartz-lithic sandstone, siltstone and claystone of the Illawarra Coal Measures. The Coal Measures are exposed at the headlands and rock shores, with coarse marine quartz Holocene sands. The geological formations associated with the study area are identified within Figure 5.

The study area is located in close proximity to two non-perennial first order streams, one is located approximately 800 metres southwest of the study area and the second is located approximately 600 metres north of the study area. Lake Illawarra is located to the southwest of the study area, approximately 2.1 kilometres. The hydrological features associated with the study area are identified in Figure 4.

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 is situated within the Kiama Coastal Slopes soil landscape, which are comparable to those of the Dapto-Wollongong Slopes but with higher relief, steep slopes and higher rainfall. The maximum elevation is 250m with a relief of 160. There are well-structures red-brown loam with gradational profiles widespread on the Gerringong volcanics of trachyte, laite and tuff. Within the landscape, sandstone is less common but tends to form steep slopes with texture-contrast soils which are marginal to the adjacent escarpment (Mitchell 2002).

The study area is located within Wollongong (Coastal) Plain physiographic region (Hazelton and Tille 1990: 2). It consists of the gentle rises of the Illawarra Coal Measures, rolling to steep low hills of volcanic materials and undulating Budgong Sandstone and Quaternary alluvium. The Illawarra Coal Measures is Permian in age (299 – 251 million years ago) and consists of shale, sandstone, conglomerate, tuff, chert and coal, Quaternary alluvium consist of gravel, swamp and dune deposits that have been forming for the last 2.6 million years. These low lying areas are almost completely cleared of forest and woodland. The Wollongong Plain is located between Lake Illawarra and the Escarpment. This physiographic unit has formed from the gradual recession, westward, of the Plateau (Bowman 1971).

Resources

The Coastal Plains of the Illawarra region would have generally provided a number of resources used by Aboriginal inhabitants. Lithic resources would have been accessible in the outcrops of siltstone, shale and tuffaceous sandstones of the Berry Siltstone formation, while coastal rock platforms provided areas where tools might be ground and sharpened and art might be engraved. Angular cobbles and pebbles of fossilised wood have been recorded near the study area in the bed of Robins Creek (Sefton 1990, p. 4).

A number of useful plant species would have been available in the study area. The bark from Stringybark and red gum species was used as rope and string to make nets, fishing lines, as well as to construct shelters and canoes (Percival and Stewart 1997). Trees in the acacia family also provided useful resources as the seeds from certain acacia species could be eaten and the bark tannin used for fishing (Percival and Stewart 1997). Terrestrial and avian resources used for food but also provided a significant contribution to the social and ceremonial aspects of Aboriginal life through their use as ritual implements or even simply through

fashioning as personal adornments (Attenbrow 2010, p. 107). Mammals such as kangaroos, possums and wombats were used as a food source and also for tool making. Bones and teeth were used as points or barbs for hunting spears and fishing spears, while tail sinews are known to have been used as a fastening cord (Attenbrow 2010, p. 99).

Disturbances

Disturbances in this area is associated with natural and human agents. Natural agents generally affect small areas and including burrowing and scratching in soil by animals, such as wombats, foxes, rabbits and kangaroos, and sometimes exposure from slumping or scouring. Disturbance associated with recent human action are prevalent in the study area and include the remains of the former Port Kembla Primary School that was built in 1916 but then demolished in 2013 due to a fire that destroyed the building. The only remnants of the building that can still be seen are the floors that cover large portions of the study area.

The disturbance levels within the study area were assessed during the visual inspection. Levels of disturbance were categorised through an inspection of the ground surface, landforms and salient features. Disturbance levels within the study area have been categorised according to the following criteria:

- High disturbance – the landforms has been heavily disturbed and all natural soil horizons have been displaced or removed, these areas are unlikely to contain Aboriginal cultural material.
- Moderate disturbance – the landform has undergone disturbances to a certain degree but the extent and nature of these disturbances cannot be fully quantified. Aboriginal cultural material may be present within these locations but is unlikely to be *in situ*.
- Low disturbance – the landform has not been significantly disturbed and is highly likely to contain intact soil horizons. Aboriginal cultural material if present is likely to be *in situ*.

The study area has undergone high disturbance as a result of the construction and deconstruction of the former primary school.

Step 3. Can you avoid harm to the object or disturbance of the landscape feature?

Aboriginal objects are often associated with particular landscape features as a result of Aboriginal people's use of those features in their everyday lives and for traditional cultural activities. The proposed activity will occur in a highly disturbed area where no artefacts were identified; therefore it is possible to avoid harm to landscape features within the study area.

Step 4: Desktop assessment and visual inspection

Desktop assessment

Based upon the results from Stages 2a and 2b of the code a model has been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist throughout the study area and where they are more likely to be located.

This model is based on:

- Local and regional site distribution in relation to landform features identified within the study area.

- Consideration of site type, raw material types and site densities likely to be present within the study area.
- Findings of the ethnohistorical research on the potential for material traces to present within the study area.
- Potential Aboriginal use of natural resources present or once present within the study area.
- Consideration of the temporal and spatial relationships of sites within the study 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 subsequent sub-surface investigations across the present study area (Table 3). The definition of each site type is described firstly, followed by the predicted likelihood of this site type occurring within the study area.

Table 3 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.	Medium: Stone artefact sites have been previously recorded in the region across a wide range of landforms including alluvial flats.
Shell Middens	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Very Low: Shell midden sites have not been recorded within the vicinity of the study area. There is a very low potential for shell middens to be located in the study area as the first order drainage line is not permanent water source.
Quarries	Raw stone material procurement sites.	Very Low: There is no record of any quarries being within or surrounding the study area.
Potential Archaeological Deposits (PADs)	Potential sub surface deposits of cultural material.	High: PADs have been previously recorded in the region across a wide range of landforms including alluvial flats. They have the potential to be present in undisturbed landforms.
Scarred Trees	Trees with cultural modifications	Low- Medium: A small number of mature native trees have survived within the Subject Area, due to extensive vegetation clearing from the 1800's onwards
Grinding Grooves	Grooves created in stone platforms through ground stone tool manufacture.	Low: There is no record of any suitable horizontal sandstone rock outcrops being within or surrounding the study area.

Site Type	Site Description	Potential
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 study 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.	Low: The sites will only occur where suitable sandstone exposures or overhangs possessing sufficient sheltered space exist, which are present only at one small part in the east of the study area, within Hawkesbury Sandstone Soil Landscape.
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 study 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.	Moderate: Post-contact sites have previously been recorded within the study area
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, 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.	Low: There are currently no recorded Aboriginal historical associations for the study area.

Visual inspection

A visual inspection of the study area was undertaken on 12 January 2017 by Alex Beben and Amy Butcher. The visual inspection consisted of a systematic survey of the study area to identify and record any Aboriginal archaeological sites visible on the surface or areas of Aboriginal archaeological potential and cultural sensitivity. The archaeological survey was conducted on foot. The methods used during the visual inspection conformed to Requirements 5 to 8 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b). For terminology and definitions used within this section, please refer to the aforementioned guideline.

The proposed works at Lot 1, Military Road were inspected. The proposed works in this location consist of development of the study area. The study area has previously been impacted, as it is the site of the former Port Kembla Primary School, which consisted of a school, education buildings, basketball court and associated footpaths (Plate 1 and Plate 2). Ground surface visibility of the study area was low to moderate at approximately 30% and areas of exposure were extremely low at 10%. No new Aboriginal objects were located during the visual inspection.

There are no AHIMS sites located within the proximity of the study area; therefore there are no constraints and the proposed works can proceed with caution.



Plate 1 View facing southeast



Plate 2 View East along the remains of the former Port Kembla Primary School.

Step 5: Further investigations and impact assessment

Further assessment is not warranted based upon the completion of Steps 1 to 4 of the code. The majority of the study area revealed extensive ground disturbance and modification as a result of the construction and deconstruction of the former Port Kembla Primary School. The disturbance of the ground surface along with the limited depth of soil deposits due to the rocky nature of the geology and soil landscapes within the study area would limit the probability of artefact bearing deposits. The whole of the study area has been determined to have low potential for the discovery of Aboriginal objects; therefore, the works may proceed with caution.

Recommendations

Based on this investigation, it is recommended that:

Recommendation 1: No further archaeological assessment is required

No further archaeological work is required in the study area due to the entire study area assessed as having low archaeological potential.

Recommendation 2: 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 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 3: 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.

Recommendation 4: Unexpected finds protocol

All construction workers should be subject to an induction which details the kinds of historical relics, structures or deposits which may be encountered during the construction works and what the process should be if unexpected archaeological remains are encountered.

If encountered, the archaeological remains will be assessed by an archaeologist to determine whether the suspected find constitutes a relic under the *NSW Heritage Act 1977* and whether NSW Heritage Council should be notified.

Please contact me if you have any enquiries.

Yours sincerely

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Amy Butcher
Research Assistant

References

Allen J & O'Connell JF. 2003. The long and the short of it: archaeological approaches to determining when humans first colonised Australia and New Guinea. *Australian Archaeology*, 57: 5-19.

AMBS, 2010. Preliminary Aboriginal and Historic Heritage Assessment: West Dapto Urban Release Area, NSW. Prepared for PB and MWH.

Attenbrow V. 2002. *Sydney's Aboriginal Past: Investigating the archaeological and historical records*. University of New South Wales Press Ltd, Sydney.

Australia ICOMOS 1999. Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter), revised edition. Australia ICOMOS, Canberra.

Bannerman & Hazelton. 1990. Soil Landscapes of the Penrith 1:100,000 Map Sheet. Soil Conservation Service NSW, Sydney.

Burke H. & Smith C. 2004 *The Archaeologist's Field Handbook*. Allen Unwin, Crows Nest, Sydney, Australia.

Department of Environment, Climate Change and Water 2010a. Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. NSW Department of Environment, Climate Change and Water, Sydney NSW.

Department of Environment, Climate Change and Water 2010b. Code of Practice for the Archaeological Investigation of Aboriginal objects in New South Wales. NSW Department of Environment, Climate Change and Water, Sydney NSW.

Niche, 2015. Hill 60 Reserve, Port Kembla NSW: Conservation management plan- supplementary report. The NSW Government Public Reserves Management Fund Program and Wollongong City Council.

NPWS 1997. Aboriginal cultural heritage standards and guidelines kit. NSW National Parks and Wildlife Service Hurstville.

NPWS 2003. *The Bioregions of New South Wales: their biodiversity, conservation and history*. NSW National Parks and Wildlife Service Hurstville.

Speight JG 1998. Landform in McDonald RC & Isbell RF (eds.) *Australian Soil and Land Survey Field Handbook*, p.9-57. Goanna Print, Canberra Australian.

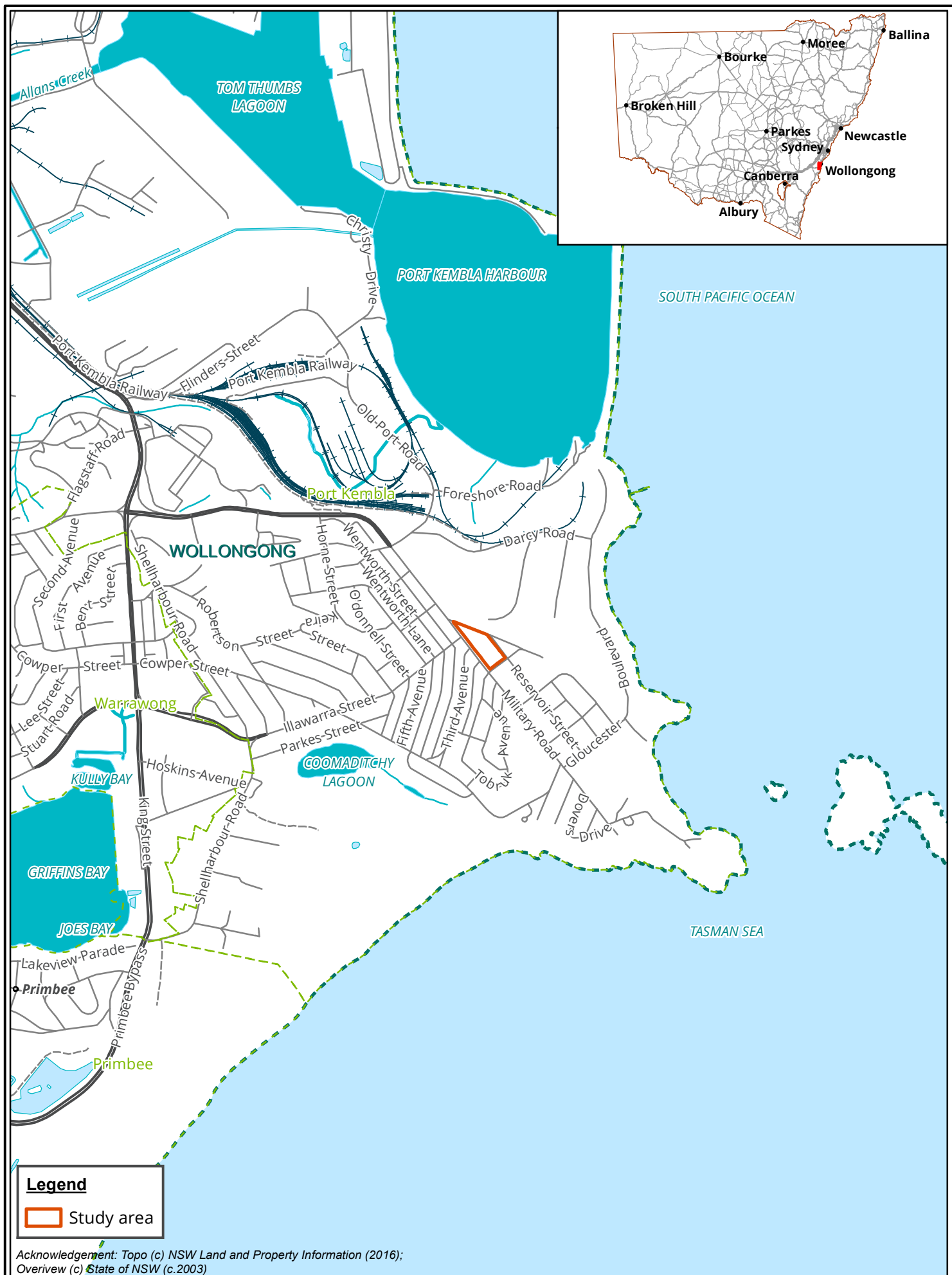
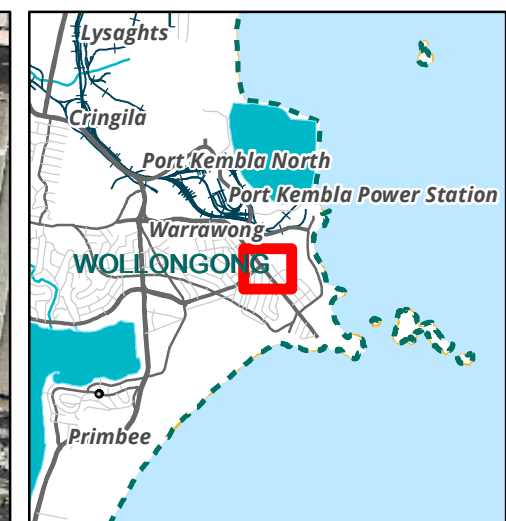


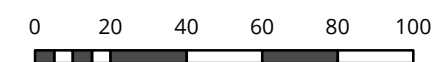
Figure 1: Location of the study area



Legend

Study area

Figure 2: Study area detail

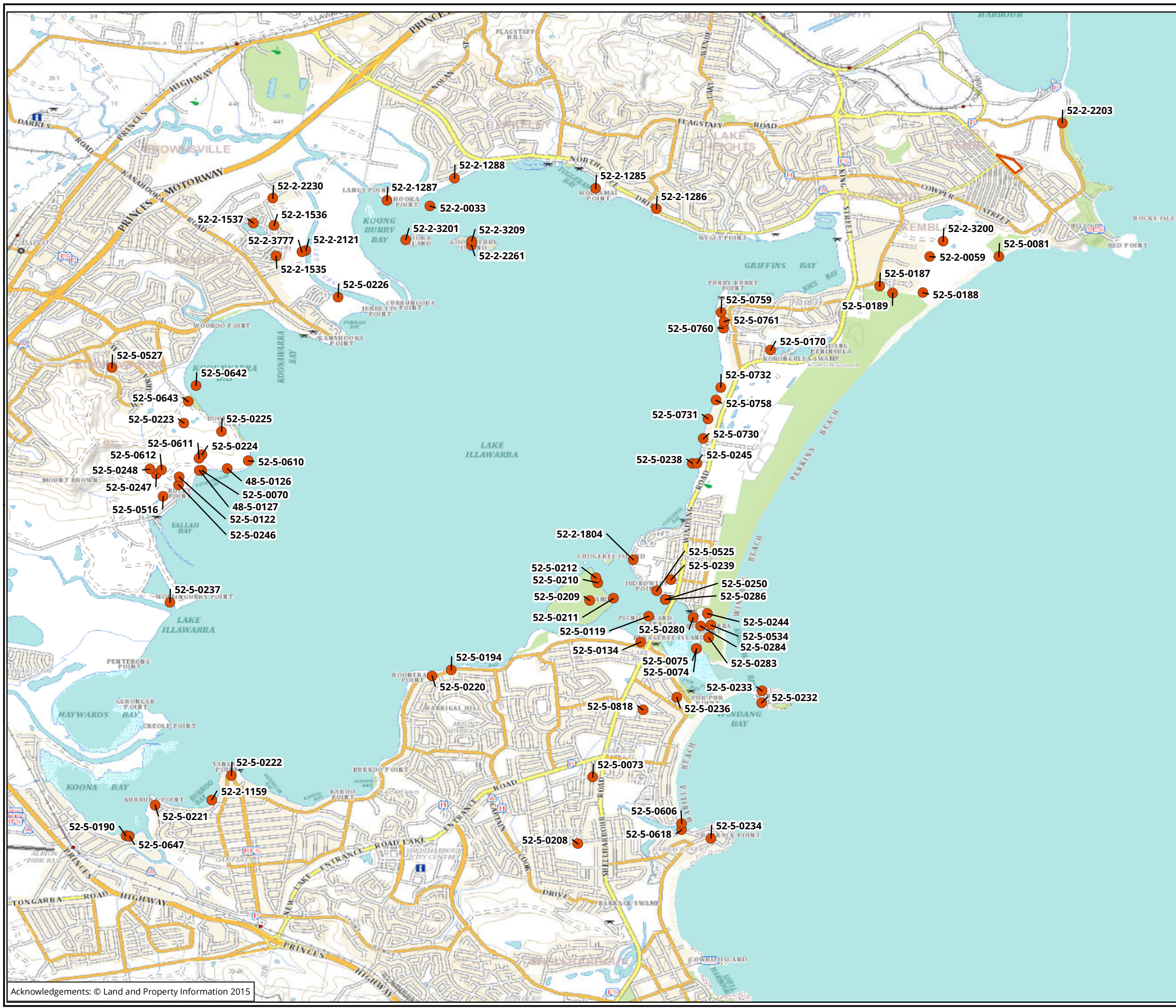


Metres
Scale: 1:2,000 @ A3
Coordinate System: GDA 1994 NSW Lambert



Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 26366
Date: 15 January 2018,
Checked by: CL, Drawn by: LH, Last edited by: Iharley
Location: P:\26300s\26366\Mapping\26366_MilitaryRd_F2_StudyArea



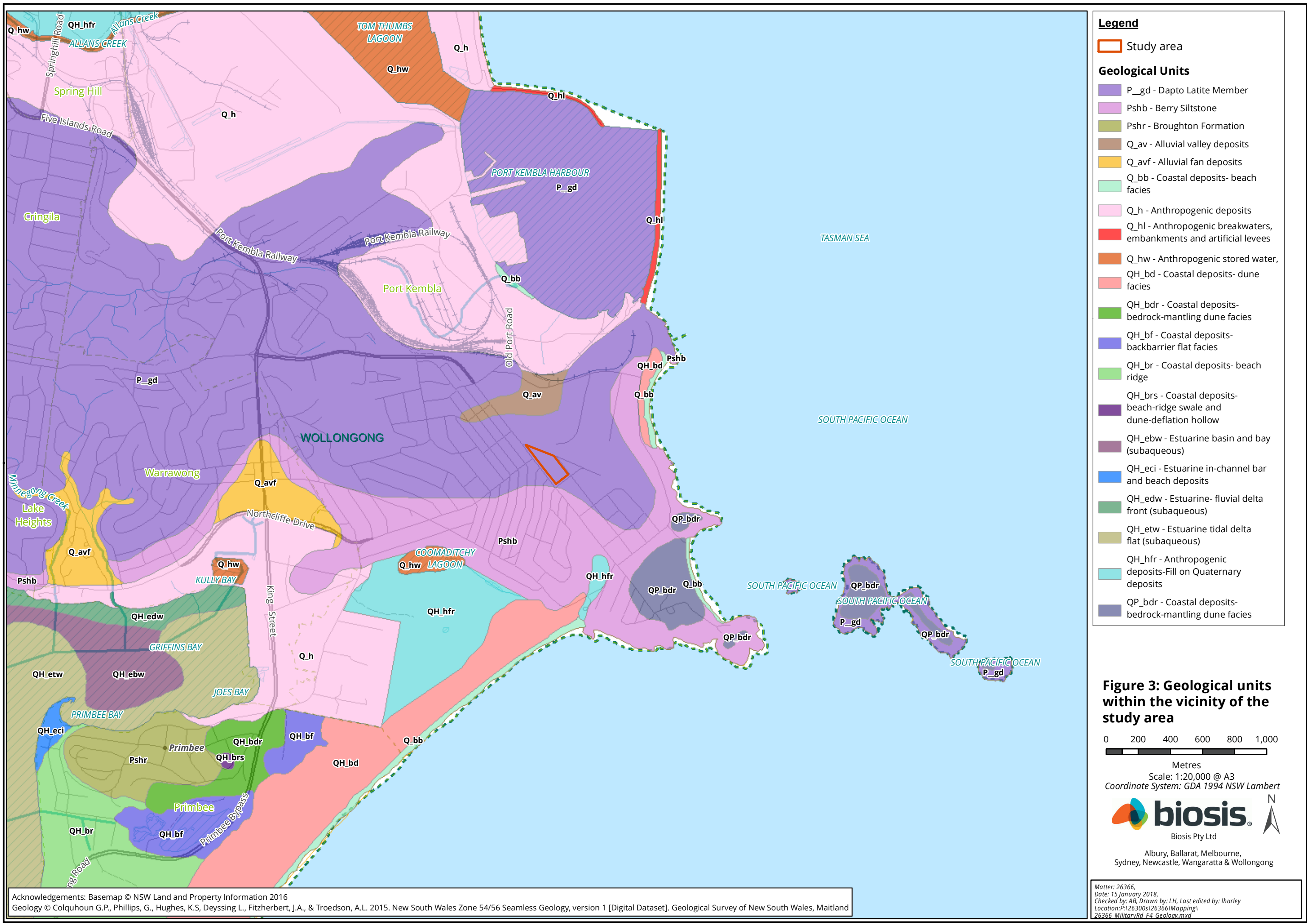
- Legend**
- AHIMS Records
 - Study area

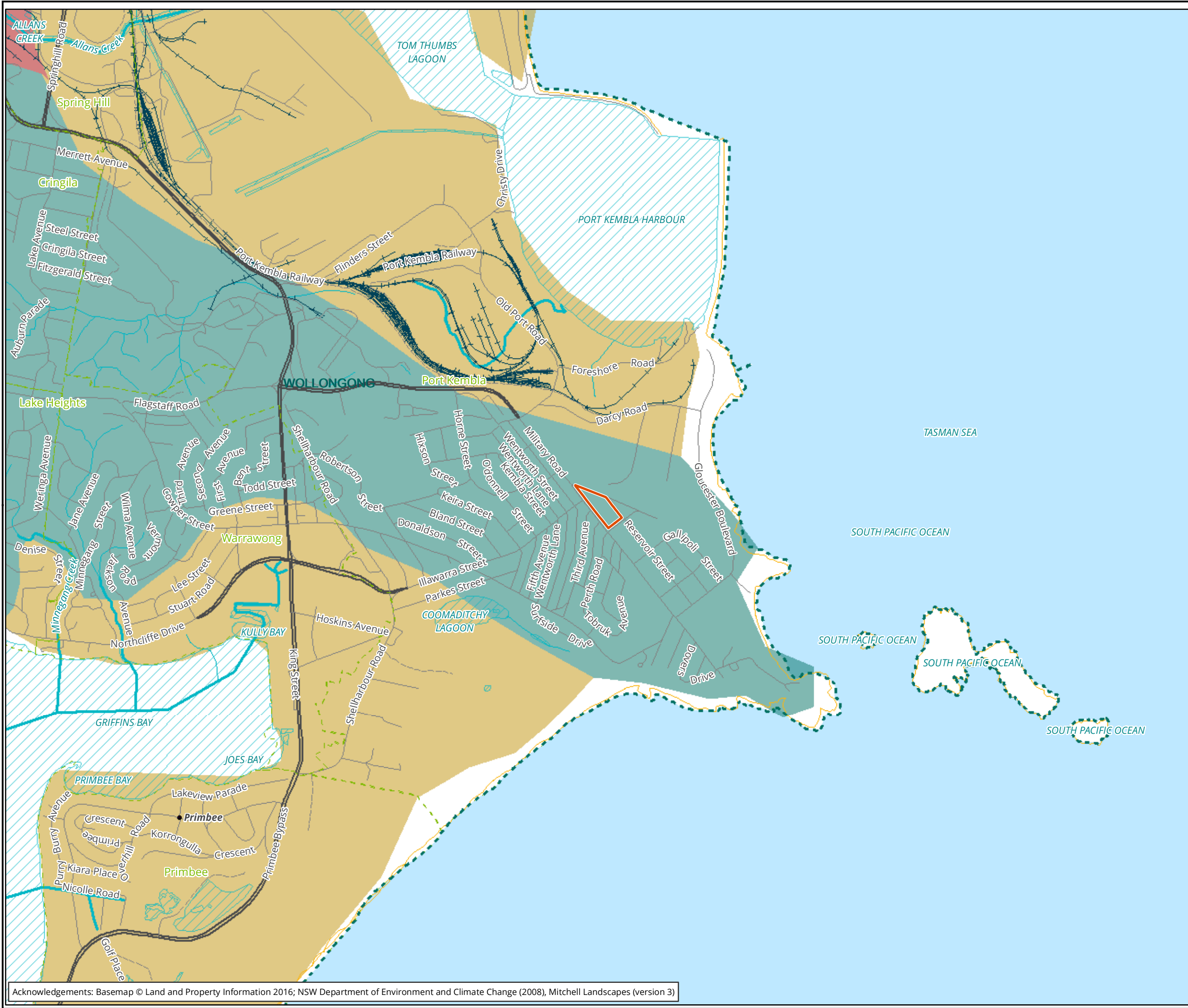
Figure 3: AHIMS sites in the vicinity of the study area

NOT TO BE MADE PUBLIC

0 400 800 1,200 1,600 2,000
Metres
Scale: 1:45,000 @ A3
Coordinate System: GCS GDA 1994

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





Legend

Study area

Mitchell landscapes (1:250,000)

- Kiama Coastal Slopes
- Lake Illawarra Alluvial Plains
- Lake Illawarra Barrier

Figure 5: Mitchell landscapes within the study area

0 200 400 600 800 1,000
Metres

Scale: 1:20,000 @ A3
Coordinate System: GDA 1994 NSW Lambert

biosis
Biosis Pty Ltd
Albury, Ballarat, Melbourne,
Newcastle, Sydney, Wangaratta & Wollongong

Matter: 26366
Date: 15 January 2018,
Checked by: AB, Drawn by: LH, Last edited by: lharley
Location: P:\26300s\26366\Mapping\26366_MilitaryRd_F5_Soils

