

40-64 Yorktown  
Parade and 195-  
213 Fitzgerald  
Avenue,  
Maroubra

Archaeological Technical Report

LGA: Randwick

Report to Homes NSW

September 2024



 artefact

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## EXECUTIVE SUMMARY

This Aboriginal Technical Report (ATR) has been prepared by on behalf of Homes NSW for a State Significant Development Application (SSD-71454960) for the redevelopment of existing social housing (the Project) at 195-213 Fitzgerald Avenue and 40-64 Yorktown Parade, Maroubra (the Site). The Project involves the replacement of the 33 social housing units across eight 2 storey apartment buildings and a single storey dwelling with 144 units across four 3 storey buildings and two part 3/part 4 storey buildings.

The purpose of this ATR is to comply with the *Guide to investigating, assessing, and reporting on Aboriginal Cultural Heritage in NSW* (hereafter the Guide; OEH 2011) that requires a standalone report as part of an Aboriginal Cultural Heritage Assessment Report (ACHAR), and to address the Secretary's Environmental Assessment Requirements (SEARs) for the project issued on 6 June 2024 which identified the following specific assessment requirements:

- **18: Aboriginal Cultural Heritage** - Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site.

### The Site

The Site is located within the Randwick City Council local government area (LGA) and is zoned R3 Medium Density Residential under the *Randwick Local Environmental Plan (LEP) 2012*.

The Site has a total area of approximately 9,647 square metres (sqm) with frontages to Fitzgerald Avenue to the north and Yorktown Parade to the south. Refer to Figure 1.

The existing buildings on the Site are currently occupied. There are street trees located along the Fitzgerald Avenue frontage and a series of trees within the Site between the buildings and along both street frontages.

The site is accessible by public transport with services that run along Fitzgerald Avenue with frequent services to Maroubra town centre and Bondi Junction, with connecting services to Sydney CBD.

This ATR includes the following:

- An archaeological survey and desktop research of the predictive model
- Discussion of the results of the archaeological survey and background research and evaluation of the regional and local archaeological character
- Assessment of likely impacts to Aboriginal objects or Potential Archaeological Deposits (PADs) based on proposed designs
- Assessment of likely impacts and provide recommendations for any practical measures that may be required to protect, and conserve identified Aboriginal objects and places identified within the study area.

A search of the Aboriginal Heritage Information Management Systems (AHIMS) databased (resulted in the identification of no registered Aboriginal sites within the study area or in proximity (within 800m) of the study area. A total of 11 AHIMS registered sites were located within 4km x 4km of land surrounding the study area.

Analysis of the data gathered through desktop research resulted in the identification of site distribution trends and correlations, linked to specific landforms and historic land use. Subsequently, further desktop research was completed to determine the implications of the landscape features (soil landscapes, historic land use and geomorphic character). This resulted in a characterisation of the local and regional archaeological and the development of a series of predictive statements that included the following:

- Historical disturbance has likely greatly impacted the shallow Newport soils within the footprint of built structures, and it is unlikely that *in situ* Aboriginal objects will be present in these locations
- *In situ* soil deposits may be present within the study area, outside of the building footprints
- The most likely site types to be recorded within the study area are PADs or artefacts
- Land with the least amount of historical ground disturbance has the greatest potential for artefact bearing deposits
- Native vegetation has been cleared therefore culturally modified trees will not be present within the study area
- It is possible that sandstone surfaces and associated Aboriginal art and/or grinding grooves may be present.

An archaeological survey was conducted on 28 June 2024 by Artefact Heritage and the La Perouse Local Aboriginal Land Council. The study area was found to contain varied levels of ground disturbance associated with residential construction across the study area and visibility was low. The study area was situated in a slight dip in elevation between two higher rises. These higher elevations had views east to the coast, but these were not possible from the study area. No sandstone outcrops, culturally modified trees, Aboriginal objects, or PADs were identified during survey.

## Overview of findings

Desktop research and archaeological survey have identified the following:

- The study area is situated within a landform that is not conducive to the presence of Aboriginal sites
- Certain areas of the study area have been excavated and levelled create flat surfaces
- There are no AHIMS registered Aboriginal sites within the study area
- Aboriginal objects are unlikely to be present in the study area
- The current proposal is unlikely to impact Aboriginal objects or sites.

## Recommendations

- An ACHAR be prepared to satisfy Requirement 18 of the project SEARs (SSD 71454960). The ACHAR must include consultation with Registered Aboriginal Parties (RAPs) in accordance with the Consultation Requirements
- If changes are made to the proposal that will result in impacts to areas not assessed by this report, additional Aboriginal heritage assessment will be required.

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## 1.0 INTRODUCTION

### 1.1 Project brief

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#### The Site

The Site is located within the Randwick City Council local government area (LGA) and is zoned R3 Medium Density Residential under the *Randwick Local Environmental Plan (LEP) 2012*.

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The existing buildings on the Site are currently occupied. There are street trees located along the Fitzgerald Avenue frontage and a series of trees within the Site between the buildings and along both street frontages.

The site is accessible by public transport with services that run along Fitzgerald Avenue with frequent services to Maroubra town centre and Bondi Junction, with connecting services to Sydney CBD.

### 1.2 Description of the study area

The study area is located within boundaries of the La Perouse Local Aboriginal Land Council (LALC). The study area is situated on the mid-lower slopes of a ridgeline landform located to the north of the study area, descending south. The study area is located approximately 924m west of Maroubra Beach and approximately 3.35km northeast of the Port Botany foreshore.

### 1.3 Aims and objectives

The aim of this ATR is to determine if Aboriginal objects are present within the study area and assess the potential for impacts to those objects and their significance.

To achieve this aim, the following objectives are included in this report:

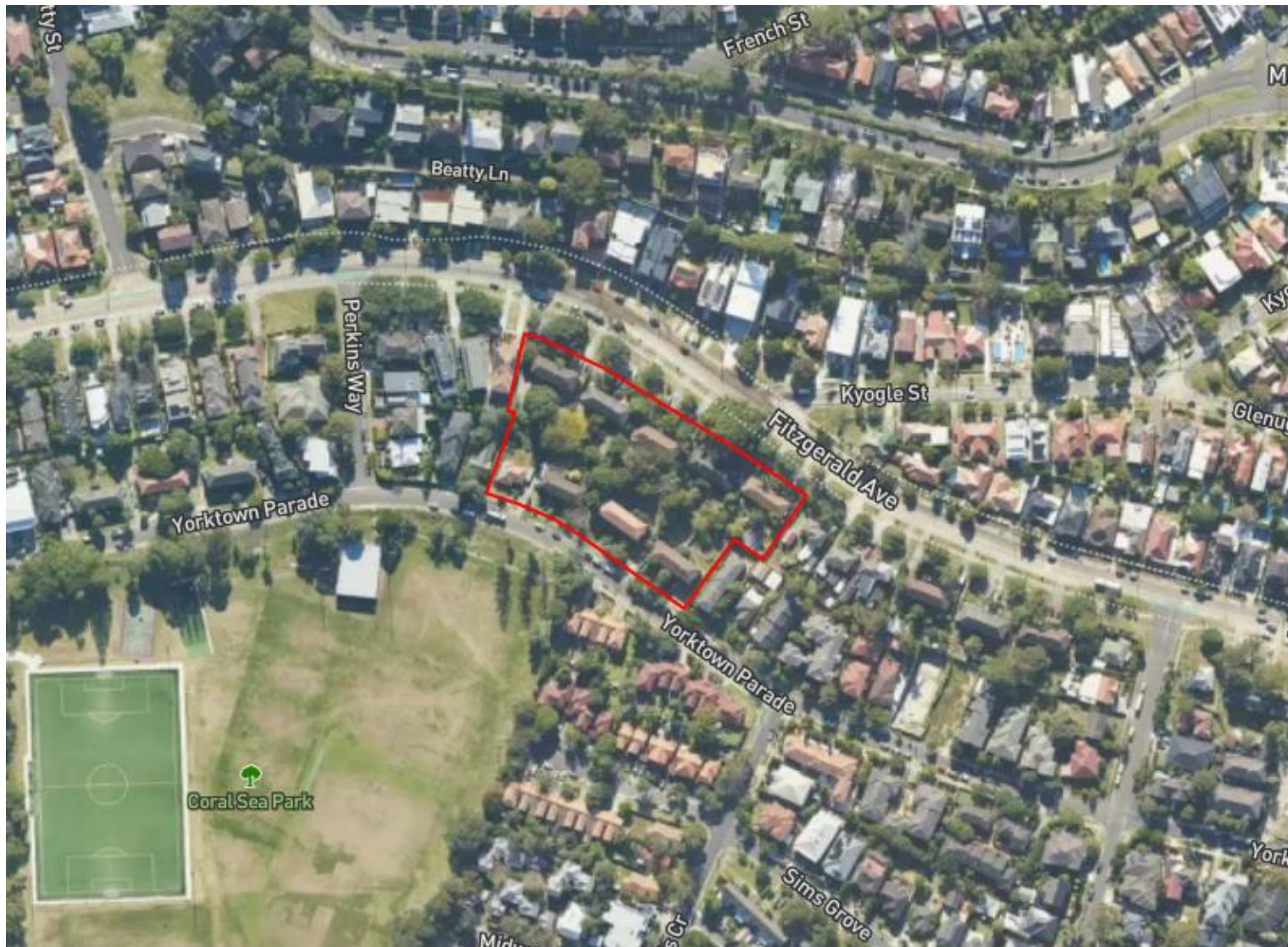
- Review of existing knowledge: Review of previous archaeological works and AHIMS search results
- Review of the landscape context: Desktop assessment of the archaeological implications of the landscape features (soil landscapes, historic land use, geomorphic character, and natural resources) relevant to the study area
- Summary and discussion of the local and regional archaeological character of Aboriginal land use and its material traces based on the finds of the previous two steps
- Development of a predictive model for the nature and distribution of archaeological evidence of Aboriginal land use based on the previous three steps
- Carry out an archaeological survey of the study area to investigate the existence of Aboriginal sites or area or archaeological potential
- Conduct an archaeological significance assessment of any artefacts that may be identified
- Conduct an impact assessment for recorded Aboriginal sites and areas of archaeological potential
- Recommend further archaeological investigation and consultation with Aboriginal stakeholders where required, and provide measures to avoid, minimise and, if necessary, offset the predicted impacts to Aboriginal heritage values.

This report has been prepared in compliance with Requirement 18 of the SEARs to identify whether Aboriginal objects or places will be harmed by the proposal, and identify any recommended further investigations, mitigation and management measures required outlined in Table 1.

**Table 1: SEARs requirements as they relate to Aboriginal heritage.**

Requirement	Where addressed
<b>18. Aboriginal Cultural Heritage</b>	
Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site.	This ATR is a standalone report that will inform the ACHAR that is being prepared concurrently.

Figure 1: Study area



## 1.4 Limitations and constraints

Background research completed to inform the development of this report was limited to existing and publicly accessible sources of information. The findings of archaeological assessments cited in the report were not independently verified except where inconsistencies within the documents were identifiable. Historical (non-Aboriginal) heritage has not been assessed as part of this study. The preparation of this report did not include assessment of intangible Aboriginal heritage values.

## 1.5 Authors and contributors

This report was prepared by Nicola Jorgensen (Aboriginal Heritage Team Leader [Assistant]), Lily Hackett (Heritage Consultant, Artefact Heritage), Sammut Sammut (Heritage Consultant, Artefact Heritage) Anthony Barham (Principal/Geomorphologist, Artefact Heritage) and Dr Stephen Gapps (Historian, Artefact Heritage). Management and review were provided by Ryan Taddeucci (Aboriginal Heritage Team Leader, Artefact Heritage), and Josh Symons (Technical Executive, Artefact Heritage). Mapping was provided by Mike Douglas (Geographic Information System Officer, Artefact Heritage). A summary of the authors, contributors and their role are provided in Table 2 below.

**Table 2: Summary of authors and contributors.**

Authors and Contributors	Qualifications	Experience	Tasks
Josh Symons (Technical Executive)	Bachelor of Arts (Hons), Prehistoric and Historical Archaeology	20+ years	<ul style="list-style-type: none"> <li>Quality control</li> <li>Technical support</li> </ul>
Ryan Taddeucci (Aboriginal Team Leader/Principle)	Bachelor of Arts (Honours - Archaeology) Master of Museum Studies Graduate Certificate (Maritime Archaeology)	11+ years	<ul style="list-style-type: none"> <li>Technical review</li> </ul>
Mike Douglas (GIS Officer)	Bachelor of Arts North American Archaeology Master of Science Geology Master's Certificate in GIS Science	20+ years	<ul style="list-style-type: none"> <li>Preparation of mapping</li> <li>GIS support</li> </ul>
Dr Stephen Gapps (Historian)	Bachelor of Arts (Hons)., History Master of Applied History PhD History	20+ years	<ul style="list-style-type: none"> <li>Background histories</li> </ul>
Nicola Jorgensen (Aboriginal Heritage Team Leader [Assistant])	Bachelor of Arts, Archaeology Master of Arts (Research), Archaeology	5+ years	<ul style="list-style-type: none"> <li>Project management</li> <li>Report author</li> </ul>
Anthony Barham (Principal/Geomorphologist)	Bachelor of Arts (Honours) Master of Arts	35+ years	<ul style="list-style-type: none"> <li>Geomorphology review</li> </ul>

Authors and Contributors	Qualifications	Experience	Tasks
Lily Hackett (Heritage Consultant)	Bachelor of Arts (Archaeology and Ancient History) Master of Museum and Heritage Studies (Current)	1.5 years	<ul style="list-style-type: none"><li>• Background research</li></ul>
Sammuel Sammut (Heritage Consultant)	Bachelor of Arts (Hons), Archaeology Master of Archaeological and Evolutionary Science	3+ years	<ul style="list-style-type: none"><li>• Background research</li></ul>

## 2.0 PROJECT FRAMEWORK

### 2.1 Commonwealth legislation

#### 2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework for the protection and management of Australia's unique environment, including biodiversity and culturally significant places. The EPBC Act also includes provisions to identify places for addition to the National Heritage List (NHL) and Commonwealth Heritage List (CHL) to enhance the protection, conservation and presentation of those places. A search of the NHL and CHL was completed on 7 June 2024. No listed heritage items were identified in the study area. One Commonwealth Heritage Listed Item was located approximately 785m southeast of the study area; Malabar Headland (Object ID: 933, Place ID: 105 606) listed as a natural place.

#### 2.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act), deals with Aboriginal cultural property (intangible heritage) in a wider sense. Such intangible heritage includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. These values are not currently protected under the NPW Act.

There is no cut-off date and the ATSIHP Act may apply to contemporary Aboriginal cultural property as well as ancient sites. The ATSIHP Act takes precedence over state cultural heritage legislation where there is conflict. The Commonwealth Minister who is responsible for administering the ATSIHP Act can make declarations to protect these areas and objects from specific threats of injury or desecration. The responsible Minister may make a declaration under Section 10 of the Commonwealth Act in situations where state or territory laws do not provide adequate protection of intangible heritage.

Where an Aboriginal individual or organisation is concerned that intangible values within the proposal are not being adequately protected, they can apply to the Minister for a declaration over a place.

A search of the Federal Gazette for declarations under the ATSIHP Act was completed on 7 June 2024. The search did not identify any declarations under the ATSIHP Act relevant to the study area.

#### 2.1.3 Native Title Act 1993

The main purpose of the *Native Title Act 1993* is to recognise and protect native title. Native title is the rights and interests in land and waters that Aboriginal and Torres Strait Islanders have under their traditional laws and customs.

The following list is indicative of the type of land, which might be subject to native title:

- vacant Crown land and any other public or Crown lands including oceans and inland waterways, beaches and foreshores, State forests, national parks and public reserves
- pastoral leases
- land held by government agencies
- land held in trust for Aboriginal communities.

Under the amended *Native Title Act 1993*, Native Title is extinguished by the following:

- private freehold land, valid grants of private freehold land or waters
- residential, commercial or exclusive possession leases
- mining dissection leases
- community purpose leases (e.g. religious, sporting or charitable purposes)
- scheduled interests that give exclusive possession
- public works (e.g. schools, public amenities, hospitals etc.).

Section 24KA of the *Native Title Act 1993*, requires that native title claimants are notified of any 'future act' which may result in a change in land use for Crown lands affected by claims. A 'future act' is defined in section 233 of the Act as a proposed activity or development on land and/or waters that may affect native title, by extinguishing (removing) it or creating interests that are inconsistent with the existence or exercise of native title. If, after one month, there were no responses to the notification, then the proponent will be deemed to have fulfilled their obligations under the Act.

Proponents are not required to comply with the requirements of steps 4.1.2 to 4.1.7 of the Consultation Requirements where there is an approved determination of native title that native title exists in relation to the entire study area. In this circumstance, proponents need only consult with the native title holders. However, steps 4.1.2 to 4.1.7 are applicable for any portion of the study area not covered by a native title determination. A search of the National Native Title Tribunal database was completed on 7 June 2024. The search did not identify any Native Title claims in or around the study area.

## 2.2 State legislation

### 2.2.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by Heritage NSW provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Aboriginal occupation of NSW), and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community).

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

There are no gazetted Aboriginal places in the study area. All Aboriginal objects, whether recorded or not, are protected under the NPW Act.

Section 86 of the NPW Act identifies that it is an offence to harm or desecrate an Aboriginal object and/or an Aboriginal place. Section 86 outlines penalty units applicable where it is identified that a person or corporation is in breach of Section 86.

The NPW Act defines harm to an object or place as any act or omission that:

- (a) destroys, defaces or damages the object or place, or
- (b) in relation to an object moves the object from the land on which it had been situated, or
- (c) is specified by the regulations, or

- (d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c).

A section 90 permit is the only Aboriginal Heritage Impact Permit (AHIP) available under the *NPW Act 1974* and is granted by Heritage NSW. Various factors are considered by Heritage NSW in the AHIP application process, such as site significance, Aboriginal consultation requirements, Ecological Sustainable Development (ESD) principles, project justification and consideration of alternatives. The penalties and fines for damaging or defacing an Aboriginal object were increased in 2010.

As this project is being assessed under Part 4 Division 4.1 of the EP&A Act, permits issued under the NPW Act are not required for impacts approved under the SSD provisions. Impacts to Aboriginal objects will be authorised by the Conditions of Approval for the project issued under the EP&A Act.

### 2.2.2 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land use planning, development assessment and environmental impact assessment processes. Part 3, Division 3.4 deals with the development of Local Environmental Plans (LEPs). Planning decisions within Local Government Areas (LGAs) are guided by LEPs. Each LGA is required to develop and maintain an LEP that includes Aboriginal and historical heritage items which are protected under the *EP&A Act* and in some cases also protected under the *Heritage Act 1977*. The study area is located within the boundaries of the Randwick LGA and is covered by the Randwick LEP 2012 (2013 EPI 36). Heritage is protected under section 5.10.

The proposal will be assessed under Part 4, Division 4.1 of the EP&A Act, which establishes an assessment and approval regime for SSD. Part 4, Division 4.1 applies to development that is declared to be an SSD by a State Environmental Planning Policy (SEPP). Section 4.41 (previously section 89J[c]) of the EP&A Act specifies that approvals or permits under section 90 of the NPW Act 1974 are not required for approved SSD.

### 2.2.3 NSW Native Title Act 1994

The *Native Title Act 1994* was introduced to ensure that the laws of NSW are consistent with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act. See section 2.1.3.

### 2.2.4 Aboriginal Lands Right Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). These bodies have a statutory obligation under the ALR Act to:

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*(a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and*

*(b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.*

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The study area is within the boundary of the La Perouse LALC.

## 3.0 ARCHAEOLOGICAL CONTEXT

### 3.1 AHIMS search

**NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on mapping below must be removed from this report if it is to enter the public domain.**

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 7 June 2024 (Client Service ID: 899143) to determine the location of Aboriginal sites in relation to the current study area. The search area was defined as [REDACTED] the study area to inform the characterisation of the local archaeological context. The AHIMS search parameters were as follows:

[REDACTED]	[REDACTED]
Number of sites	11

There was a total of 11 AHIMS registered site located within the search area (Figure 2 and Figure 3); however, none of these sites were located within the study area. The closest AHIMS sites to the study area was AHIMS ID 45-6-2894 located approximately [REDACTED] (Figure 2 and Figure 3).

The nature and location of registered sites is a reflection of the past Aboriginal occupation from which they derive but is also influenced by historical land-use and the nature and extent of previous archaeological investigations. Although Aboriginal occupation covered the whole of the landscape, the availability of fresh water, and associated resources, is demonstrated by previous archaeological research as correlated with the likelihood of identifying Aboriginal objects. Certain site types, such as culturally modified trees, are particularly vulnerable to destruction through historical occupation, while others, such as stone artefacts, are more resilient. This is reflected in the extensive search where the most frequently registered Aboriginal sites are associated with stone and rock, with rock engraving being the most frequently encountered sites (n=6, 55%) followed by sites with stone artefacts (Table 3). The concentration of Aboriginal sites in [REDACTED] likely reflection of the highly urbanised nature surrounding the study area that has greatly impacted the preservation of Aboriginal sites (Figure 2). Comparatively lower historical disturbances have occurred within the [REDACTED]

The AHIMS sites identified within the extensive search (Table 3) are able to inform us about the type of sites to be expected within the Maroubra region as well as their potential representative values. Stone artefacts are the most common Aboriginal objects found within NSW, so they are unlikely to possess much scientific value unless they are present in great numbers or demonstrate rare materials of forms. Although they are the most common site types identified in the extensive AHIMS search, rock engravings and middens are much less common on a broader archaeological scale and may possess moderate to high archaeological value based upon their condition. Additionally, art or burial sites possess high archaeological and cultural value. The presence of rock engravings, middens, or art or burial sites within the study area would denote a level of significance that requires further assessment and mitigation. However, based off the patterning of AHIMS sites within the extensive search, it is unlikely that these sites will be present within the study area.

**Table 3: Frequency of site features in AHIMS search results.**

Site Types	Frequency	Percentage
Rock Engraving	6	55
Shell Midden and Artefact	2	18
Artefact and Burial	1	9
Art (Pigment or Engraved) and Shell midden	1	9
Artefact	1	9
<b>Total</b>	<b>11</b>	<b>100%</b>

### 3.2 Public AHIP register search

A search of the AHIP public register was completed on 12 June 2024 to determine whether any portions of the study area are within the boundaries of an active AHIP. No active permits were found within the study area or its vicinity.

Figure 2: Extensive AHIMS search results

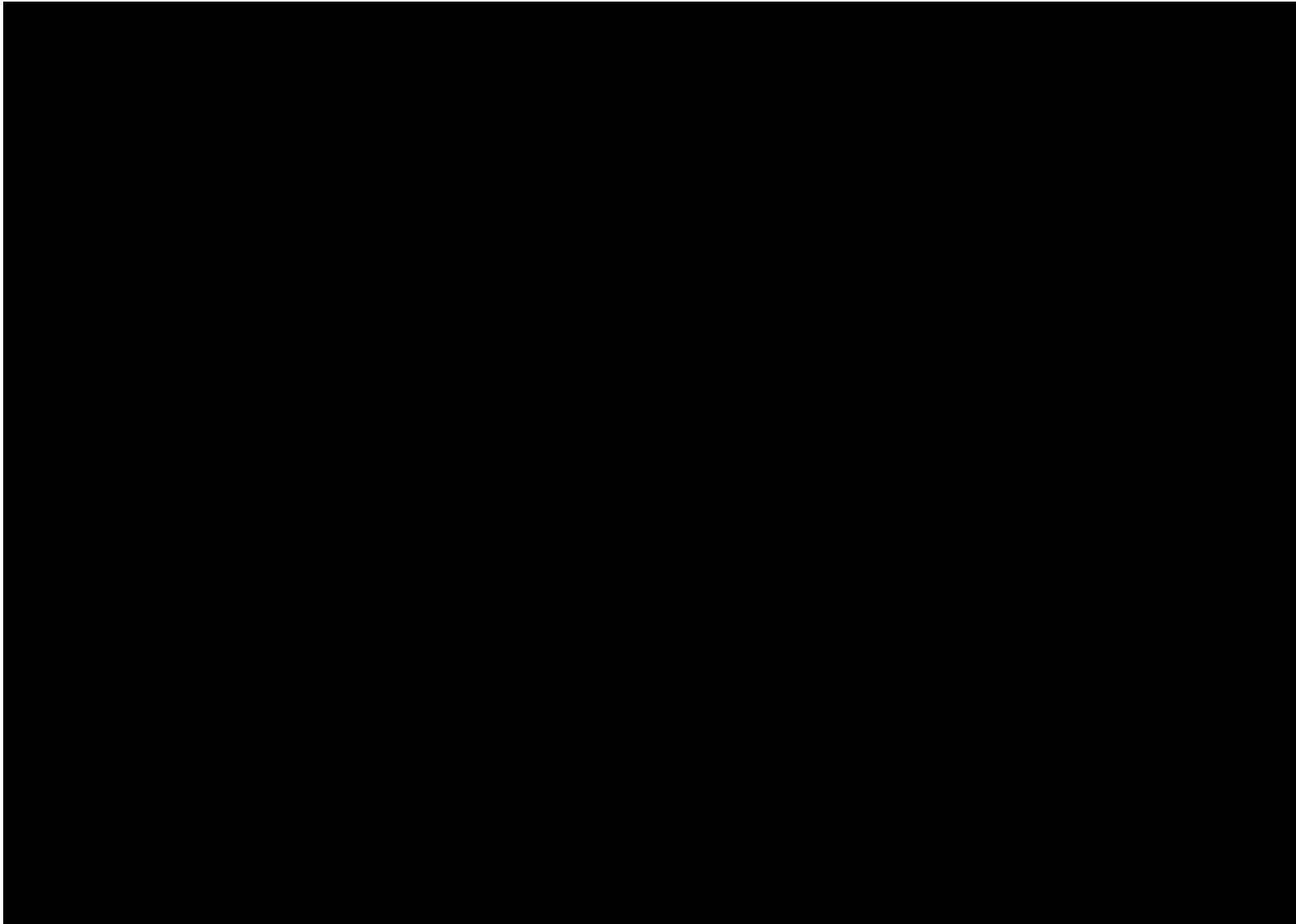
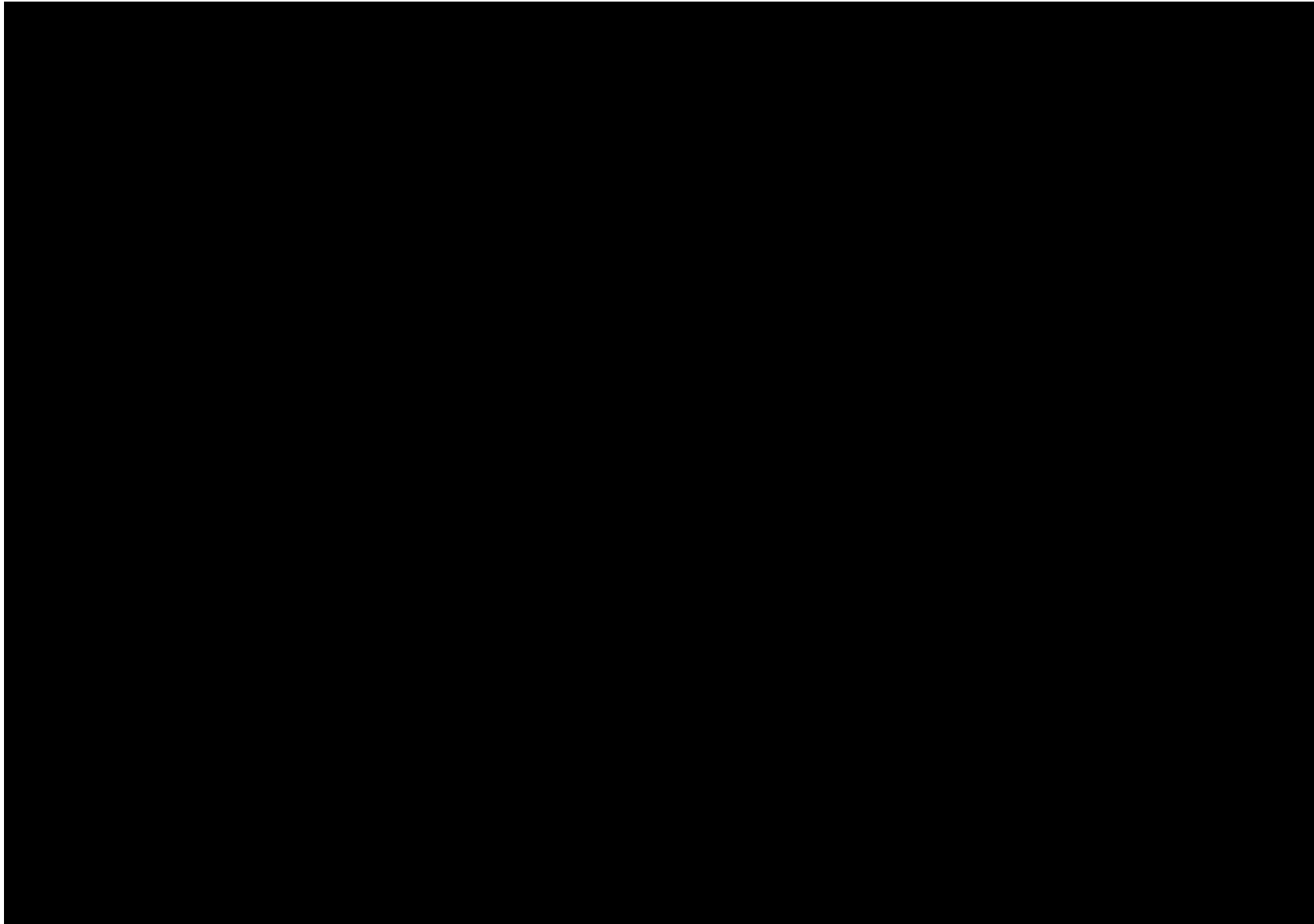


Figure 3: Extensive AHIMS search results (detailed)



### 3.3 Review of existing archaeological literature

The Maroubra area appears to have been subject to fewer archaeological investigations than other locations in Sydney's Eastern Suburbs. However, a summary of studies of locations around Maroubra are summarised below to assist in characterising the archaeological nature of the study area.

**Mary Dallas Consulting Archaeologists, 2007. *Aboriginal Archaeological Test Excavation Report, Long Bay Correctional Complex, Malabar, NSW. Report prepared for NSW Health Department (Justice Health) & The Department of Corrective Services.***

Prior to the construction of a hospital at the Long Bay Correctional Complex (2.7km south of the present study area), Mary Dallas Consulting Archaeologists completed test excavations to investigate potentially undisturbed sand dune deposits located beneath the foundations of extant buildings within the site. These deposits were assessed as having the potential to contain Aboriginal archaeological materials due to their location on an elevated ridge in proximity to former swamp areas. Soil mapping indicates that the Long Bay Correctional Complex study area is located within disturbed terrain and the Tuggerah Soil landscape. Through test excavations it was identified that portions of the investigated area possessed relatively intact soil profiles despite being subjected to some ground disturbance. Ultimately, two stone artefacts were identified through the testing program, although neither were believed to be *in situ*, most likely having been introduced into the area or disturbed through past construction. Mary Dallas Consulting concluded that the lack of Aboriginal archaeological material at the site was a factor of previous construction activities and the low intensity usage of the site. These elements, combined with natural erosion processes and historical disturbance are likely to have contributed to the low densities of artefacts within the site. That study indicates that intact soil profiles may be present in localised areas of the Eastern Suburbs, and that their presence will not necessarily equate with the presence archaeological deposits. This is relevant for the present study area, where intact natural soil deposits may be present in areas that have been subjected to lower levels of historical disturbance.

**Mary Dallas Consulting Archaeologists, 2012. *Preliminary Aboriginal Archaeological Assessment – Prince of Wales Hospital Randwick, NSW. Report prepared for WorleyParsons, Sydney.***

Ahead of redevelopments to portions of the Prince of Wales Hospital campus (2.8km northwest of the present study area), Mary Dallas Consulting Archaeologists performed a desktop review of Aboriginal archaeological sensitivity within the project area. Previously, significant Aboriginal archaeological remains have been discovered within dune deposits which the hospital overlays. The investigated site was found to also be situated within the Botany Sands dune system, which have previously been shown to contain Aboriginal artefacts in lower, less-impacted layers. Geotechnical investigations conducted within the project area confirmed that natural sandstone bedrock or sandy soils that may represent the natural soil profile of the area were present beneath an approximately 50cm thick layer of introduced rubble and fill (Mary Dallas Consulting Archaeologists 2012). The presence of potentially intact natural soil profiles and the potential for artefactual deposits to be present within these layers led Mary Dallas Consulting to state that Aboriginal archaeological evidence may be present within the investigated area, and that this material would be highly significant and rare.

**Artefact Heritage. 2021. *Kamay Ferry Wharves Project: PACHCI Stage 3 Aboriginal Cultural Heritage Assessment Report. Report prepared for Arup on behalf of Transport for NSW.***

In 2021, Artefact Heritage prepared an Aboriginal Cultural Heritage Assessment Report for the Kamay Ferry Wharves Project, located approximately 4.7 kilometres south of the study area. The project sought to reinstate the ferry wharves at La Perouse and Kurnell in Kamay Botany Bay. That report summarised the results of prior PACHCI Stage 2 archaeological survey and the subsequent

Aboriginal and non-Aboriginal archaeological test excavation program undertaken at Kurnell and La Perouse. In the La Perouse construction boundary, the PACHCI Stage 2 archaeological survey identified eight previously recorded AHIMS sites, of which, only two were relocated. It was determined that the remaining sites were not identified due to erosion, the presence of a concrete footpath, and rock shelters being filled-in since initial recording. That assessment also identified a Low Potential PAD across the area, and archaeological testing was recommended. It was predicted the Low Potential PAD may contain buried engravings and midden material. The PACHCI Stage 3 testing program identified fill overlying natural sterile deposits. However, only a portion of the testing program was completed due to the identification of contaminated material and non-Aboriginal archaeological resources (Old Wharf Road). Where test pits were completed, no archaeological material was identified and as such, the Low Potential PAD was revised. Further archaeological management was recommended where testing could not be completed within the revised portion of Low Potential PAD.

In the Kurnell construction boundary, the PACHCI Stage 2 archaeological survey identified one AHIMS registered site (Foreshore Midden - Captain Cook's Landing Place ([AHIMS ID 52-3-0219]) [REDACTED]). In addition, an area of PAD (Foreshore Midden PAD) and a revised extent of K PAD 1 was identified [REDACTED]. Archaeological testing was recommended. The subsequent PACHCI Stage 3 testing program identified fill deposits overlying natural marine and aeolian sands. The program did not identify any significant archaeological resources within the revised extent of K PAD 1. Two isolated artefacts (KMT ISO 01 [AHIMS ID 52-3-2080] and KMT ISO 02 [AHIMS ID 52-3-2081]) were identified within the Foreshore Midden PAD however those were determined to be of low archaeological and cultural heritage significance. As such, K PAD 1 and Foreshore Midden PAD were refined and were assessed as no longer within the Kurnell construction boundary. No archaeological material was identified within the southern portion of Foreshore Midden - Captain Cook's Landing Place (AHIMS ID 52-3-0219). Previous investigations indicated that the upper 400mm stratigraphy in the Foreshore Midden - Captain Cook's Landing Place (AHIMS ID 52-3-0219) was comprised of fill and unlikely to contain significant archaeological deposit.

**Coast History and Heritage. 2021. 'Woolahra Local Government Area Aboriginal Heritage Study'. Report prepared for Woollahra Municipal Council.**

In 2021 Coast History & Heritage prepared an Aboriginal Heritage Study to assist Woollahra Municipal Council in developing management procedures in relation to Aboriginal heritage within the Woollahra LGA, located approximately 6.5 kilometres north of the study area. The study provided a comprehensive review of the then current historical and archaeological record of Aboriginal people in Woollahra and the extent to which it had been impacted by later activity. At the time, the study documented 107 places which contained physical or historical evidence for Aboriginal objects, and 40 places which had the potential to contain Aboriginal objects. Of the potential sites, the majority (n=34) were rock shelters, which were assessed as having potential to contain undocumented archaeological remains on the shelter floor or art on the walls or roof. Based on the results, Coast (2021) provided sensitivity mapping for the Woollahra LGA in which land was divided into three categories of archaeological potential. The results of that review were then used to produce a map of Aboriginal heritage sensitivity to consider where Aboriginal heritage places were located or may exist within the Woollahra LGA.

**Jacobs, 2022. Randwick Barracks: Archaeological Management Plan. Report prepared for Defence Housing Australia.**

Jacobs prepared an Archaeological Management Plan for Randwick Barracks as part of recommendations laid out in previous heritage assessments of the site. The Randwick Barracks site is located approximately 1.8km to the northeast of the present study area and, due to this proximity, can speak to the archaeological character of the region around Maroubra. Through background assessment, Jacobs identified that the area to the east of Randwick Barracks was used as a trackway

by Aboriginal people travelling north from Botany (Jacobs 2022). Furthermore, the plentiful natural resources of this area of Sydney would have provided ample resources for Aboriginal groups across the seasons. Consequently, the Eastern Suburbs region is known to have been a focal point of Aboriginal occupation. Jacobs also highlighted the results of previous geotechnical investigations, which identified that sand deposits or sandstone bedrock remained present beneath the site, suggesting that Aboriginal archaeological materials may be present in subsurface deposits where minimal levels of disturbance have occurred. Soil mapping indicates that the Randwick Barracks study area is located within disturbed terrain and the Tuggerah Soil landscape. This study by Jacobs suggests that the present study area was similarly proximal to identified Aboriginal travel routes and resources, and that intact artefact bearing deposits may be present in areas which have been subjected to lower levels of ground disturbance.

### 3.4 Historic records of Aboriginal material cultural

Many Aboriginal people, like other Indigenous or First Nations people around the world, say they have been living on Country for ‘time immemorial’ – that they have always been here, and their origins lie in the creation of the land and animals. As Sydney Elder and Wiradjuri activist Aunty Jenny Munro expresses:

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*‘...from time immemorial, we believe as Aboriginal people, Australia has been here from the first sunrise, our people have been here along with the continent, with the first sunrise. We know our land was given to us by Baiami, we have a sacred duty to protect that land’*

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Over the last few decades, archaeologists’ knowledge of deep human time in Australia has expanded from just a few thousand years in the 1950s, to 25,000 years in the 1960s, then 40,000 years, to now around 60,000 years or more (Belshaw, Nickel, and Horton 2020; Griffith 2018, 112; Karskens 2009, 25; Currie 2008, 8).

Archaeological evidence of Aboriginal people living in the Sydney region from Shaw’s Creek west of the Dyarubbin (Nepean) River is dated at around 14,000 years ago and numerous other sites in the area have been dated at around 15,000 ago. While Cranebrook Terrace, near Penrith in Western Sydney, has been dated to 41,700 years and a site near Parramatta at 30,000 years old, there is growing consensus among archaeologists and historians that people have lived across the Sydney region from around 50,000 years ago (Attenbrow 2010, 18–20; Nanson, Young, and Stockton 1987, 77; Williams et al. 2017; McDonald 2005; Attenbrow 2012; Williams et al. 2012).

More ancient sites lie off the coast and in river valleys, now deep under water. Before the major sea level rise event at the end of the last ice age around 17,000 years ago, Aboriginal people living along the Parramatta River could have walked downstream along the riverbanks to the sea about 30 kilometres beyond the current day coastline. Over generations they would have watched and told stories about the gradual change as the sea rose to fill the ‘drowned river valley’ of what is now Sydney Harbour until it reached present levels around 6,000 years ago (Nunn and Reid 2016, 11; Attenbrow 2010, 154–55; Birch 2007, 217–19).

Given the devastating impact of violent dispossession and disease upon Aboriginal people in the Sydney region during colonisation, the precise identification of language groups and historical traditional lands or Country for a given area is often difficult today. Early colonial observer Watkin Tench believed there was at the least coastal and inland dialects of the same language and, while this is challenged by some historians who prefer less distinction between what were all ‘canoe cultures’ around Sydney’s coast and waterways, there seems to have been an alignment with inland

economies of the rivers, creeks and open forests of the Cumberland Plain, and coastal 'saltwater' focused groups.<sup>1</sup>

### 3.4.1 Gadigal Country

Prior to colonisation, Aboriginal people in the relatively resource rich Sydney region lived in extended family groups estimated at around 30 to 50 people. These groups were associated with certain territories or places that gave clan members particular social and economic rights and obligations. Each of the estimated 30 clans in the Sydney region had a name often associated with a place or resource such as the Cabro (Gabra) gal (people) at modern day Cabramatta (place of cobra worms). Clan groups moved around a defined area in response to changing seasons and the availability of food and other resources. European observers mistakenly took this as a nomadic lifestyle, when in fact they moved around a 'limited and deeply known' area. There were also forms of more sedentary agriculture and aquaculture, and villages such as those described by early colonial diarists at Kamay-Botany Bay. Watkin Tench described an Aboriginal 'village' on the north-west arm of Botany Bay with 'more than a dozen houses [bark huts], and perhaps five times that number of people.' Tench said it was 'the most considerable establishment that we are acquainted with in the country', though later later accounts recorded '70 huts' at Bent's Basin on the Nepean River west of Sydney (Gapps 2010, 26–60; Attenbrow 2010, 78; Karskens 2009, 36; Gammage 2012, 281–304; Tench 1793).

The Gadigal clan group lived on the south side of what is now called Sydney Harbour for hundreds of generations over tens of thousands of years. According to historian Keith Vincent Smith, 'Cadi' means 'below or under' and the name of the clan group stems from Camp Cove, a place described as below South Head. The Gadi heartland stretched from South Head through the present-day Eastern Suburbs to Woolloomooloo Bay, Farm Cove and Warrane or Warrang (Sydney Cove), up to the entrance to Darling Harbour or Gomora (Smith 2020).

They were one of around 30 clan groups across the Sydney region. On the west side of Gomora (Darling Harbour) were the Wangal, on the north side of the harbour the Cammeraygal, Borogegal and Wallumedegal. To the south and east were the Kamaygal, Bidjigal and Gweagal.

In 1790, the Wangal man Bennelong related to Governor Phillip the clans around Sydney Cove (Smith 2020);

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*'From the Entrance of the Harbour, along the South Shore, to the Cove adjoining this Settlement, the District is called Cadi, & the Tribe Cadigal — the Women, Cadigalleon. The South Side of the Harbour from the above-mentioned Cove to Rose-Hill, which the Natives call Parramatta, the District is called Wann, & the Tribe, Wanngal. The opposite Shore is called Wallumetta, & the Tribe, Wallumedegal. The other Tribes*

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<sup>1</sup> This historical overview does not seek to contest traditional or current definitions of affiliation with Country and acknowledges that multiple interpretations of such identity may exist. A frequently used indication of Country is language identity. However, far more complex factors are known to have often taken precedence over language in determining Aboriginal people's definition of Country. See Aboriginal Heritage Office, 2015, *Filling a void: a review of the historical context for the use of the word 'Guringai'*; Stanner, 1965, 'Aboriginal Territorial Organization', pp 1-26. There is debate on the extent and name for the language itself, some preferring to use 'The Sydney Language.' Various interpretations of the word Eora (people) and its application to the Sydney Basin. Smith and Steele agree the language in Sydney was in fact 'Biyal-Biyal'. Smith 'Eora People. Saltwater People of the Sydney Area', <https://www.eorapeople.com.au/> Watkin Tench observed that though the coastal and inland men he met conversed and understood each other, many words for common things bore no similarity while other words were only slightly different (1793 [2004], *A complete account of the settlement at Port Jackson*, p. 122.

*which live near us, are those of Gweagal, Norongerragal, Borogegal, Gomerrigal, & Boromedegal.*

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The Kameygal lived on the north shore of Kamay or Botany Bay, along the banks of the Cooks River from the west and south to Botany and La Perouse. According to historian Keith Vincent Smith, in the Sydney language, *kamey* and variations, including *kamai*, *kah-my*, *ka-mai*, and *camey*, is the generic name for a spear. Thus the Kameygal were possibly the 'spear clan' (Smith 2020).

Precisely where the Gadigal and Kamaygal (Kameygal) shared a boundary is unclear. It is almost certain they both would have moved to the beach and rocks at Bondi for seasonal or ceremonial purposes, such as the gathering of several hundred people Governor Phillip witnessed in 1790. According to David Collins, 'in a cove on the sea-side, between Botany Bay and Port Jackson, [possibly Little Bay] he [Phillip] suddenly fell in with an armed party of natives, in number between two and three hundred men, women and children.' Undoubtedly, people had gathered at least from Kamay and around Sydney Harbour to muster such numbers (Collins 1789, 24–25).

The Birrabirragal have been associated with South Head, but this remains inconclusive. So too the Biddigal, which seems to have been misnamed in the 1950s (Meadows 1998; Coast History and Heritage 2021, 24).

Many clan groups had shared boundaries or reciprocal rights with bordering and neighbouring groups. With appropriate permission and protocols, people could travel through and hunt on other groups' lands. On special occasions such as feasts associated with the beaching of a whale; a kangaroo hunt on the open forests of southwestern Sydney; trading or exchanging stone, tools and other items, as well as ceremonial occasions, people would often travel long distances around and from outside the Sydney region (Gammage 2012; Irish 2017, 22–27).

The Gadigal had different relations with neighboring groups – some Gadigal ceremonial gatherings such as initiations were conducted by other clan groups with certain authority to do so. For example, according to Collins, the Cammeraygal were able to 'oblige' other clans to 'attend wherever and whenever they directed' and Collins believed they had a 'decided superiority over all the tribes' the colonists had encountered. Contests were delayed until the Cammeraygal arrived and they also had the 'extraordinary privilege of exacting a tooth from the natives of other tribes inhabiting the sea coast (Collins 1789, 456).

Gadigal women (Gadigalleon), like the rest of the coastal or saltwater groups in the Sydney region, were important food providers for their families. One of the staple food sources was fish. While men speared fish from the shoreline with multi-pronged spears or *mooting*, the women fished from their nawi or tied-bark canoes with lines and hooks. They made their fishing lines or carr-e-jun by twisting together strands of fibre from kurrajong trees, cabbage trees or flax plants. Animal fur and grass 'nearly as fine as raw silk' were also used to make lines. One colonist described them as 'nicely shredded and twisted very close and neatly'. The distinctively crescent-shaped fish-hooks or burra were crafted from the turban shell (Bradley 1802, 284).

Gadigalleon had extraordinary skills in fishing, swimming, diving and using watercraft. They sang as they fished and were seen fishing for long periods during the day, in all weathers, and often at night with small fires on board. These women, as historian Grace Karskens has noted, 'dominated the waters of the harbours, coves and bays, and the coastlines in between. The men mostly only used canoes when they wanted to get from one cove to another.' Women were also noted to use their nawi off-shore on occasion, and men and women would undoubtedly have fished around the sheltered foreshores and rock platforms of the coastline (Karskens 2014).

As one of the early colonists Lieutenant William Bradley observed in 1788 (Bradley 1802, 133);

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*'The Natives strike fish with their barbed Spears from the rocks & sometimes from the Canoe in with they stand up: in general we observe the Canoe occupied by the Women who fish with hook & line, which I never noticed any of the Men to use or that the women use the Spear. The line appears to be made from the inside / bark of the Cabbage tree, it is laid of two strands well twisted & strong. Their hooks seem to be made both from the claws of Birds & the inside of a shell resembling the pearl Oyster Shell, from the latter I have seen a hook made, they rub it down on the rocks until fit for their purpose & then shape the hook in a curve with a sharp shell or stone; we found vast quantities of Oysters & other shell fish in the Harbour & Oysters of an amazing size in the uppermost Coves.*

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Although the resource rich foreshores of the harbour were the focus for Gadigal, the areas inland around what is today's Eastern Suburbs were used as well. Inland, there were fruits, seeds, nuts and grains. Nectars, rhizomes and tubers were also harvested. Some parts of plants would have required special preparation to remove any poisons, but the seeds of all native grasses are edible. David Collins noted the difference between the inland areas and the foreshores, although did not observe the use of plants as closely as he might have (Collins 1789);

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*'The woods, exclusive of the animals which they occasionally find in their neighbourhood, afford them but little sustenance; a few berries, the yam and fern-root, the flowers of different banksia, and at times some honey, make up the whole vegetable catalogue.'*

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Men used wooden spears and women wooden digging sticks - two of the most important possessions of Aboriginal people in the pre-colonial past. The Melaleuca tree's paper-like bark was used as shelter, wrapping, containers and for fire lighting. In 1791 John Hunter described how Aboriginal burning the ground on the north side of the harbour, opposite the settlement', was a practice 'constantly' done when the weather was dry. 'Firestick farming' was the practice of burning land to create new green shoots and thereby attract kangaroos for hunting, but fire was also used to control undergrowth and prevent larger bushfires (Hunter 1793, 361; Tench 1793, 284).

Due to the predominance of relatively soft sandstone around Sydney Harbour, hard stone used for axes and scrapers in particular, was traded from areas such as the basalt gravel beds along the Nepean River. Trading was extensive and far-reaching. Silcrete from an outcrop near present day Plumpton Ridge on the Cumberland Plain in Sydney's west and mudstone from the Hunter Valley or near Warragamba dam have been found around Sydney Harbour (Currie 2008, 10–15).

### 3.5 Conclusion and summary

The archaeological context established in this report clearly identifies that Sydney's Eastern Suburbs were a focal point for Aboriginal activity and occupation. The attractiveness of this location for Aboriginal people has resulted in numerous archaeological resources being identified within this region. Previous archaeological investigations have identified that, despite significant levels of development in this area, there is the potential for intact soil profiles to be present, and for highly significant archaeological deposits to be present within these subsurface layers.

## 4.0 LANDSCAPE CONTEXT

### 4.1 Soils

The study area resides wholly within the Newport soil landscape (Figure 4). Close by, Tuggerah soil landscapes are mapped, which suggest the study area is a swale margin where sand cover is thinner over bedrock than in areas close by. The Newport landscape consists of aeolian soils composed of shallow (<50cm), well-sorted siliceous sands, overlying moderately deep (<150cm) buried sands (eSpade 2015). Crests and gentle slopes are generally comprised of sandy topsoils, while steep slopes, lower slopes and depressions can feature deep (<200cm) pockets of sand that are generally well-stratified (eSpade 2015). The sandy composition of the Newport landscape means that upper soil layers are moderately erodible, particularly in areas where ground cover has been disturbed and where storm-water runoff is not adequately controlled.

For predictive archaeological purposes, and to understand possible chronologies in soils at the study site, the Quaternary history of the area is significant. The aeolian sands of the Newport soil landscape (and the Tuggerah soil landscape) are part of a wider and complex of Quaternary age sands lying over bedrock north and south of Botany Bay – termed the Botany Sands. This is a poorly defined sequence of unconsolidated sands and organic sediments broadly distributed around the structural depression of the Botany Basin.

The Botany Sands comprise an area of 41.6km<sup>2</sup> and are economically important as a sand source and hydrogeologically significant as an aquifer (Figure 5) (Gale and Wales 2022). The sands are draped over bedrock and older regolith on higher ground, infill some palaeo-valleys and are derived from several episodes of deflation of sands from the Botany Basin during low sea levels. The bulk of the sand deposition seems to have occurred under maximum low sea levels, either side of the Last Glacial Maximum (LGM). The dated oldest sands (c.145, 000 years ago) indicate deposition under Marine Isotope Stage (MIS 6) with a cluster of dates around the LGM (MIS 3-2) and then stabilization occurred around 12-11,000 years and then some localized Holocene re-activation (Gale and Wales 2022, 2–3).

The Botany Sands have deeply weathered. Near surface sands are often weathered and leached to depths of several metres, often with a distinctive indurated layer of yellow to brown to black sands at depth. These layers are often referred to as the Waterloo Rock (or informally “coffee rock” in archaeological reports). The indurated layers are a type of duricrust (Gale et al. 2018). Observations in excavations around Prince of Wales Hospital Randwick indicate that more than one indurated layer may exist stratigraphically overlying another, and re-worked coffee rock gravels can be seen associated with archaeological levels.

Swamp deposits develop at lower elevations in swales. Swamps occur on the Botany Sands in relation to rising sea level inducing an aquifer, and also at higher elevations connected to situations where fine grain materials accumulate making the sands impermeable. The swampy soils which evidently existed around and into the study area (Figure 5) appear to be at a higher level and behind a blocking landform feature lying to east (possibly a spur ridge or bedrock rock-step). Swamp deposits interstratify within the Botany Sands, so have been present both on Pleistocene and Holocene landscapes (Gale and Wales 2022).

To assess the archaeological potential of the study area key information on soils (Botany Sands) will be depth over bedrock, the extent of leaching or stratification in sands, the relationship of sand depths to underlying bedrock morphology and the occurrence (or not) of organic sands or other deposits that can be related to the landscape (swamp margin) mapped in 1894.

Such data needs to be site specific to the block. Interpolating information from elsewhere may have some general predictive value, as may geotechnical data.

The need for site-specific soils data lies in the fact that both Pleistocene and Holocene age soils and land surfaces can be preserved below surface in the Botany Sands and *in situ* deposits and buried soils may be patchy. Across much of the Botany Sands landscaping has truncated, levelled and re-worked the late Holocene landforms (Gale and Wales 2022).

The implication of this is that subsurface archaeological deposits of Pleistocene and Holocene age may be found near surface, truncated or *in situ* or at depth at a wide range of elevations and depths on the Botany Sands. *In situ* deposits are more likely to be found where disturbance has been less. However, disturbance near-surface may not preclude archaeological deposits where natural deposits are deeper.

## 4.2 Geology

Newport soils overlie the Newport and Garie Formations of the Middle Triassic Narrabeen Group (eSpade 2015). These formations consist of interbedded laminite, shale and quartz to lithic quartz sandstone. In some areas of Newport soils, Hawkesbury Sandstone is found to be the underlying material. Hawkesbury Sandstone is a medium to coarse-grained quartz sandstone with minor shale and laminite lenses (eSpade 2015). The presence of these formations in the region around the study area indicate that sandstone outcrops can be expected to occur in some portions of the Newport soil landscape. Outcrops may have been used by Aboriginal groups for tool grinding or artistic expressions. This is reflected in the extensive search where the most frequently registered Aboriginal sites are associated with stone and rock, with rock engraving being the most frequently encountered sites (n=6, 55%). Therefore, any outcrops within the study area should be investigated for potential evidence of Aboriginal activity or occupation. Because the primary deposition of the Botany Sands is aeolian, the form of the bedrock surface is important as it acts as a template architecture onto which sands accumulated, and then are stored. The three-dimensional shape of bedrock outcrop and heights of rockhead will be more important than bedrock composition to determining subsurface archaeological potential, and deposit depths, in the study area.

Aquifer behaviour from bedrock into and through overlying sands may be a significant factor in predicting archaeological site patterning. Due to the predominance of relatively soft sandstone around Sydney Harbour, hard stone used for axes and scrapers in particular, was traded from areas such as the basalt gravel beds along the Nepean River. Trading was extensive and far-reaching. Silcrete from an outcrop near present day Plumpton Ridge on the Cumberland Plain in Sydney's west and mudstone from the Hunter Valley or near Warragamba dam have been found around Sydney Harbour (Currie 2008, 10–15).

## 4.3 Hydrology

No fresh watercourses are currently extant within the study area or its immediate vicinity. The Botany Sands are highly permeable, so surface water is restricted to swamps and ponds where impermeable layers impede percolation. The interactions from bedrock surface run-off or aquifer feed into shallow sands will have been a critical factor in obtaining potable water across the Botany Sands.

While there are no known freshwater sources in proximity to the study area, the closest salt waterbody is the Pacific Ocean, which is located approximately 950m to the east of the study area. Access to the ocean would have allowed Aboriginal groups to collect marine foodstuffs and resources, meaning that locations closer to the water would have been more attractive occupation sites to Aboriginal people.

Due to the highly developed nature of the region around Maroubra, it is unclear whether other fresh watercourses may have been located in closer proximity to the study area prior to European colonisation. This region of Sydney was known to previously contain numerous interdune wetlands prior to the nineteenth and twentieth centuries.

The 1894 contour map suggests that the study area may have been located within, or in proximity to the margin of a smaller wetland area (Figure 6). Wetlands are likely to have provided food resources and possibly fresh water. Also, the 1894 map points to the swamp near the study area being in a swale inland of other swamps in the back beach area. Seaward swamps, being closer to the shoreline, will have been more likely to be brackish from sea spray salt. What appears to be a bedrock-controlled slope drains southwards to the predicted swamp margin (Figure 5) so potable water may have spring fed the vicinity of the study area. This would predict that the study area could have been a site of Aboriginal occupation and activity, as swamps and springs would have provided access to potable drinking water and other aquatic freshwater resources.

However, the level of development which has occurred in this region since colonisation has significantly altered the natural landscape. It is difficult to assess the precision of the 1894 map and survival of those mapped landforms without subsurface investigations.

#### 4.4 Landforms

Topographic data demonstrates that the study area is situated towards the bottom of a slope, at just below the 20m contour. The slope rises north to over 50m AHD and then runs east as high ground eventually forming the northern headland of Maroubra Bay. To the south land flattens over an east-west aligned palaeo-valley and swale which appears to be sand infilled. This swale, and the nineteenth-century swamp, sits behind what are probably two blocking spurs, which are clearly defined on the 1894 topographic map.

The palaeo-valley is a long-standing feature. Linear north-south dunes still existed east of what is now Anzac Parade between 30 and 40m AHD in the vicinity of modern Kitchener Street and Byng Street in 1894 (Figure 5). Heights, topography and likely palaeo-valley form all indicate the study area is sufficiently inland to be removed from sea level both in the Holocene and in the last interglacial (MIS Stage 5). Dune deposits, buried soils and land surfaces of both Holocene and Pleistocene age could occur in the swale area, protected by the interlocking spurs to the east.

The study area forms a block broadly along the contour. While not a large area, transects aligned north-east to south-west probably are long enough to cross down into the swale, where sands would be expected to deepen. If geotechnical data become available logs may allow modelling of depth variations in *in situ* sands over bedrock.

The extent to which the current study area retains its natural topography is unclear. If the present landscape is somewhat similar to its pre-colonisation appearance, then the sloping nature of the study area and its potentially proximity to a wetland area suggest that it may have been in the northwestern swamp marginal area suitable for occupation, with spring fed freshwater.

#### 4.5 Historic land disturbance

During the 20<sup>th</sup> century, the region around the study area has largely been used for residential purposes. However, aerial photographs from 1950 (Figure 8) demonstrate that the study area remained vacant, although it was unclear if it had any other purpose at this time. By 1960 though, structures had been developed on the site, following the general trend of increasing development throughout Sydney (Figure 9). Subsequent aerial images reiterate that the Maroubra area has becoming increasingly developed since the latter decades of the 20th century; yet, they also appear

to show that the structures present within the study area are the original structures constructed by 1960 (Figure 10). The lack of multiple development phases on the site could suggest a lower level of surface disturbance has likely occurred than if the site had been redeveloped multiple times.

Figure 4: Soil landscapes around the study area

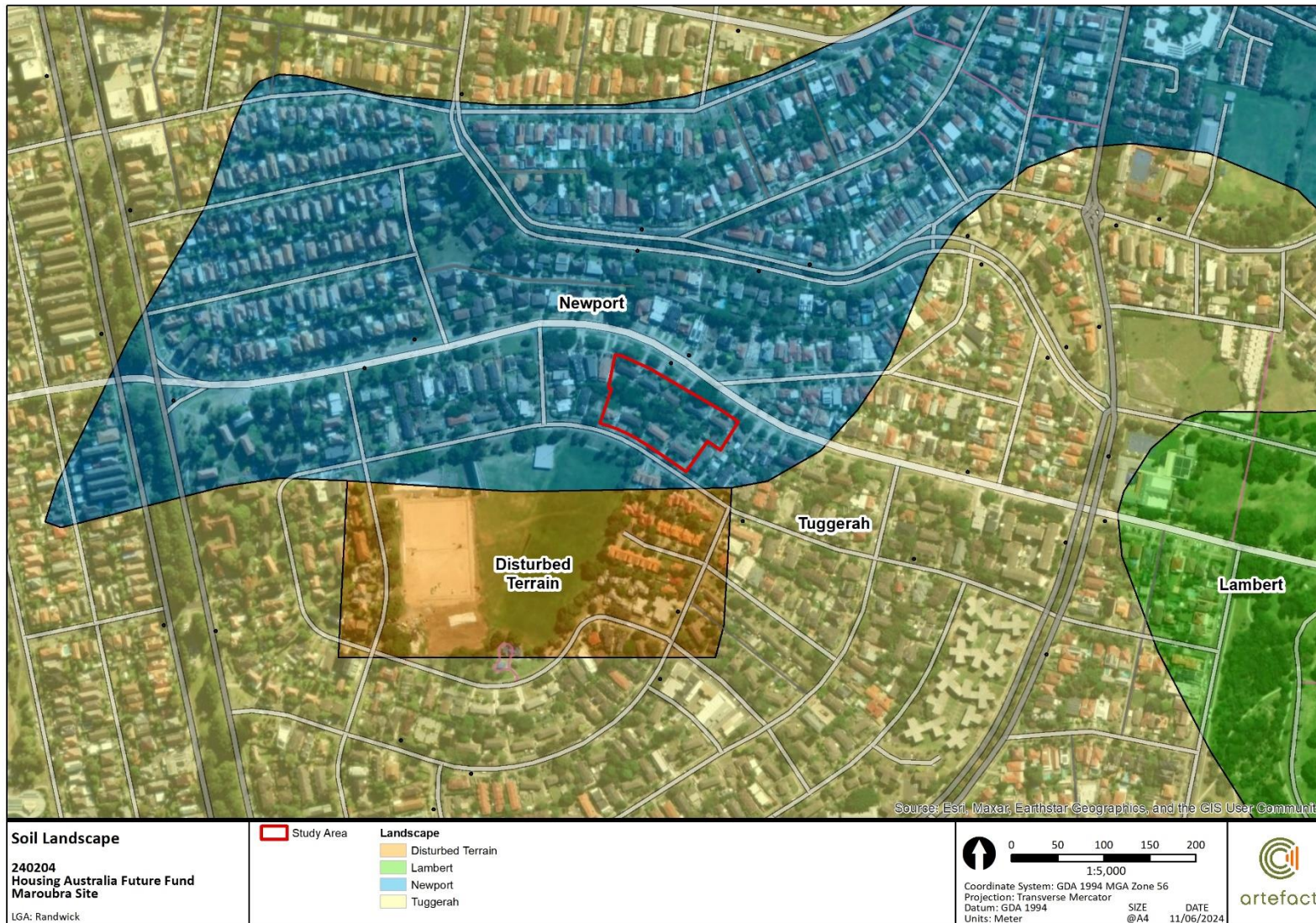
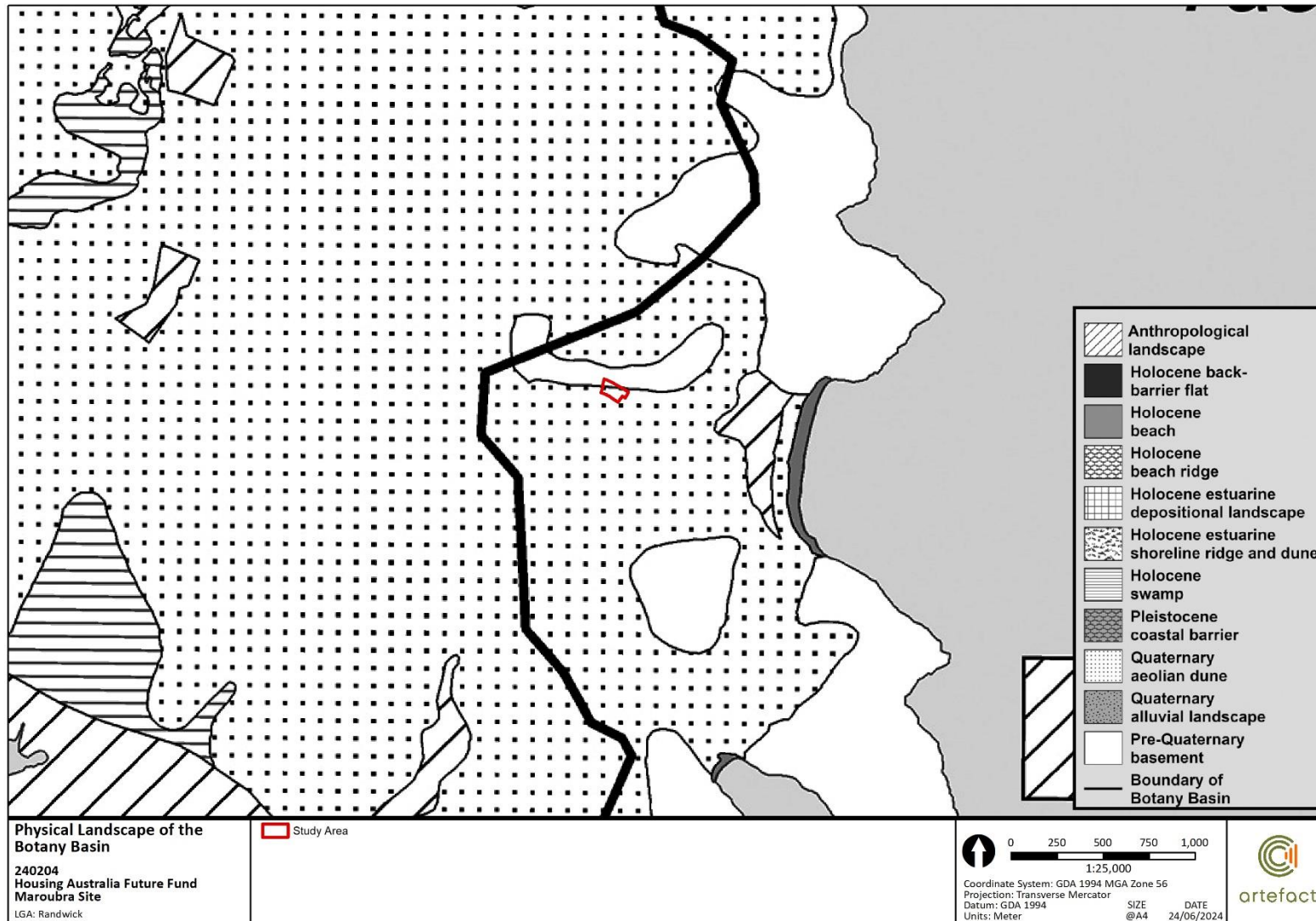


Figure 5: Physical landscape of the Botany Basin (adapted from Gale and Wales 2022)



Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS\_Mapping\240204\_Housing Australia Future Fund\MXD\240204\_Maroubra Physical Landscape of Botany Basin\_v1\_240624.mxd

Figure 6: 1894 Contour Map (Source: State Library NSW)

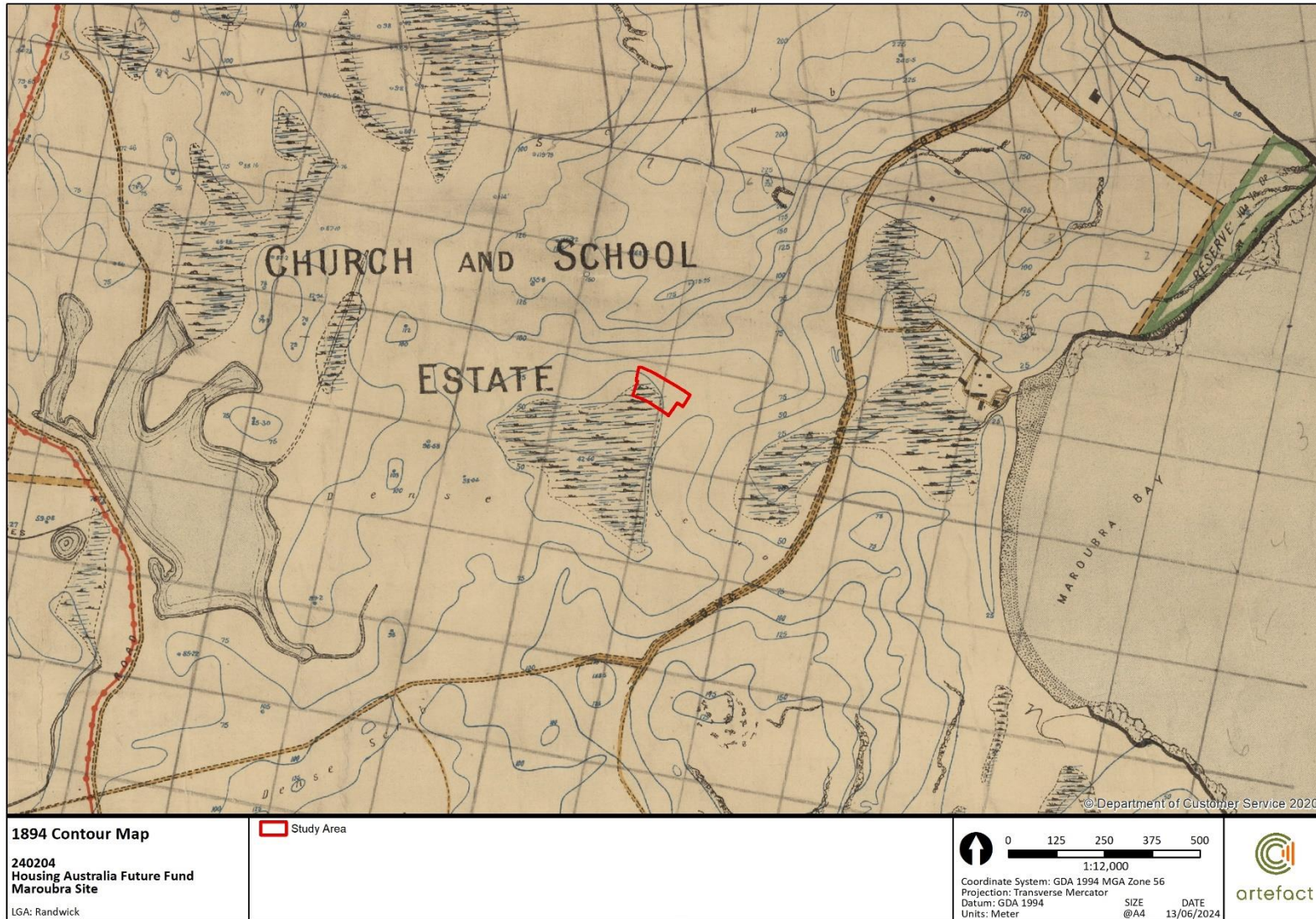


Figure 7: Topography and hydrology of the study area



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Figure 8: 1950 aerial photograph





Figure 9: 1960 aerial photograph



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**1960 Aerial Overlay**  
240204  
Housing Australia Future Fund  
Maroubra Site  
LGA: Randwick

 Study Area

 0 25 50 75 100  
1:2,500  
Coordinate System: GDA 1994 MGA Zone 56  
Projection: Transverse Mercator  
Datum: GDA 1994  
Units: Meter

SIZE	DATE
@A4	11/06/2024



Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS\_Mapping\240204\_Housing Australia Future Fund\MXD\240204\_Maroubra Historical Overlays\_v1\_110624.mxd

Figure 10: 2001 aerial photograph



<p><b>2001 Aerial Overlay</b></p> <p>240204 Housing Australia Future Fund Maroubra Site</p> <p>LGA: Randwick</p>	<p> Study Area</p>	<p> 0 25 50 75 100 1:2,500</p> <p>Coordinate System: GDA 1994 MGA Zone 56 Projection: Transverse Mercator Datum: GDA 1994 Units: Meter</p> <p>SIZE DATE @A4 11/06/2024</p>	 artefact
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## 5.0 SUMMARY AND PREDICTIONS

### 5.1 Regional and local archaeological character

Aboriginal people have occupied the broader landscape including the study area for tens of thousands of years, practicing various activities related to hunting and resourcing, encampment and ceremony (see Section 3.4). Previous studies in the broader region surrounding Maroubra highlight a spatial pattern of Aboriginal sites concentrating close to the coastline. Such sites include art locations, middens, stone artefacts and even a burial, as can be seen on the extensive AHIMS search results (Figure 2). This spatial distribution is likely due to several factors. The ocean would have provided access to many marine resources and the sandstone outcropping around the foreshores contained suitable surfaces for art (e.g. engravings) and possibly tool grinding. It is assumed these were major elements that drew Aboriginal people to this foreshore area. The comparative scarcity of sites recorded more than 500m inland from the coastline likely also reflects historical disturbances (such as residential construction) impacting archaeological deposits, as well as investigation sampling bias.

The adjacent Tuggerah soils (i.e. Botany Sands) have potential to contain deep archaeological deposits which have been less affected by historical development. However, the Newport soils, within which the study area is located, are relatively shallower, making the likelihood of disturbed contexts considerably greater. Throughout this region, the depth of the natural soil profile is important for considerations of archaeological deposits' survivability. *In situ* Aboriginal objects are more likely to be present where historical disturbances have been minimal, particularly in shallower soil landscapes such as the Newport soils.

Recorded art sites nearby to the study area have generally been identified on exposed sandstone outcrop. However, investigations within the La Perouse Headland have set precedent for buried art sites and buried sandstone engravings may be present in similar coastal landforms, particularly where soil erodibility is higher. Given the study area's location and the nature of the soil profile, it is possible that such sites may be present.

Previous studies in relative proximity to the study area (Section 3.3) broadly support this patterning of Aboriginal sites, and the assertion that the archaeological record is more greatly impacted where shallow soils and historical disturbances coincide.

### 5.2 Predictive model

The predictive model comprises a series of statements regarding the nature and distribution of evidence of Aboriginal land use that is expected in the study area. Based on a synthesis of information from the results of desktop research, landscape context and previous archaeological assessments inside and surrounding the study area, the following predictive statements are made:

- Historical disturbance has likely greatly impacted the shallow Newport soils within the footprint of built structures, and it is unlikely that *in situ* Aboriginal objects will be present in these locations
- *In situ* soil deposits may be present within the study area, outside of the building footprints
- The most likely site types to be recorded within the study area are PADs or artefacts
- Land with the least amount of historical ground disturbance has the greatest potential for artefact bearing deposits
- Native vegetation has been cleared therefore culturally modified trees will not be present within the study area

- It is possible that sandstone surfaces and associated Aboriginal art and/or grinding grooves may be present.

## 6.0 METHODOLOGY

### 6.1 Aims

The aims of archaeological survey are to:

- test the predictive model by ground truthing the findings of the desktop assessment
- identify and record all Aboriginal objects visible within the study area
- identify and define areas of PAD (as defined by the predictive model)
- gather enough information to assess scientific values of identified Aboriginal objects.

### 6.2 Constraints and limitations

During archaeological survey, overall visibility was low throughout the study area due to the existing buildings, paved and grassed surfaces. Certain parts of the properties within the study area were not accessed due to tenancy constraints. The interiors of buildings were not accessed both due to tenancy and the lack of ground surface visibility.

### 6.3 Survey personnel

Archaeological survey of the study area was conducted by Nicola Jorgensen (Aboriginal Heritage Team Leader Assistant, Artefact), Jonathan Bennett (Heritage Consultant, Artefact), Steven Ella (Cultural Heritage Officer, La Perouse LALC) and proponent representatives on 4 July 2024.

### 6.4 Sample strategy

Archaeological survey of the study area was carried out as a pedestrian sample survey. Not all properties within the study area were accessed. Archaeological survey was completed utilising a single survey unit reflecting the study unit's small size and consistent landform.

### 6.5 Survey procedure

Archaeological survey was conducted in accordance with the Code of Practice. Ground exposures were inspected for Aboriginal objects. The study area was inspected for old growth trees and associated cultural modification. The survey path excluded the interior of buildings. A handheld GPS was used to track the path of the survey team and record coordinates of any Aboriginal objects. The coordinate system projection used for all recording was GDA94 MGA 56. A photographic record was kept during the survey.

### 6.6 Site recording procedure

No previously unrecorded Aboriginal objects or areas of PAD were recorded during archaeological survey.

## 7.0 RESULTS

### 7.1 Description of survey units

The total study area covered a footprint of approximately 9,648 m<sup>2</sup>. Existing buildings covered the majority of the study area. Survey commenced within the northeastern portion of the study area at 209-211 Fitzgerald Avenue (Figure 11). The back yard of that property was unable to be accessed during survey. However, visibility in that area was determined to be nil due to extensive grass coverage and paved surfaces (Figure 12). From the back gate, the landform appeared to have been modified surrounding the southeastern fence line, which had likely been raised by imported fill. Redeposited soils at the gate entry were comprised of a grey silty sand, with imported gravel inclusions (Figure 13). Visibility was similarly low within the front yard of that property due to paved surfaces.

The back yard of 207-205 of Fitzgerald Avenue to the west was then inspected. A mound of fill comprised of building material was located at the entrance to that back yard (Figure 14). Mound exposures were comprised of a dark grey medium sand with inclusions of imported gravels and building materials (Figure 15). Exposures near the eastern fence line of that property were similarly comprised of a dark grey medium sand, with imported gravel and modern shell inclusions (Figure 16). The irregular topography of that back yard appeared to be the result of several, localised mounds of imported fill. An area between that property and the property to the west was inspected over the fence, where soils were similarly comprised of a dark grey sand (Figure 17). The back yard of that adjacent property to the west was inaccessible. While visibility was low within that area due to paved surfaces, exposures appeared to be comprised of a similar material to the accessible property (Figure 18). During survey, Steven Ella (Cultural Heritage Officer, La Perouse LALC) recommended that an unexpected finds procedure and heritage induction be prepared for the proposed works.

Across the portion of Fitzgerald Avenue within the study area, a pattern of landform modification was observed. From the existing road, a level surface continued south, followed by a consistent drop in elevation fronting those properties, then a return to a more levelled surface associated with the existing buildings (Figure 19). While the landform was sloped on the adjacent side of the road north of Fitzgerald Ave, the study area did not conform to that change in elevation and appeared to have been modified (Figure 20). It is possible that material excavated to create levelled surfaces for those buildings had subsequently been redeposited north of those buildings. Within the backyard of 203-201 Fitzgerald Avenue, a services pit was observed, where surrounding exposures were comprised of a dark grey sand, with imported gravels and historic fill inclusions (Figure 21). Additional localised disturbance within that back yard included underground service pits and mounds of historic fill (Figure 22). Further west, the pattern of landform modification continued within the front yard of 195 Fitzgerald Avenue (Figure 23). It was evident that the non-cohesive soils within the study area, in conjunction with the sloped surface had accelerated erosion of those soils.

From the northwestern boundary of Fitzgerald Avenue, Perkins Way was followed south towards the southern portion of the study area, comprising the properties on Yorktown Parade. Visibility was nil within the front yard of 44 Yorktown Parade due to imported pebbles overlying black plastic sheeting (Figure 24). Visibility was similarly nil within that back yard, due to extensive grass coverage and paved surfaces (Figure 25). While the slope within that back yard was more consistent with the surrounding landform, localised areas of irregular topography were observed surrounding the fences, that were likely comprised of imported fill. Further east, exposures were observed surrounding the front driveway to 50-56 Yorktown Parade. Soils were comprised of a light grey medium-fine sand, overlain by inclusions of modern shell fragments, imported gravels and historic material (Figure 26). Further east, a similar exposure was observed surrounding the driveway entrance to 58-64 Yorktown Parade. Soils within that exposure were comprised of a light brown medium-fine sand, overlain by

inclusions of modern shell fragments, imported gravels and historic material (Figure 27). Within the back yard of that property, visibility was nil, primarily due to extensive grass coverage (Figure 28). A large concrete slab, overlying what appeared to be an underground sewerage network was observed within that back yard (Figure 29). The topography within that property appeared to be more consistent with the surrounding landform (Figure 30).

At the beginning of the survey, Steven Ella (Cultural Heritage Officer, La Perouse LALC) stated that a creek had previously been present at the southern side of Fitzgerald Avenue but no evidence of this waterway was visible due to historical development. No Aboriginal objects, areas of PAD, or sandstone surfaces were identified during survey.

**Figure 11: Front of 211-209 Fitzgerald Avenue, Maroubra, facing south**



**Figure 12: View of back yard of 211-209 Fitzgerald Avenue from back gate, facing south**



**Figure 13: Redeposited soils at the back gate of 211-209 Fitzgerald Avenue**



**Figure 14: Mound of imported fill in property back yard, facing south**



**Figure 15: Exposure in mound of imported fill in property back yard, facing south**



**Figure 16: Exposure near eastern fence line of property**



**Figure 17: Exposures in fenced area between properties**



**Figure 18: Visibility and exposures within adjacent property to the west**



**Figure 19: Landform modification at front of 2/203 Fitzgerald Avenue, facing west**



**Figure 20: View of Fitzgerald Avenue from outside study area, facing west**



**Figure 21: Services pit and exposure within back yard of 203-201 Fitzgerald Avenue**



**Figure 22: Disturbance within back yard of 203-201 Fitzgerald Avenue**



**Figure 23: Landform modification at 195 Fitzgerald Avenue, facing southeast**



**Figure 24: Visibility within front yard of 44 Yorktown Parade, facing southeast**



**Figure 25: Visibility within back yard of 44 Yorktown Parade, facing northeast**



**Figure 26: Exposure in front driveway of 50-56 Yorktown Avenue**



**Figure 27: Exposure in front driveway of 58-64 Yorktown Parade**



**Figure 28: Visibility within back yard of 58-64 Yorktown Parade, facing northwest**



**Figure 29: Concrete slab in back yard of 58-64 Yorktown Parade, facing north**



**Figure 30: Slope from within back yard of 58-64 Yorktown Parade, facing south**



## 7.2 Analysis of survey coverage and effectiveness

Effective survey coverage is outlined in Table 4, and landform survey coverage is outlined in Table 5. Where visibility or exposure in a survey unit were less than 5%, this has been rounded down to 0% in accordance with Requirement 9 of the Code of Practice.

**Table 4: Effective survey coverage**

Survey Unit	Landform	Survey unit area (m <sup>2</sup> )	Visibility (%)	Exposure (%)	Effective Survey Coverage (m <sup>2</sup> )	Effective Coverage (%)
1	Slope	9,648	10	0	0	0

**Table 5: Landform survey coverage**

Landform	Landform area (m <sup>2</sup> )	Area effectively surveyed (m <sup>2</sup> )	% of landform effectively surveyed	Number of sites
Slope	9,648	0	0	0

## 8.0 DISCUSSION AND ANALYSIS

The sample survey was heavily restricted by low visibility throughout the study area, primarily due to the existing buildings, paved and grassed surfaces. However, the results of archaeological survey and desktop research provide enough information to consider the predictive statements presented in Section 5.2.

The predictive model stated that historical disturbance was likely to have significantly impacted shallow Newport soils within the footprint of built structures and therefore *in situ* Aboriginal objects would likely not be present in those locations. The model also stated that *in situ* soil deposits may be present outside the building footprints. The survey found that historical disturbance extended into the front and back yards of properties within the study area, particularly along the northern portion of Fitzgerald Avenue. While historical disturbance extended beyond the building footprint, the underlying culturally sterile layer did not appear to be exposed in any of these areas. As such, it is possible that intact sands remain in these areas. Likewise, there were multiple areas where materials had clearly been imported and these may have a capping effect, preserving underlying sands below relatively *in situ*.

Despite the potential for intact soil deposits to remain in large parts of the study area, particularly in the southern properties bordering Yorktown Parade where landform excavation and levelling appeared less apparent, this does not necessarily dictate potential for archaeological deposits. The study area's location is on a mid-low slope descending south and during archaeological survey it was noted that it is positioned in a dip in elevation between two higher gradual crests to the east and west. These higher elevations provided views east to the coast but this view was obscured from the study area. Whilst the study area is reported to be nearby to a possible wetland, and potentially an old creek line, these landform elements are not considered conducive to the presence of Aboriginal sites. Aboriginal people almost certainly traversed this broader area but if artefact or midden sites are present, they are more likely to be in areas nearby but outside of the study area. The predictive model stated that the most likely site type identified in the study area would be PAD. However, given these factors, it is considered unlikely that Aboriginal objects will be present.

The predictive model also stated that due to native vegetation clearance, culturally modified trees would not be present within the study area. No evidence of such trees was identified during archaeological survey. The predictive model also stated that sandstone surfaces and associated Aboriginal art and/or grinding grooves may be present within the study area. While portions of the study area were unable to be inspected during survey, no sandstone surfaces were identified within the study area. Although archaeological investigation at Kamay (Artefact Heritage 2021) recorded potential for buried sandstone surfaces containing engravings, these are not considered likely to be present in the study area due to the landform context and relative distance from the coastline.

Overall, archaeological survey did not identify any Aboriginal objects or areas of archaeological potential, and there are no registered Aboriginal sites within the study area. These results were found to be mostly consistent with the predictive statements developed in Section 5.2 and the results of previous archaeological investigations within the local and regional area.

## 9.0 SIGNIFICANCE ASSESSMENT

### 9.1 Significance assessment criteria

In accordance with the Code of Practice, an assessment of the scientific value of an Aboriginal object is required in order to form the basis of its management. The Guide provides the following criteria for the assessment of scientific value:

- Research potential - does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- Representativeness - how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- Rarity - is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- Education potential - does the subject area contain teaching sites or sites that might have teaching potential?

It is important to note that heritage significance is a dynamic value.

### 9.2 Statement of scientific value

No Aboriginal objects nor PADs were identified through archaeological survey, and the study area has been assessed as unlikely to contain Aboriginal objects. Therefore, the study area contains no scientific value.

## 10.0 IMPACT ASSESSMENT

### 10.1 Description of likely impacts

The proposed development comprises demolition of existing buildings and the construction of five 3 storey and one part 3/part 4 storey residential flat buildings to accommodate 144 social and affordable housing apartments, a communal room and a single level basement car park including bulk earthworks, tree removal and associated landscaping and public domain works (Figure 31).

### 10.2 Potential impacts to Aboriginal heritage

As no Aboriginal sites have been identified within the study area, there will be no impacts to Aboriginal objects through the proposed works.



## 11.0 MANAGEMENT AND MITIGATION MEASURES

### 11.1 Proposed management or mitigation measures

As no Aboriginal objects were identified and it is considered unlikely that Aboriginal objects will be present within the study area, works may proceed with caution without mitigation. Unexpected finds of Aboriginal objects are protected under the *NPW Act 1974*, and an Unexpected Finds Procedure (UFP) and Heritage induction must be implemented to manage Aboriginal objects that may be encountered during works.

### 11.2 Aboriginal cultural heritage assessment report

As outlined in Section 1.1, the proposal is seeking development consent as an SSD (SSD 71454960) under Part 4 Division 4.1 of the EP&A Act. In accordance with Requirement 18 of the SEARs, an ACHAR must be prepared to inform the project EIS.

The ACHAR must be prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011), the Code of Practice (2010a) and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (hereafter the Consultation Requirements; DECCW 2010b).

Preparation of an ACHAR would include:

- Background context as per the requirements of the Heritage NSW Code of Practice
- A summary of comprehensive consultation with Registered Aboriginal Parties in accordance with the Consultation Requirements
- Mapping of Aboriginal sites within the project area
- A summary of the results of the ATR (this document)
- A comprehensive significance and impact assessment, and overview of relevant legislation
- Details for any further management and mitigation measures that may be required prior to or during the proposed works. Suggested management measures may include:
  - An Unexpected Finds policy
  - Options for heritage interpretation
  - A heritage induction for all onsite personnel so that they are aware of their obligations under the *NPW Act 1974*.

### 11.3 Changes to the project area

Advice provided within this report is based upon the most recent information provided by the proponent at the time of writing. Any changes made to the project should be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed as part of the project may warrant further investigation and result in changes to the recommended management and mitigation measures.

## 12.0 CONCLUSION

### 12.1 Overview of findings

Desktop research and archaeological survey have identified the following:

- The study area is situated within a landform that is not conducive to the presence of Aboriginal sites
- Certain areas of the study area have been excavated and levelled to create flat surfaces
- There are no AHIMS registered Aboriginal sites within the study area
- Aboriginal objects are unlikely to be present in the study area
- The current proposal is unlikely to impact Aboriginal objects

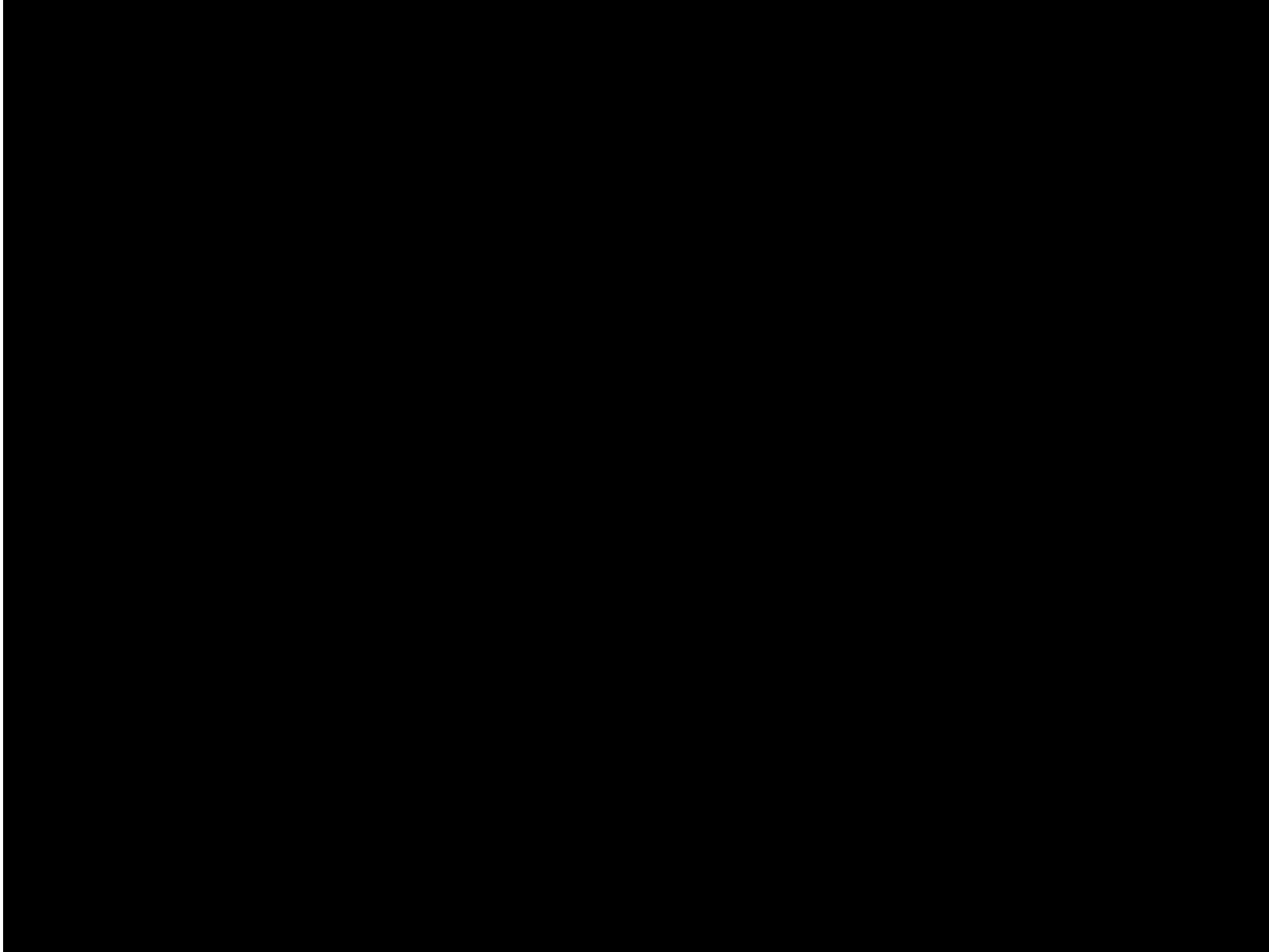
### 12.2 Recommendations

- An ACHAR must be prepared to satisfy Requirement 18 of the project SEARs (SSD 71454960), as per Section 11.2. The ACHAR must include consultation with Registered Aboriginal Parties (RAPs) in accordance with the Consultation Requirements
- If changes are made to the proposal that will result in impacts to areas not assessed by this report, additional Aboriginal heritage assessment will be required.

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