

**URBIS**

# **ARCHAEOLOGICAL RESEARCH DESIGN & EXCAVATION METHODOLOGY**

University of Newcastle, Central  
Coast Campus, Gosford, NSW

Prepared for

**UNIVERSITY OF NEWCASTLE**

26<sup>th</sup> April 2023

**URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:**

Director	Balazs Hansel, MA Archaeology, MA History
Associate Director	Sam Richards, BA Archaeology (Hons)
Senior Consultant	Meggan Walker, BA Archaeology (Hons) and ancient history
Consultant	Owen Barrett, BA Archaeology and Paleoanthropology
Project Code	P0041532
Report Number	D01 – Issued for client review 9/11/22 D02 – issued for Rap Review 11/11/22 FNL – Issues 13/12/22 RTS Response – 26/04/2023

---

**Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.**

**We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.**

All information supplied to Urbis in order to conduct this research has been treated in the strictest confidence. It shall only be used in this context and shall not be made available to third parties without client authorisation. Confidential information has been stored securely and data provided by respondents, as well as their identity, has been treated in the strictest confidence and all assurance given to respondents have been and shall be fulfilled.

© Urbis Pty Ltd  
50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

**urbis.com.au**

# CONTENTS

<b>1.</b>	<b>Introduction .....</b>	<b>1</b>
1.1.	Subject area .....	1
1.2.	Proposed Works .....	4
1.3.	Project History.....	7
1.4.	Authorship.....	8
<b>2.</b>	<b>Consultation .....</b>	<b>9</b>
<b>3.</b>	<b>Archaeological Research Design .....</b>	<b>10</b>
3.1.	Introduction .....	10
3.2.	Objectives .....	10
3.3.	Research Questions .....	10
<b>4.</b>	<b>Archaeological Excavation Methodology .....</b>	<b>12</b>
4.1.	Rationale for the Archaeological Excavation .....	12
4.2.	Objectives .....	12
4.3.	Context.....	12
4.4.	Excavation Team .....	13
4.5.	Excavation Methodology.....	13
4.6.	General Excavation Requirements .....	15
4.7.	Sieving .....	15
4.8.	Archaeological Recording .....	15
4.9.	Artefact Management.....	16
4.9.1.	Artefact Recording.....	16
4.9.2.	Temporary Storage of Aboriginal Objects .....	16
4.9.3.	Long Term Management of Aboriginal Objects.....	16
4.10.	Archaeological Chance Finds Procedure .....	16
4.11.	Human Remains Procedure .....	17
4.12.	Post Excavation Report .....	17
4.13.	Safety and Logistics.....	17
4.13.1.	Safety.....	17
4.13.2.	Logistics.....	18
<b>5.</b>	<b>Bibliography .....</b>	<b>19</b>
	<b>Disclaimer.....</b>	<b>20</b>

## FIGURES

Figure 1 – Regional location of the subject area .....	2
Figure 2 – Location of the subject area .....	3
Figure 3 – Proposed works concept design. ....	4
Figure 4 – Existing condition and demolition plan .....	5
Figure 5 – Bulk earthworks plan. ....	5
Figure 6 – Site plan.....	6
Figure 7 – North elevation. ....	6
Figure 8 – Indicative locations of initial Test Excavation Units marked in red (not to scale). Subject area in yellow.....	14

## TABLES

Table 1 List of Registered Aboriginal Parties .....	9
---	---



# 1. INTRODUCTION

Urbis have been engaged by the APP Group on behalf of the University of Newcastle (the Proponent) to prepare an Archaeological Research Design (ARD) and Excavation Methodology (EM) for the archaeological investigation of 305 Mann Street, Gosford, within the Central Coast Local Government Area (LGA) ('the subject area') (see Figure 1 and Figure 2). The subject area is legally described as:

- Lots 1, 2, 4, 29, 30, 31 and 32 of Section 1 in Deposited Plan 1591.
- Lot 1 in Deposited Plan 91163.
- Lot 1 in Deposited Plan 911164.

The subject area is on Darkinjung land and within the bounds of the Darkinjung Local Aboriginal Land Council (DLALC).

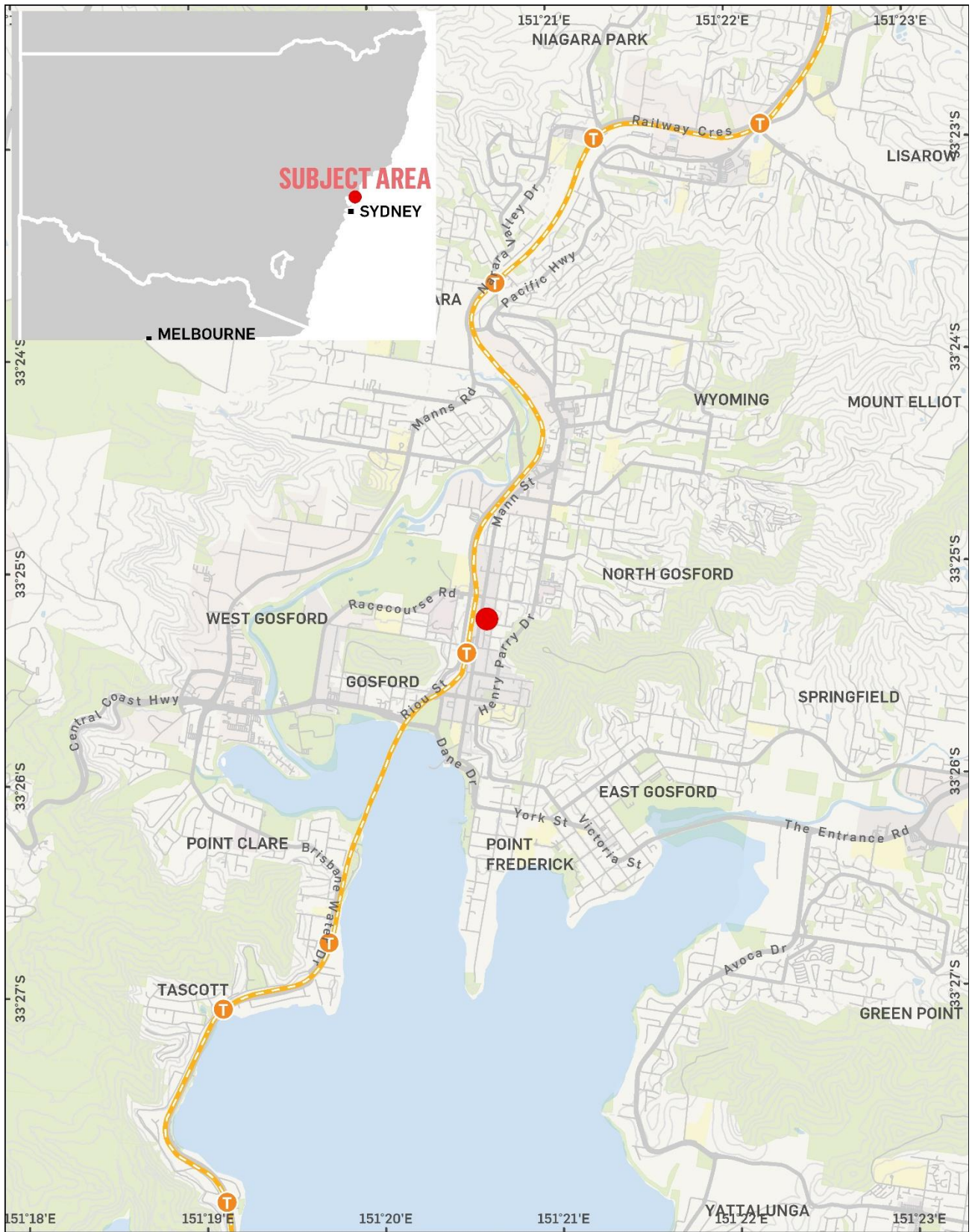
The ARD & EM is in line with the recommendations of an Aboriginal Cultural Heritage Assessment (ACHA) undertaken for the subject area (Urbis 2022). The ACHA was undertaken to consider the proposed redevelopment of the subject area to form the Central Coast Campus of the University of Newcastle.

## 1.1. SUBJECT AREA

The subject area is located at 305 Mann Street, Gosford, NSW, legally described as Lots 1, 2, 4, 29, 30, 31 and 32 of Section 1 in Deposited Plan 1591, Lot 1 in Deposited Plan 91163 and Lot 1 in Deposited Plan 911164 (see Figure 1 and Figure 2).

The subject area is approximately 50km north of Sydney and occupies a rectangular portion of land measuring approximately 4650 m<sup>2</sup> in area. The building fronts Mann Street to the west and is bound by Beane Street to the south, Hills Street to the east and various commercial properties to the north.

The subject area currently contains several disused structures in the western portion including a heritage listed former Mitre 10 building with modern extensions, and hardstand carparking in the eastern portion.



GDA 1994 MGA Zone 56

© 2022, PSMA Australia Ltd, HERE Pty Ltd, ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2022



Project No: P0041532  
Project Manager: Meggan Walker

● Subject Area

**REGIONAL LOCATION**  
Central Coast Campus  
The APP Group on behalf of the University of Newcastle

Figure 1 – Regional location of the subject area



GDA 1994 MGA Zone 56

© 2022. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2022



100 M

Project No: P0041532  
 Project Manager: Meggan Walker

**SUBJECT AREA**

Central Coast Campus

The APP Group on behalf of the University of Newcastle

Subject Area Contours

Figure 2 – Location of the subject area

## 1.2. PROPOSED WORKS

The proposed works are to be undertaken as a staged SSDA (SSD-47749715) and will include the establishment of a health, education and innovation precinct associated with the University of Newcastle fronting Mann Street and will include demolition of existing structures, excavation and bulk earthworks for site levelling, and construction of a new educational building on the western portion of the subject area with provision of open public space to the east. The subject area does not currently contain a basement level therefore the proposed development will significantly impact sub-surface archaeological deposits within the subject area.

Plans of the proposed development are included in Figure 3 to Figure 7.



Figure 3 – Proposed works concept design.

Source: Lyons and EJE Architecture, 2022.





Figure 4 – Existing condition and demolition plan  
 Source: Lyons and EJE Architecture, 2022.

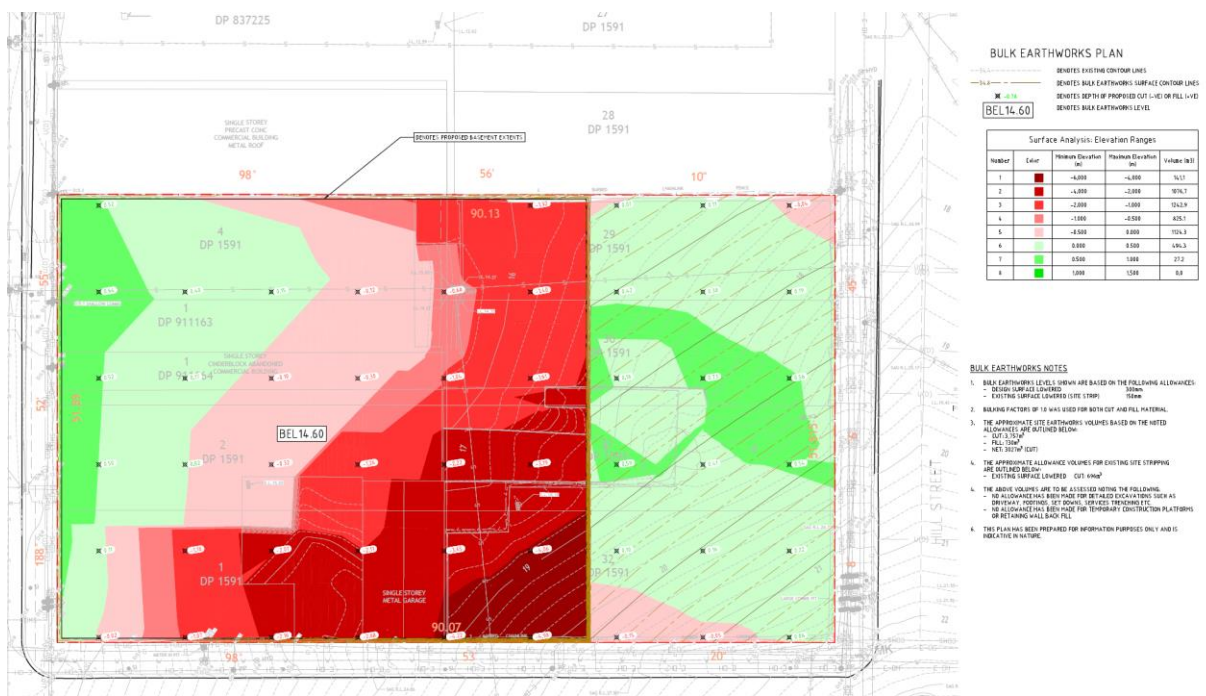


Figure 5 – Bulk earthworks plan.  
 Source: Lyons and EJE Architecture, 2022.

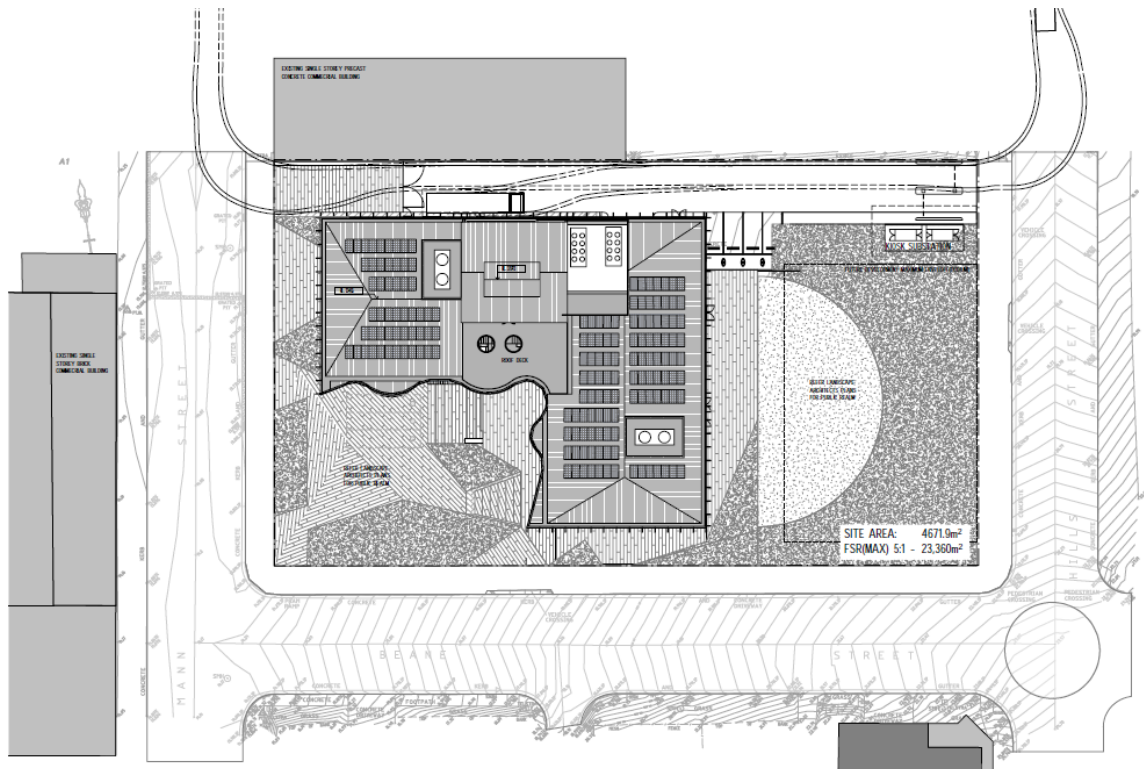


Figure 6 – Site plan.

Source: Lyons and EJE Architecture, 2022.

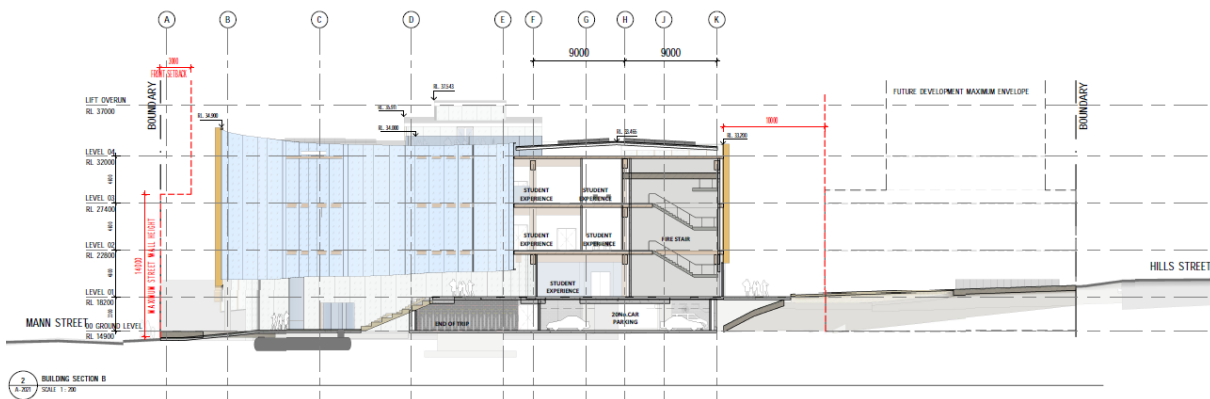


Figure 7 – North elevation.

Source: Lyons and EJE Architecture, 2022.

### 1.3. PROJECT HISTORY

This section provides details on the history of the project, the conclusions and recommendations of the ACHA (Urbis 2022) and consultation with Aboriginal community.

In August 2022 Urbis was engaged by the proponent to produce an ACHA which investigated the Aboriginal archaeological potential of the subject area, with reference to the likelihood of harm to Aboriginal objects resulting from the development. This ACHA included consultation with Registered Aboriginal Parties (RAPs) and was prepared in accordance with the following:

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water (DECCW), 2010) (the Consultation Guidelines).
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011) (the Assessment Guidelines).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) (the Code of Practice).
- *The Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013* (Burra Charter).

The ACHA concluded that the subject area held potential for Aboriginal objects which would be harmed in the undertaking of works at the site. This determination was based upon the environmental and archaeological context of the surrounding area.

The environmental context of the subject area indicates that moderately deep to deep soils may remain intact beneath current structures and hardstand despite disturbance during phases of historical land use. Current structures and hardstand within the subject area largely appear to conform with the natural topography of the area, with minimal cut and fill utilised to create level surfaces, with the exception of the buildings fronting Mann Street which have required bulk excavation towards the rear of the structures. The construction and demolition of buildings are likely to have had a moderate degree of impact on the upper layers of the natural soil profile. While there are no longer any watercourses within the vicinity of the subject area, it is possible that, prior to urban development, the subject area was in proximity to ephemeral drainage lines and wetlands fed by runoff from Mount Mouat to the south-east. Seasonal waterlogging may have provided aquatic resources for Aboriginal people.

There are no Aboriginal sites registered on Aboriginal Heritage Information Management System (AHIMS) within the subject area. The subject area does not contain landscape features indicative of archaeological potential for site types such as Shelters, Art or Middens, which are the most frequent AHIMS site types identified in the area. There is, however, some potential for Artefact Scatters/Campsites, Isolated Finds and PADs within the subject area.

Comments received from the representatives of the project (RAPs) do not specifically refer to the subject area; although, responses indicate that the Gosford area is significant to Aboriginal People, both past and present, due to familial connections with the Central Coast.

Based on the above conclusions, Urbis recommended that an Archaeological Research Design (ARD) and Excavation Methodology (EM) should be developed to inform and guide archaeological test and, if required, salvage excavation at the subject site. As part of the ARD and EM, specific questions should be developed in relation to any Aboriginal archaeological resource that might be encountered and how Aboriginal people might have used the subject area in the past. This report should be developed in consultation with the RAPs and ought to include a protocol for the handling of any Aboriginal objects and archaeological resources uncovered during the works. The subsurface archaeological investigation should be undertaken by appropriately qualified archaeologists with the participation of nominated Aboriginal RAPs. The excavation should be undertaken following the removal of hardstand at the subject area and, therefore, cannot be undertaken without the approval of SSD-47749715. It is further recommended that an Aboriginal Cultural Heritage Induction be prepared for inclusion in site inductions for any contractors working at the subject area.

Consultation with RAPs should continue until the finalisation of the development and throughout the duration of the project to ensure the opportunity for community input.

## **1.4. AUTHORSHIP**

The present ARD & EM has been prepared by Owen Barrett, Urbis Consultant Archaeologist, with review and quality control undertaken by Meggan Walker (Urbis Senior Consultant), Sam Richards (Urbis Associate Director) and Balazs Hansel (Urbis Director, Archaeologist).

Owen Barrett holds a Bachelor of Arts (Archaeology and Paleoanthropology) from the University of New England and a Diploma (Indigenous Archaeology) from the University of New England. Meggan Walker holds a Bachelor of Arts (Honours - First Class in Archaeology) from the University of Sydney. Sam Richards holds a Bachelor of Arts (Honours - First Class in Archaeology) from the University of Liverpool (United Kingdom). Balazs Hansel holds a Masters (History) and Masters (Archaeology and Museum Studies) from the University of Szeged (Hungary).

## 2. CONSULTATION

The consultation with Registered Aboriginal Parties (RAPs) has been carried out in accordance with the requirements of the SEARs and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water (DECCW), 2010) (the Consultation Guidelines).

Consultation has been running since August 2022 and the ACHA was finalised in December 2022. Four of the RAPs provided comments (included in the ACHAR) indicating their support of the methodology. No further comments were received.

RAPs have been informed of the progress of the development in regular correspondence to ensure that all stakeholders are informed appropriately of the development.

The list of the Registered aboriginal Parties is provided in Table 1 below.

Table 1 List of Registered Aboriginal Parties

<b>Organisation/Individual</b>	<b>Contact Person</b>
Darkinjung LALC	Matthew Syron
A1 Indigenous Services	Carolyn Hickey
Awabakal & Guringai	Tracey Howie
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer
Corroboree Aboriginal Corporation	Marilyn Carroll-Johnson
Didge Ngunawal Clan	Paul Boyd & Lilly Carroll
Gomery Cultural Consultants	David Horton
Gunjeewong Cultural Heritage Aboriginal Corporation	Shayne Dickson
Individual	Vickie Parry
Individual	Trudy Smith
Individual	Renee Sales
Kamilaroi Yankuntjatjara Working Group	Phil Khan
Lower Hunter Aboriginal Incorporated	David Ahoy
Widescope Indigenous Group	Steven Hickey
Woka Aboriginal Corporation	Steven Johnson
Yurwang Gundana Consultancy Cultural Heritage Services.	Dean Bell and Merekai Bell

The draft ARD and EM was sent to the RAPs for comments on the 11<sup>th</sup> November 2022 for a 28 day review period. Comment period was closed on the 9<sup>th</sup> December 2022. T

Following the finalisation of the ARD and EM, correspondence with the RAPs will be ongoing throughout the lifetime of the project. RAPs will be invited to participate in the archaeological excavation program, and notification will be provided if any Aboriginal objects are identified during the construction activities as per the methodology and Chance Finds Procedure outlined in Section 4.10 below.

The existing consultation log will be used to record the ongoing consultation with RAPs.

# 3. ARCHAEOLOGICAL RESEARCH DESIGN

## 3.1. INTRODUCTION

The purpose of an archaeological research design (ARD) is to provide and direct a reasonable foundation for management decisions of an archaeological or cultural heritage site or place as well as satisfying regulatory requirements through a standardised process. All related future archaeological studies and analyses stand to benefit if guided by clear linkage of study goals, relevant theory, data and methods. Application of a research design is international best practice and plays a vital role in the planning process.

This ARD has been designed based on the following:

- The conclusions and recommendations of the ACHA for the subject area (Urbis 2022).
- Research designs developed for previous archaeological investigations in sites impacted by modern development including Raymond Avenue Matraville and George Street Parramatta.
- Impacts to the natural soil profile due to historical land use.
- The constraints of conducting an archaeological excavation within a highly urbanised environment.

## 3.2. OBJECTIVES

The objectives of the ARD are to:

1. Investigate the nature, spatial and stratigraphical extent, condition and integrity of any Aboriginal archaeological deposits that may be present within the subject area.
2. If Aboriginal archaeological deposits are identified, apply relevant research questions to interpret the finds and results in the context of local and regional archaeological modelling.

## 3.3. RESEARCH QUESTIONS

The following research questions have been formulated as part of the ARD:

1. What is the spatial and vertical extent of the archaeological deposit?
2. What is the integrity and condition of the archaeological deposit? How has the deposit been impacted by historical land use?
3. What are the physical attributes and compositions of the archaeological deposit (e.g. stone artefacts, features, remains of the original environment)?
4. Is there an archaeological signature from the historic era that clarifies temporal changes of land use within the subject area?
5. What are the characteristics of the stone artefact assemblage? What types of artefacts are present and what specialisation if any can be detected in the assemblage?
6. Does the archaeological deposit have evidence of intra-site patterning or various occupational periods?
7. Should faunal and/or shell material be located, which species present were utilised by Aboriginal people?
  - Can an inference be made as to a preference for marine or terrestrial resources?
  - Is there evidence of any change over time in these preferences or species utilised?
  - Is there evidence for the transport of resources within the environment?
  - Can the presence of extinct watercourses in the area be inferred from shell material?
8. How does the deposit relate to our understanding of the environment at the time and/or is it consistent with predictive models for the area?
9. Can the archaeological deposit be interpreted in a local context?
  - Are there similarities or differences with nearby archaeological sites?

- Is there evidence of a connection to nearby sites in terms of materials, composition and/or nature of the assemblage?
10. Can the archaeological deposit be interpreted in the regional context?
    - Where did the raw materials originate from?
    - Is there any indication of trade in connection with raw material procurement?
    - How does the assemblage compare to other archaeological sites within the region?
    - How does the assemblage compare with the proposed Eastern Regional Sequence?
  11. Do the results of the archaeological excavation change the scientific and cultural significance of the site?
  12. What is the scientific and cultural value of the assemblage?
  13. How do the Aboriginal stakeholders view the cultural value of the deposit and assemblage?
  14. Is there any evidence of contact between Aboriginal people and the early European settlers of the Gosford area? If yes, what is the archaeological signature of this occupation? Are there any Aboriginal objects made from imported material such as glass, porcelain, or flint? If yes, are they in-situ or in a secondary or more disturbed context?

# 4. ARCHAEOLOGICAL EXCAVATION METHODOLOGY

## 4.1. RATIONALE FOR THE ARCHAEOLOGICAL EXCAVATION

The rationale for the archaeological excavation recommended by the ACHAR is based on the following:

Current structures and hardstand within the study area prohibited surveying the original soil profile during the ACHA process. Therefore, an archaeological excavation program was recommended to investigate the conditions of the original soil profile and the presence or absence of Aboriginal archaeological resources within the subject area. Archaeological excavation was identified as the only option to investigate the archaeological potential of the study area before construction. This will also ensure that no Aboriginal archaeological resources will be accidentally harmed through the proposed impact.

Current structures and hardstand within the subject area largely appear to conform with the natural topography of the area, with the exception of the buildings fronting Mann Street which have required bulk excavation towards the rear of the structures. The construction and demolition of buildings are likely to have had a moderate to high degree of impact on the upper layers of the natural soil profile. Moderately deep to deep soils may remain intact. While there are no longer any watercourses in close proximity to the subject area, it is possible that prior to urban development the subject area was in proximity to ephemeral drainage lines and wetlands fed by runoff from Mount Mouat to the south-east. Seasonal waterlogging may have provided aquatic resources for Aboriginal people. The ACHAR concluded that there is a potential for Artefact Scatters/Campsites, Isolated Finds and PADs within the subject area.

The proposed works will include bulk excavation across the subject area and will therefore have a direct impact on potential Aboriginal objects. The archaeological excavation will provide opportunity to physically investigate the subsurface conditions and assess the archaeological potential of the subject area. Should archaeological resources be identified, the excavation will provide the opportunity to collect data and information on how Aboriginal people might have used the area and what activities might have taken place there. Analysing these data would also provide opportunities for Aboriginal people to share cultural information relevant to the study and to participate in the interpretation of the archaeological resources.

## 4.2. OBJECTIVES

The objectives of the archaeological excavation program are as follows:

1. Investigate the presence or absence of Aboriginal archaeological resources within the impact footprint of the proposed development.
2. If present, investigate the nature, spatial and stratigraphical extent, and integrity of the Aboriginal archaeological resources.
3. Answer the research questions outlined in Section 3.3.
4. Provide information on any archaeological resources identified by the excavation to the Registered Aboriginal Parties (RAPs).
5. Provide opportunities for the RAPs to participate in the works – especially by providing feedback and cultural heritage information throughout the process.
6. Ensure that the development can proceed with minimised risk of harming Aboriginal objects, ensure that the Chance Find Procedure will be informed and allow construction works to proceed.

## 4.3. CONTEXT

The Excavation Methodology (EM) was informed by the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) ('Code of Practice'). The EM was designed in light of the specific environmental conditions of the subject area, including:

- Footings for the extant structures within the western portion of the subject area.
- Uncertainties regarding the soil profile beneath extant hardstand such as the presence or absence of imported fill and the level of disturbance due to historical land use.

In the event that the EM needs to be adjusted due to unforeseen circumstances, all necessary adjustments will be discussed with the Aboriginal site officer(s) and the Proponent.



## 4.4. EXCAVATION TEAM

The Aboriginal archaeological excavations will be undertaken under the supervision of Urbis Senior Archaeologist Meggan Walker with support from Urbis archaeologists and Registered Aboriginal Parties.

## 4.5. EXCAVATION METHODOLOGY

This methodology proposes a staged salvage approach to Aboriginal archaeological investigations at the site, including test excavation and, if necessary, salvage of sites. This approach has been nominated as it holds the best potential for the identification and preservation of Aboriginal objects which may occur.

Prior to the commencement of Aboriginal archaeological excavations at the site the existing structures, hardstand and bedding fill will be removed by mechanical means. This will involve demolition of the building to slab, followed by careful removal of slab and strip footings under the direction of suitably qualified archaeologist and RAPs. Mechanical excavation will proceed in 10cm spits to the exposure of natural soil layers.

The EM proposes to undertake the archaeological investigations in a staged salvage excavation utilising a two-stage method:

- Stage 1 - Testing: archaeological test excavation utilising standard hand excavation of 1m x 1m test pits on a grid system in line with the requirements of the Code of Practice.
- Stage 2 – Salvage: should test excavation uncover Aboriginal objects or other archaeological resources, a salvage excavation methodology will be applied to investigate and recover those resources in line with the Code of Practice.

The archaeological staged salvage excavation will aim to target the entirety of the subject area; however, it is anticipated that this will require modification based upon subsurface conditions such as modern disturbance or contamination.

### Stage 1- Test Excavation

Following the demolition of current structures to slab, the removal of hardstand and bedding fill will be undertaken under the direction of suitably qualified Archaeologists in 10cm spits to the exposure of natural soils. The ground surface will be inspected and its condition assessed by Archaeologists and RAPs. In the event that an introduced fill layer is clearly discernible mechanical excavation may proceed to the base of the fill layer in the location of proposed Test Excavation Units (TUs). In the event that the soil profile appears to be historic topsoil or natural soil the test excavation methodology will be initiated. An initial inspection of the ground surface will be conducted for Aboriginal objects and other archaeological features. Should such Aboriginal archaeological resources be observed, they will be recorded using standard archaeological recording methods outlined below in Section 4.8. TUs will be excavated on a grid system across the subject area, with additional TUs situated at the location of surface archaeological resources, should they be observed.

Indicative locations of initial TUs at approximately 20m intervals is shown below in Figure 8. Note that these locations are indicative only and not to scale. The exact location of TUs will require an assessment of ground conditions following the demolition of current structures and removal of hardstand. Should it be considered necessary, further TUs will be excavated at approximately ten metre intervals, investigating the nature and extent of the archaeological deposit. TU locations will be further refined as required to assess the archaeological deposit.

Hand excavation will be undertaken within the initial 1m x 1m TUs in 100mm spits unless a shallower depth is defined by natural soil profiles, or other stratigraphy/features identified. TUs must be excavated by hand (inclusive of trowels, spades, and other hand tools). Should a concentration of greater than 10 Aboriginal objects be recovered the 1m x 1m excavation pits will be further divided into quadrants of 50cm x 50cm for greater spatial resolution.

If any of the following are identified in a single excavation pit, the excavation must be expanded via manual salvage of adjoining 1 m x 1 m excavation pit:

- A significant number of artefacts per pit;
- Instances of formal tools (i.e. backed artefacts, retouched artefacts, scrapers, axes) within a single excavation pit.

- An intact knapping floor or cultural layers, including charcoal, a heat treatment pit, hearths, or culturally deposited shells.
- Other features agreed by the Excavations Director and RAPs present onsite as being rare in a local and/or regional context and warranting further investigation and salvage.
- The expansion of the pit should continue until the full extent of the feature or deposit has been identified, recorded and salvaged.

General excavation requirements area listed below in Section 4.6 below. Excavation will continue to culturally sterile depths, which is determined by the presence of basal clay, which is anticipated to occur at depths between 0.5-1.3m on the basis of geotechnical results, or the excavation of two (2) culturally sterile spits of natural soils, or the encountering of the water table. Cessation of TUs will be confirmed with RAPs on site.

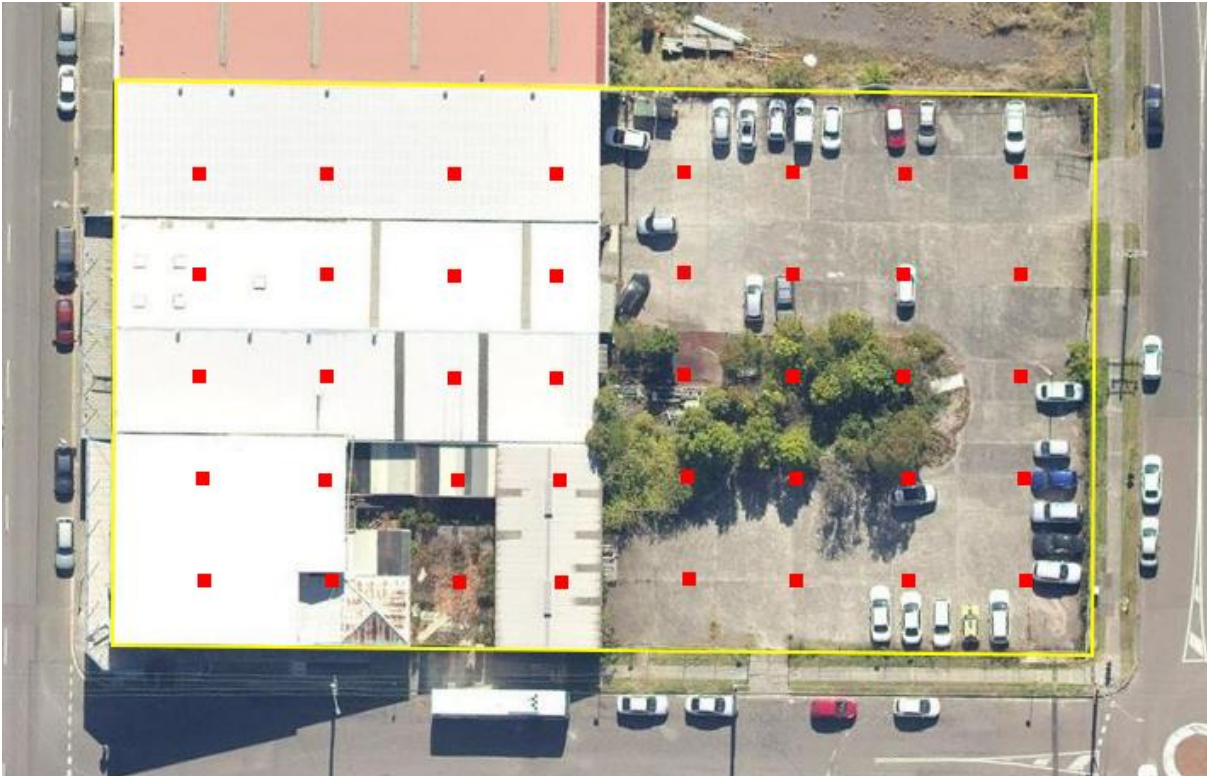


Figure 8 – Indicative locations of initial Test Excavation Units marked in red (not to scale). Subject area in yellow.

## Stage 2 – Salvage Excavation

Should the initial test excavation of any 1m x 1m TU produce a significant number of Aboriginal objects; exceptional objects such as backed artefacts or ground-edge Axe, remnants of knapping; or cultural layers, including charcoal, burnt features or shells, the following methodology will be applied to salvage the identified archaeological resource:

- The original TU will be extended by additional 1m x 1m Excavation Units (EUs) to further investigate the spatial and vertical extent of the archaeological resource utilising the methodology described above. Hand excavation will be undertaken in 10cm spits unless a shallower depth is defined by natural soil profiles, or as appropriate for features identified in the initial TU.
- Should a concentration of greater than 10 Aboriginal objects be recovered the 1m x 1m excavation pits will be further divided into quadrants of 50cm x 50cm for greater spatial resolution.
- Excavation will continue to culturally sterile depths, which is determined by the presence of basal clay, which is anticipated to occur at depths between 0.5-1.3m on the basis of geotechnical results, or the excavation of two (2) culturally sterile spits of natural soils, or the encountering of the water table. Cessation of TUs will be confirmed with RAPs on site.

General excavation requirements area listed below in Section 4.6 below.

## 4.6. GENERAL EXCAVATION REQUIREMENTS

The following general methodology will apply to works across the site:

- Excavation is to be undertaken by qualified archaeologists and the registered Aboriginal Parties (RAPs).
- Excavation will be conducted utilising only hand tools, or mechanical excavation if deemed appropriate by the on-site archaeologist for the removal of fill only.
- Each unit will be kept in colour-coded buckets to avoid cross-contamination between excavation units.
- All excavated soils will be sieved through 3mm or 5mm sieves on site, as detailed in Section 4.7 below.
- Any archaeological material (including stone artefacts, animal bone, shell, charcoal, or other foreign material) found during the excavation or sieving will be bagged and labelled with a unique number based on the relevant square and stratigraphic layer or unit.
- Photogrammetry recording should be considered for each unit or open area for interpretation of the site geomorphology.
- Where possible and appropriate, suitable samples for radiometric dating should be collected and submitted to an appropriate facility for dating.
- Excavation will proceed to the base of the artefact bearing soil profile, and slightly further as necessary to confirm culturally sterile soils below.
- Management of run-off water and sediment control will be discussed with the proponent according to site conditions.
- Archaeological excavations must cease immediately if suspected human remains are encountered at any point during the excavations. The area of these suspected remains should be immediately secured, and the human remains procedure in section 4.11 must be followed.
- A Post-Excavation Report is to be prepared within 12 months (one year) of the completion of works at the site. A copy of this post-excavation report must be provided to all RAPs.
- This post-excavation report is to explicitly detail the temporary and permanent storage policy for any recovered Aboriginal objects.
- It is not anticipated that excavation would be required to extend to depths beyond 1.5m (as measured from the cleared surface level) wherein shoring would be required. This is due to the results of geotechnical investigations which confirm the presence of natural basal clay at variable depths of 0.5-1.3m across the site. However, should excavation in an TU require excavation beyond 1.5m, shoring and/or benching of the pits will be undertaken to ensure the safety of excavators, in accordance with the methodology to be developed within the Safe Work Method Statement (SWMS)

## 4.7. SIEVING

The archaeological sieving of excavated soil will be done on predominantly 5mm mesh sieves utilising either dry or wet sieving. 3 mm mesh will be applied should substantial archaeological deposits be uncovered, or the size of artefacts found in the initial excavation trigger the use of finer mesh.

Wet sieving is preferred because it makes the sieving process faster and allows easier spotting of artefacts and archaeological material. However, wet sieving would require the management of run-off water and sediment control. Options would include the channelling of water into the stormwater system following appropriate sediment control or utilising skip bins that can be taken off-site to dispose water and sediment accumulated from the sieving.

## 4.8. ARCHAEOLOGICAL RECORDING

The archaeological excavations will be recorded using standard archaeological methods, including:

- Description of all excavation pits, archaeological features, contexts and soil profiles on pro-forma archaeological recording sheets.
- RTK, GPS or manual plotting of all excavation pits, in situ artefacts and cultural layers.

- Photographic recording of all units, archaeological features and artefacts found in-situ, with accompanying scale and descriptive signage.
- Photogrammetry recording should be considered for each pit to assist in interpreting the site geomorphology.
- Section and plan drawings of selected excavation pits that show contextual change across the site and any encountered archaeological features.
- Aboriginal objects found will be bagged and tagged with a unique identification number corresponding to the excavation unit, depth/position found and additional details of the find circumstances should they be critical.

## **4.9. ARTEFACT MANAGEMENT**

### **4.9.1. Artefact Recording**

Aboriginal objects that are recovered during the excavations may be analysed on-site and/or may be taken off-site for further analysis.

Artefacts will be cleaned, measured and attributes recorded according to the relevant standards in line with the Code of Practice and guided by Holdaway and Stern, *A Record in Stone: The Study of Australia's Flaked Stone Artefacts*. All artefacts will then be individually bagged, labelled and packaged according to the Australian Museum Artefact cataloguing standards. Results of the artefact analysis will be provided in the Excavation Report.

### **4.9.2. Temporary Storage of Aboriginal Objects**

All recovered archaeological material including stone artefacts, animal bone, shell, charcoal, or other foreign material will be bagged either individually or according to the excavation unit, labelled according to the unit and spit/context number. The artefacts will then be placed into containers and temporarily retained by Urbis. Artefacts will be made available to ensure that Aboriginal site officers have the opportunity to inspect and share information in relation to the artefacts.

At the end of the archaeological excavation, artefacts will be temporarily retained by Urbis and placed into a lockable, secure place in Urbis' Sydney offices at Angel Place, Level 8, 123 Pitt Street, Sydney, NSW 2000, subject to refinement via consultation with Registered Aboriginal Parties.

Consultation with the registered Aboriginal Parties will be carried out in relation to the care and control of the recovered artefacts including the opportunity to carry out the cleaning and analysis of artefacts as detailed in Section 4.9.3 below.

### **4.9.3. Long Term Management of Aboriginal Objects**

Further consultation with the RAPs is required to determine the long term care and control of all Aboriginal objects excavated. Long term deposition of artefacts will be negotiated with the registered Aboriginal parties and a Care and Control Agreement will be drafted. We believe that the archaeological excavation program should be carried out first to understand the size, composition and context of the assemblage to aid the final decision.

Requirement 26 "Stone artefact deposition and storage" in the Code of Practice for Archaeological investigation of Aboriginal Objects in NSW must be complied with.

## **4.10. ARCHAEOLOGICAL CHANCE FINDS PROCEDURE**

Although considered highly unlikely, should any archaeological deposits be uncovered during any site works, a procedure must be implemented. The following steps must be carried out:

1. All works stop in the vicinity of the find. The find must not be moved 'out of the way' without assessment.
2. Site supervisor, or another nominated site representative must contact either the project archaeologist (if relevant) or the Department of Planning and Environment (DPE) to contact a suitably qualified archaeologist.

3. The nominated archaeologist examines the find, provides a preliminary assessment of significance, records the item and decides on appropriate management (in conjunction with the RAPs) for the project. Such management may require further consultation with DPE, preparation of a research design and/or archaeological investigation/salvage methodology, as well as the preparation of an AHIMS Site Card.
4. Depending on the significance of the find, reassessment of the archaeological potential of the subject area may be required, and further archaeological investigation undertaken.
5. Reporting may need to be prepared regarding the find and approved management strategies. Any such documentation should be appended to this ACHAR and revised accordingly.
6. Works in the vicinity of the find can only recommence upon relevant approvals from DPE.

## **4.11. HUMAN REMAINS PROCEDURE**

In the unlikely event that human remains are uncovered during any site works, the following must be undertaken:

1. All works within the vicinity of the find immediately stop. The find must be cordoned-off and signage installed to avoid accidental impact.
2. Site supervisor or other nominated manager must notify the NSW Police and DPE.
3. The find must be assessed by the NSW Police, and may include the assistance of a qualified forensic anthropologist.
4. Management recommendations are to be formulated by the Police, DPE and site representatives.
5. Works are not to recommence until the find has been appropriately managed.

## **4.12. POST EXCAVATION REPORT**

A Post Excavation Report must be prepared describing the results of the investigations. The report will include:

- Description of the stages and application of the methodology.
- Description of the excavation results, including the nature, spatial and stratigraphical extent of excavated archaeological deposits.
- Artefact analysis and discussion.
- Consultation with the Registered Aboriginal Parties.
- Addressing research questions set out in the Research Design.
- Conclusions providing any additional information that can enhance the understanding of the subject area.
- An AHIMS site card will be submitted should Aboriginal objects be recovered in the excavation program.
- An Impact Recording Form will be submitted for impacted AHIMS sites.
- Comment on the effectiveness of any mitigation measures that were implemented.
- The report must be provided to RAPs once complete.

## **4.13. SAFETY AND LOGISTICS**

### **4.13.1. Safety**

The archaeological excavations will be carried out according to site-specific OH&S requirements and also in line with Urbis' internal OH&S policies. The excavation team will work under a specifically developed Safe Work Method Statement (SWMS) that will address the following:

- Description and risk assessment of day-to-day activities, including (but not limited to):
  - Excavation of contaminated soil, including the presence of asbestos, lead paint and hydrocarbons.

- Excavation of pits to specified maximum depth and the use of benching or shoring for stability if necessary. This scenario is not considered likely with geotechnical results confirming the presence of basal clay between 0.5-1.3m.
- Working in the vicinity of heavy machinery, including mechanical excavators.
- Working in an outdoor environment.
- Recording of site attendance for the excavation team and visitors, including name, position, contact details, date of attendance and hours present.

### **4.13.2. Logistics**

The following logistics will need to be arranged for the time of the excavation:

- A small to medium (5 – 14 tonne) excavator with a flat bucket of 1m width or less for mechanical excavation.
- Amenities for personal hygiene in the form of toilet facilities (Men's and Women's).
- A water source for the wet sieving of excavated soil (e.g. on-site water source or a water truck).
- Water tight skip bins to capture sieve water and spoil with forklift capabilities.
- Provision to handle emptying of bins of water and sieve spoil 2-3 times a day. Use of a forklift or Manitou to empty bins and a location to handle the volume of water runoff and spoil.
- Secure lockable storage for equipment and retrieved artefacts.
- Contamination control if necessary.

## 5. BIBLIOGRAPHY

Australia ICOMOS Incorporated, 2013. *The Burra Charter, The Australia ICOMOS Charter for Places of Cultural Significance*.

DECCW 2010 *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales: Part 6 National Parks and Wildlife Act 1974*, Department of Environment, Climate Change and Water NSW.

DECCW, 2010b, *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.

DECCW, 2010c, *Aboriginal Cultural Heritage Consultation Requirements for Proponents*.

Holdaway, S. & N. Stern, 2004, *A Record in Stone: A study of Australia's flaked stone artefacts*, Canberra.

Office of Environment and Heritage, 2011. *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

SMEC Testing Services, 2016. *Preliminary Site Investigation Report*.

Urbis, 2022. *University of Newcastle, Central Coast Campus, Gosford, NSW: Aboriginal Cultural Heritage Assessment*.

Urbis, 2022. *University of Newcastle, Central Coast Campus, Gosford, NSW: Historical Archaeological Impact Assessment*.

# DISCLAIMER

This report is dated 26<sup>th</sup> April 2023 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of University of Newcastle (**Instructing Party**) for the purpose of Archaeological Research Design and Excavation Methodology (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.



