

# **ABORIGINAL OBJECTS DUE DILIGENCE ASSESSMENT**

TUGGERAH GATEWAY PRECINCT

Prepared for  
**SCENTRE GROUP LIMITED**  
10 April 2024



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

Associate Director      Balazs Hansel, MA Archaeology, MA History, M. ICOMOS  
Consultant                Aaron Olsen, Dip Arts (Archaeology), BSc (Hons), MIP, PhD  
Project Code              P0033071  
Report Number          D04 issued 10 April 2024

**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.

# CONTENTS

<b>Glossary</b> .....	<b>5</b>
<b>Executive Summary</b> .....	<b>7</b>
<b>1. Introduction</b> .....	<b>9</b>
1.1. Subject Area .....	9
1.2. Proposed Works .....	9
1.3. Statutory Background .....	9
1.3.1. The National Parks and Wildlife Act 1974 (NPW Act).....	9
1.4. Heritage Controls and Registers.....	15
1.4.1. Wyong Local Environmental Plan 2019 .....	15
1.4.2. Wyong Development Control Plan 2013 .....	15
1.4.3. NSW State Heritage Register (SHR).....	16
1.4.4. State Government Agency Conservation (Section 170) Registers .....	16
1.4.5. Australian Heritage Database .....	16
1.4.6. Summary of Historical (built) Heritage Review .....	16
1.5. Aboriginal Community Consultation.....	18
1.6. Authorship.....	18
<b>2. Aboriginal Heritage Background</b> .....	<b>19</b>
2.1. Archaeological Context.....	19
2.1.1. Regional Background .....	19
2.1.2. Local Archaeological Studies .....	19
2.1.2.1. Archaeological Reports from the Subject Area .....	20
2.1.2.2. Archaeological Reports from Local Area.....	21
2.1.3. AHIMS Database.....	22
2.1.4. Conclusions Drawn from Archaeological Context .....	26
2.2. Environmental Context.....	27
2.2.1. Topography .....	27
2.2.2. Hydrology .....	27
2.2.3. Vegetation .....	27
2.2.4. Soil Landscape and Geology .....	28
2.2.5. Historical Ground Disturbance .....	30
2.2.6. Conclusions Drawn from Environmental Context.....	32
2.3. Field Survey .....	33
2.4. Predictive Model .....	36
2.4.1. Application of Predictive Model .....	37
2.5. Summary.....	41
<b>3. Due Diligence Assessment</b> .....	<b>42</b>
3.1. Overview of Due Diligence Process .....	42
3.2. Is the activity a low impact activity for which there is a defence in the regulations? .....	42
3.3. Step 1 – Will the activity disturb the ground surface?.....	42
3.4. Step 2a – Are there any relevant confirmed site records or other associated landscape feature information on AHIMS? .....	42
3.5. Step 2b – Are there any other sources of information of which a person is aware? .....	43
3.6. Step 2c – Are there any landscape features that are likely to indicate the presence of Aboriginal objects?.....	43
3.7. Step 3 – Can Harm to Aboriginal Objects Listed on AHIMS or Identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided? .....	43
3.8. Step 4 – Does the Desktop Assessment and Visual Inspection Confirm that there are Aboriginal Objects or that they are Likely? .....	44
3.9. Outcome of Due Diligence Assessment .....	44
<b>4. Conclusions and Recommendations</b> .....	<b>45</b>

5. <b>References</b> .....	<b>47</b>
<b>Disclaimer</b> .....	<b>48</b>

**Appendix A   AHIMS Results**

**FIGURES**

Figure 1 – Regional location .....	11
Figure 2 – Location of the subject area .....	12
Figure 3 – Generic due diligence assessment .....	13
Figure 4 – Indicative Masterplan of Tuggerah Gateway Precinct .....	14
Figure 5 – Heritage items in proximity to the subject area .....	17
Figure 6 – Area surveyed for Tuggerah land release, with present subject area indicated by red polygon. ....	20
Figure 7 – Site types within the extensive search area .....	23
Figure 8 – Registered Aboriginal sites in extensive search area .....	24
Figure 9 – Registered Aboriginal sites within proximity to the subject area .....	25
Figure 10 – Soil Landscapes and Hydrology .....	29
Figure 11 – Historical aerial imagery .....	31
Figure 13 – View northeast of small dams in southwest portion of subject area .....	33
Figure 14 – View southwest of large dam in southwest portion of subject area .....	33
Figure 15 – View north across terracing on western boundary of subject area .....	34
Figure 16 – Rubble associated with former buildings in southwest portion of subject area .....	34
Figure 17 – View towards artificial mound in north-eastern corner of subject area .....	34
Figure 18 – View north towards sandstone knoll in north-western corner of subject area .....	34
Figure 19 – View of sandstone outcrop on south-eastern boundary of subject area .....	34
Figure 20 – View of sandstone outcrop in the north eastern portion of subject area .....	34
Figure 21 – Ground disturbance map .....	35

**TABLES**

Table 1 – Pertinent archaeological investigations from local area .....	21
Table 2 – Summary of extensive AHIMS search (AHIMS Client Service ID: 579382) .....	22
Table 3 – Analysis of historic aerial imagery .....	30
Table 4 – Indicative process for determining the potential presence of a site. ....	36
Table 5 – Predictive Model .....	37

# GLOSSARY

Term	Definition
Aboriginal cultural heritage	The tangible (objects) and intangible (dreaming stories, legends and places) cultural practices and traditions associated with past and present-day Aboriginal communities.
Aboriginal object	As defined in the NPW Act, any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
Aboriginal place	As defined in the NPW Act, any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.
AHIMS	Aboriginal Heritage Information Management System: a register of previously reported Aboriginal objects and places managed by the DPC
AHIP	Aboriginal Heritage Impact Permit. A permit issued under Section 90, Division 2 of Part 6 of the <i>NPW Act</i> .
Archaeology	The scientific study of human history, particularly the relics and cultural remains of the distant past.
Art	Art sites can occur in the form of rock engravings or pigment on sandstone outcrops or within shelters. An engraving is some form of image which has been pecked or carved into a rock surface. Engravings typically vary in size and nature, with small abstract geometric forms as well as anthropomorphic figures and animals also depicted. Pigment art is the result of the application of material to a stone to leave a distinct impression. Pigment types include ochre, charcoal and pipeclay.
Artefact	An object made by human agency (e.g. stone artefacts).
Code of Practice	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW, 2010).
DCP	Development Control Plan
DECCW	Department of Environment, Climate Change and Water NSW.
DPC	Department of Premier and Cabinet
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i> .

<b>Term</b>	<b>Definition</b>
Grinding Grooves	The physical evidence of tool making, or food processing activities undertaken by Aboriginal people. The manual rubbing of stones against other stones creates grooves in the rock; these are usually found on flat areas of abrasive rock such as sandstone.
Harm	As defined in the NPW Act, to destroy, deface, damage or move an Aboriginal object or destroy, deface or damage a declared Aboriginal place. Harm may be direct or indirect (e.g. through increased visitation or erosion). Harm does not include something that is trivial or negligible.
Isolated find	A single artefact found in an isolated context.
LALC	Local Aboriginal Land Council: corporate body constituted under the <i>Aboriginal Land Rights Act 1983</i> , having a defined boundary within which it operates.
LEP	Local Environment Plan.
Midden	Midden sites are indicative of Aboriginal habitation, subsistence and resource extraction. Midden sites are expressed through the occurrence of shell deposits of edible shell species often associated with dark, ashy soil and charcoal. Middens may or may not contain other archaeological materials including stone tools.
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPW Regulation	<i>National Parks and Wildlife Regulation 2019</i>
PAD	Potential archaeological deposit. A location considered to have a potential for subsurface archaeological material.
Scarred / Modified Trees	Trees which display signs of human modification in the form of scars left from intentional bark removal for the creation of tools, or which are carved for ceremonial purposes.

# EXECUTIVE SUMMARY

On behalf of Scentre Group ('the Proponent'), this Aboriginal Objects Due Diligence Assessment ('ADD') supports a Planning Proposal and Structure Plan prepared by Urbis. The Planning Proposal facilitates the proposed amendment to the Local Environmental Plan at the Tuggerah Gateway Site, known as Lot 2 DP1056960 and Lot 3 DP1084221 ('the subject area'), which will enable residential, mixed-use and recreational land uses.

The site is approximately 41.6 hectares and is currently zoned RU6 Transition, B4 Mixed Use and E2 Environmental Conservation.

The Planning Proposal seeks to rezone land comprising (part) Lot 2 in DP 1056960 and Lot 3 in DP 1084221 from RU6 Transition to R1 General Residential. The B4 Mixed Use zone in the north-east of the site and E2 Environmental Conservation zone in the south-east is to be retained.

The long-term development yield capable of being accommodated on the site comprises of 2,112 dwellings including a mix detached housing lots, medium density townhouses/terraces, apartments and seniors living. Consistent with the Structure Plan, the future development of the site is to be staged in accordance with market demand and infrastructure requirements. In the short-term employment uses in the form of bulky goods / large format retailing will be prioritised in part of the B4 Mixed Use zone. In the longer term this area is envisaged as a mixed-use precinct.

The ADD was undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) ('Due Diligence Code'), and included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Archaeological survey of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.

The assessment concluded that:

- There are no Aboriginal objects or places registered within the subject area.
- Two Aboriginal objects are registered within 1km of the subject area: a quarry and an artefact scatter.
- Prior surveys of the subject area and surrounds identified a single flaked stone artefact and a PAD within the subject area and a scraper near the subject area, none of which is registered with AHIMS.
- The subject area includes lower order waterways, which area archaeologically sensitive landforms for artefact scatters/camp sites.
- Most of the subject area has been subjected to low to moderate levels of ground disturbance, with localised high levels of ground disturbance.
- There are no historical heritage items within or near the curtilage of the subject area.
- The subject area includes moderate to high Aboriginal archaeological potential due to the presence of archaeologically sensitive landforms associated with areas of low to moderate ground disturbance and the proximity of the subject area to registered Aboriginal objects.

Based on the above conclusions, Urbis recommends the proponent undertake an Aboriginal Cultural Heritage Assessment (ACHA) by a suitably qualified provider. This may be undertaken during the DA stage but should be finalised prior to commencement of the proposed works. Early commencement of the ACHA would de-risk the proposed development and avoid any costly delays associated with producing an ACHA at later stage of the project delivery program. The ACHA process would include Aboriginal community consultation, in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010), to identify Aboriginal cultural heritage values through consultation with Aboriginal stakeholders. Should the ACHA identify any Aboriginal archaeological resource an application for an AHIP may be required.

In accordance with the above recommendation, the following should be undertaken:

- This ADD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.
- An ACHA should be undertaken, leading to preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR), which would include further investigation of potential for Aboriginal objects and an impact assessment of the proposed development.
- Further archaeological assessment including detailed field survey with Aboriginal stakeholders and archaeological test excavation should be undertaken as part of the ACHA to inform archaeological potential and significance across the subject area.
- Further consultation with the Darkinjung Local Aboriginal Land Council (DLALC) and other Aboriginal stakeholders should be carried out as part of the ACHA to inform the development in relation to the Design for Country framework.
- The ACHAR should be finalised prior to commencement of the proposed any works within the subject area.



# 1. INTRODUCTION

Urbis has been engaged by Scentre Group Limited ('the Proponent') to prepare an Aboriginal Objects Due Diligence Assessment (ADD) for the Tuggerah Gateway Site at 60 Wyong Road and 58 Tonkiss Street, Tuggerah NSW 2259 ('the subject area'), legally referred to as Lot 3 in DP 1084221 and Lot 2 in DP 1056960, respectively (Figure 1 and Figure 2). The ADD supports a Planning Proposal and Structure Plan prepared by Urbis. The Planning Proposal facilitates the proposed amendment to the Local Environmental Plan at the subject area, which will enable residential, mixed-use and recreational land uses.

The ADD was undertaken to investigate whether development of the subject area will harm Aboriginal objects or places that may exist within the subject area and determine whether the subject area presents any Aboriginal archaeological and heritage constraints. The current report presents the results of the ADD.

The ADD followed the generic steps of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) ('Due Diligence Code'), which is shown in Figure 3 below. The ADD included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Archaeological survey of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.
- Preliminary consultation with the Darkinjung Local Aboriginal Land Council (DLALC).

## 1.1. SUBJECT AREA

The subject area is located within the Central Coast Local Government Area (LGA), approximately 14.5km north-east of the Gosford CBD and 65km north of the Sydney CBD (Figure 1 and Figure 2). It is approximately 41.6ha and is currently zoned RU6 Transition, B4 Mixed Use and E2 Environmental Conservation. The subject area is bounded by Wyong Road to the north, Tonkiss Street and Westfield Shopping Centre to the east by the Pacific Motorway to the west. The subject area is bordered by pockets of environmental conservation bushland to the south and the south east. The subject area is currently vacant land.

## 1.2. PROPOSED WORKS

At this stage, the ADD is intended to support a Planning Proposal for the re-zoning of the subject area and no actual physical works are proposed. It is understood that should the Planning Proposal be successful, the proposed works will include vegetation clearance, construction of retail buildings, construction of low-medium and medium-high rise residential buildings, landscaping and earthworks and construction of roads (Figure 4).

## 1.3. STATUTORY BACKGROUND

### 1.3.1. The National Parks and Wildlife Act 1974 (NPW Act)

Management of Aboriginal objects and places in NSW falls under the statutory control of the *National Parks and Wildlife Act 1974* (NPW Act). Application of the NPW Act is in accordance with the *National Parks and Wildlife Regulation 2019* (NPW Reg).

Section 5 of the NPW Act defines Aboriginal objects and Aboriginal places as follows:

*Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*

*Aboriginal place means any place declared to be an Aboriginal place under section 84 of the NPW Act.*

The NPW Act provides statutory protection for Aboriginal objects, defining two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences - that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating an Aboriginal place - against which defences may be established under the *National Parks and Wildlife Regulation 2009* (NSW) (the NPW Regulation).

Section 86 of the NPW Act identifies rules and penalties surrounding harming or desecrating Aboriginal objects and Aboriginal places. These are identified as follows:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object*

*Maximum penalty:*

(a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*

(b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

*Maximum penalty:*

(a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*

(b) *in the case of a corporation—2,000 penalty units.*

- (4) *A person must not harm or desecrate an Aboriginal place.*

*Maximum penalty:*

(a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*

(b) *in the case of a corporation—10,000 penalty units.*

- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*

- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*

- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*

- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*

Section 87 (1), (2) and (4) of the NPW Act establishes defences against prosecution under s.86. The defences are as follows:

- The harm was authorised by an Aboriginal Heritage Impact Permit (AHIP) (s.87(1)).
- Due diligence was exercised to establish Aboriginal objects will not be harmed (s.87(2)).

Due diligence may be achieved by compliance with requirements set out in the NPW Regulation or a code of practice adopted or prescribed by the NPW Regulation (s.87(3)).

The present ADD follows the Due Diligence Code and aims to establish whether any Aboriginal objects would be harmed by the proposed redevelopment of the subject area, consistent with s.87(2) of the NPW Act.



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



Project No: P0033071  
Project Manager: Balazs hansel

● Subject Area

**REGIONAL LOCATION**  
Tuggerah Gateway Precinct  
Scentre Group Limited

Figure 1 – Regional location



GDA 1994 MGA Zone 56

© 2021, PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



Project No: P0033071

Project Manager: Balazs hansel

Subject Area  
  Contours  
  Hydrology

**LOCATION OF THE SUBJECT AREA**  
 Tuggerah Gateway Precinct  
 Scentre Group Limited

Figure 2 – Location of the subject area

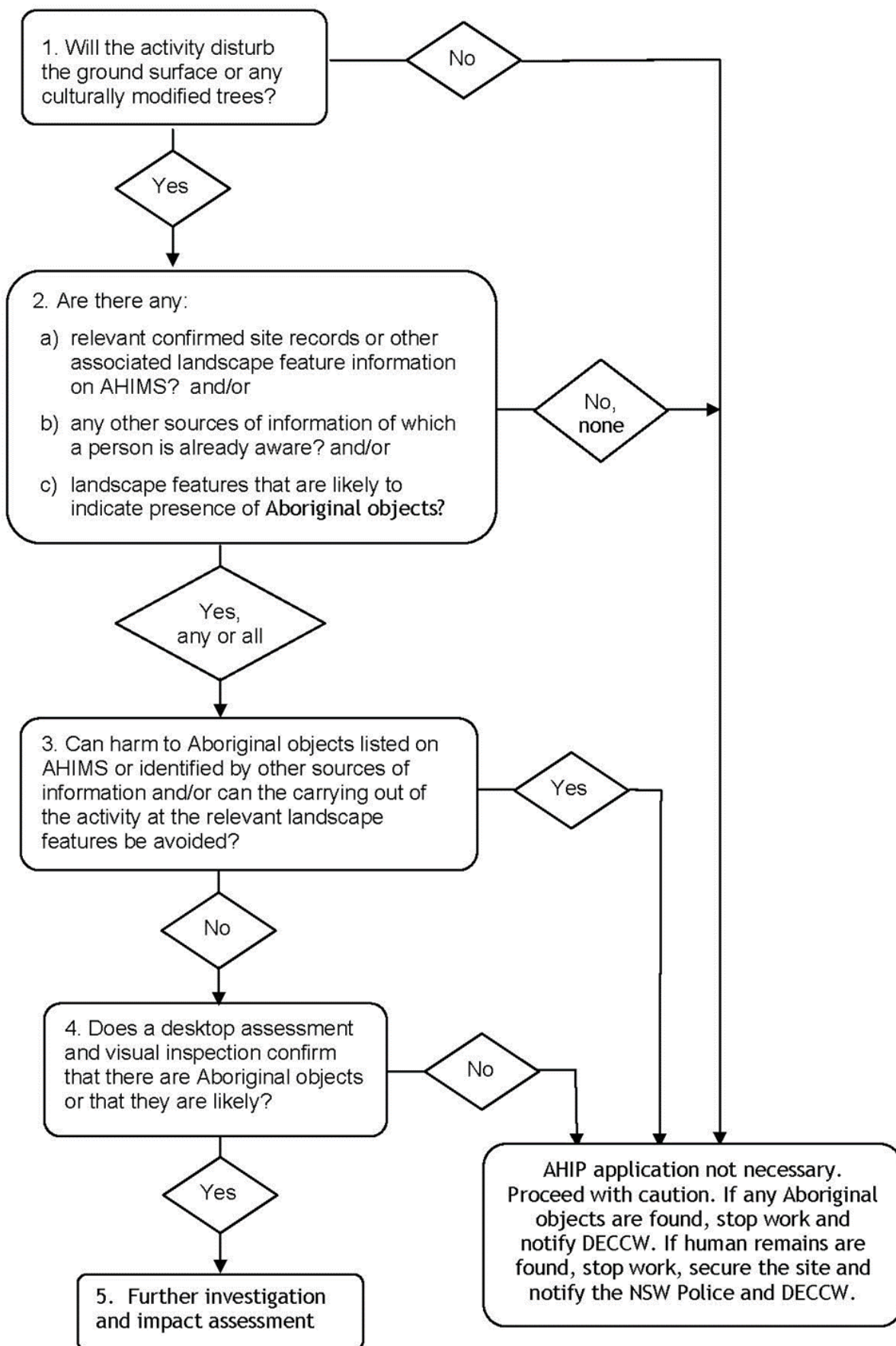


Figure 3 – Generic due diligence assessment  
Source: DECCW, 2010



DATE: 03 MAY 2023  
 JOB NO: P0033079  
 REV: 1



- LEGEND**
- Tuggerah Gateway Site**
- LAND USE**
- Detached Homes - Large Lots
  - Detached Homes - Standard Lot
  - Townhouse/Duplex
  - Terrace Homes
  - Low-Medium Rise Apartment (up to 4 storeys)
  - Medium Rise A apartment (up to 6 storeys)
  - Medium Rise B apartment (up to 6 storeys with a portion up to 8 storeys)
  - Independent Living Unit (up to 6 storeys with a portion up to 8 storeys)
  - Retail Bulky Goods (up to 2 retail storeys) / Future Mixed Use (up to 12 storeys)
  - Utilities (Transmission Line)
- OPEN SPACE & PUBLIC DOMAIN**
- Conservation Area
  - Rocky Outcrop
  - Riparian Corridor
  - Natural Low Land Corridor
  - Active Open Space 1 - Central Green
  - Active Open Space 2 - Hillside Park
  - Linear Park
  - Pedestrian Links
  - Mud Creek
  - Water Basin
  - Secondary Landscape Node
- STREET NETWORK**
- Collector Street - 20m
  - Boulevard - 21m
  - Local Street - 16m
  - Local Street Green - 14.5m
  - Perimeter Street - 14.5m
  - Laneway - 8m
  - Primary Intersection
  - Secondary Intersection
  - Left-In Left-Out Intersection
- ACTIVE TRANSPORT**
- Shared Pedestrian/ Cycleway
  - Pedestrian Way

**TUGGERAH GATEWAY PRECINCT  
 STRUCTURE PLAN**



Figure 4 – Project structure plan

## 1.4. HERITAGE CONTROLS AND REGISTERS

A high-level assessment of historical (built) heritage constraints of the subject area is provided below. The assessment is based on the statutory and non-statutory heritage listings and information available from previously undertaken archaeological investigations.

### 1.4.1. Wyong Local Environmental Plan 2019

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires each LGA to produce a Local Environment Plan (LEP). Within each LEP, Schedule 5 provides relevant information on locally listed heritage items and conservations area, identifying items and areas of local heritage significance, and outlining consent requirements.

The subject area falls within the Central Coast LGA and is subject to the Wyong Local Environmental Plan 2019. Under the Wyong LEP (Clause 5.10(2)) development consent is required for:

- (a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—*
  - (i) a heritage item,*
  - (ii) an Aboriginal object,*
  - (iii) a building, work, relic or tree within a heritage conservation area,*
- (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) disturbing or excavating an Aboriginal place of heritage significance,*
- (e) erecting a building on land—*
  - (i) on which a heritage item is located or that is within a heritage conservation area, or*
  - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*
- (f) subdividing land—*
  - (i) on which a heritage item is located or that is within a heritage conservation area, or*
  - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*

A search of the Wyong LEP Schedule 5 was undertaken on 6 April 2021. The search identified no heritage or archaeological items or conservation area within or overlapping with the curtilage of the subject area (Figure 5). The nearest registered heritage items are:

- Item I19: “Felton Mathew’s Tree”, Old Maitland Road, Kangy Angy.
- Item I20: “Old Maitland Road”, Kangy Angy Mountain.

The above items are located approximately 300m west of the present subject area, on the opposite side of the Pacific Motorway. The potential impacts of any development on these heritage items are not within the scope of the present report and can be addressed by preparation of a Heritage Impact Statement.

The present report is prepared to determine whether or not Aboriginal archaeological resources are present within the subject area.

### 1.4.2. Wyong Development Control Plan 2013

The EP&A Act requires each LGA to produce a Development Control Plan (DCP). Not all LGAs provide information regarding Aboriginal cultural heritage and specific development controls to protect Aboriginal cultural heritage.

The subject area is encompassed by the Wyong Development Control Plan 2013. Chapter 3.7 of the Wyong DCP addresses heritage conservation, including Aboriginal cultural heritage. Section 2 of Chapter 3.7 identifies general controls and guidelines relating to heritage items and heritage conservation areas, which reflect those outlined above in relation to the Wyong LEP 2013.

Chapter 6.14 of the Wyong DCP provides guidelines for the development of the 'Tuggerah Precinct', including the present subject area. However, no guidelines that specifically address Aboriginal cultural heritage or historical heritage are provided.

### **1.4.3. NSW State Heritage Register (SHR)**

The State Heritage Register (SHR) lists items that have been assessed as being of State heritage significance to New South Wales. Items appearing on the SHR are granted protection under s.60 of the *Heritage Act 1977* (Heritage Act).

A search of the SHR was completed on 6 April 2021, which did not identify any heritage items within the curtilage, or within proximity, of the subject area.

The nearest registered items are Items I19 and I20, described above (see Section 1.4.1)

### **1.4.4. State Government Agency Conservation (Section 170) Registers**

Section 170 of the Heritage Act requires that State Government Agencies establish and maintain a Heritage Conservation Register for heritage items located on land under their control or ownership. Items listed on the s.170 Register are listed on the State Heritage Inventory (SHI) and bound by the regulations of the Heritage Act.

A search of the SHI was completed on 6 April 2021, which did not identify any heritage items within the curtilage, or within proximity, of the subject area.

### **1.4.5. Australian Heritage Database**

The Australian Heritage Database contains information about more than 20,000 natural, historic and Indigenous places including: places in the World Heritage List, Places in the National Heritage List, places in the Commonwealth Heritage list; and places in the Register of the National Estate (non-statutory). The list also includes places under consideration, or that may have been considered for any one of these lists.

A search of the Australian Heritage Database was completed on 6 April 2021, which did not identify any heritage items within the curtilage, or within proximity, of the subject area.

The nearest registered items are Items I19 and I20, described above (see Section 1.4.1)

### **1.4.6. Summary of Historical (built) Heritage Review**

The high-level assessment of historical (built) heritage constraints of the subject area is provided determined that:

- There are no historical heritage items within the subject area.
- There are no historical heritage items in proximity to the subject area.
- The nearest registered items are located approximately 300m to the west of the present subject area, on the opposite side of the Pacific Motorway.
- The potential impacts of any development on built heritage items is not the purview of the present report and can be addressed by preparation of a Heritage Impact Statement.





GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



Project No: P0033071  
 Project Manager: Balazs hansenl

**HISTORICAL HERITAGE ITEMS**  
 Tuggerah Gateway Precinct  
 Scentre Group Limited

- Subject Area
- Hydrology
- Item - General
- Contours

Figure 5 – Heritage items in proximity to the subject area

## **1.5. ABORIGINAL COMMUNITY CONSULTATION**

Preliminary consultation was initiated with Darkinjung Local Aboriginal Land Council (Darkinjung LALC) as part of the present Due Diligence Assessment. Early engagement with Darkinjung LALC was initiated to assist with undertaking a thorough assessment of the subject area and ensure that Aboriginal people have an early opportunity to provide input for the development.

In a telephone call of 3 May 2021, Urbis provided Barry Williams (Senior Aboriginal Culture and Heritage Officer), as representative of Darkinjung LALC, a background to the project, including the location and the reasons for undertaking an Aboriginal objects due diligence assessment. Urbis indicated its desire to connect Darkinjung LALC with the Proponent at this stage of the development to ensure that ideas about interpretation and celebrating Aboriginal culture can be discussed early in the project and influence design and contextual decisions.

Further consultation was undertaken by Scentre Group and the DLALC expressed their intention to work with the Proponent in celebrating the Aboriginal cultural heritage values of the area during the project. Details will be finalised through consultation under the Aboriginal Cultural Heritage Assessment process and in other channels should the PP be successful.

A copy of the final Due Diligence Assessment Report will also be provided to Darkinjung LALC upon completion.

## **1.6. AUTHORSHIP**

The present report has been prepared by Aaron Olsen, Urbis Consultant Archaeologist, with review and quality control undertaken by Balazs Hansel, Urbis Associate Director (Archaeology).

Aaron Olsen has completed a Diploma of Arts (Archaeology) at the University of Sydney and holds a Bachelor of Science (Honours - First Class in Chemistry) and PhD (Chemistry) from the University of Newcastle and a Masters (Industrial Property) from the University of Technology Sydney. Balazs Hansel holds a Masters (History) and Masters (Archaeology and Museum Studies) from the University of Szeged (Hungary) and is currently completing a PhD (Archaeology) at the University of Sydney.

## 2. ABORIGINAL HERITAGE BACKGROUND

An assessment of Aboriginal cultural heritage within a particular subject area requires an understanding of the archaeological and environmental contexts in which the area is situated. The following is a review and analysis of those contexts for the present subject area.

### 2.1. ARCHAEOLOGICAL CONTEXT

A summary of background research for Aboriginal cultural heritage resources within and around the subject area is provided below, including search results from the Aboriginal Heritage Information Management System (AHIMS) and consideration of previous archaeological investigations pertinent to the subject area.

#### 2.1.1. Regional Background

Due to the absence of written records, much of our understanding of Aboriginal life pre-colonisation is informed by the histories documented in the late 18th and early 19th century by European observers. These histories provide an inherently biased interpretation of Aboriginal life both from the perspective of the observer but also through the act of observation. The social functions, activities and rituals recorded by Europeans may have been impacted by the Observer Effect, also known as the Hawthorne Effect. According to the Observer/Hawthorne Effect, individuals will modify their behaviour in response to their awareness of being observed. With this in mind, by comparing/contrasting these early observations with archaeological evidence it is possible to establish a general understanding of the customs, social structure, languages and beliefs of Aboriginal people (Attenbrow 2010).

The archaeological record provides evidence of the long occupation of Aboriginal people in Australia. Current archaeological establishes occupation of the Australian mainland by as early as 65,000 years before present (BP) (Clarkson et al. 2017). The oldest generally accepted date for a site in the Sydney region is 17,800 BP, recorded in a rock shelter at Shaw's Creek (Nanson et al. 1987), near Castlereagh (approximately 80km south-west of the present subject area). Older occupation sites along the now submerged coastline would have been flooded around 10,000 years BP, with subsequent occupation concentrating along the current coastlines and rivers (Attenbrow 2010).

At the time of European contact, it is believed that the Darkinjung (also spelt Darkinjang or Darkinyung) people inhabited areas from the Hawkesbury River in the south to Lake Macquarie in the north (Tindale, 1974). Included within these territories is the suburb of Tuggerah and the present subject area. Estimates of the size of the Darkinjung population at the time of European contact range from 360 people (Bennett 1968) to 1500 people (Butlin 1993). Records indicate that no members of the Darkinjung tribe survived beyond the late 19<sup>th</sup> century, with introduced diseases (e.g. smallpox) having a devastating impact on the local population (Bennett 1968).

The Darkinjung utilised the resources afforded by the local forests and waterways. Historical accounts indicate that they used single pronged hunting spears and multi-pronged fishing spears, sometimes propelled by a woomera (Mathew, 1834; Bennett, 1968). Accounts also indicate that fishing lines and nets were also used, with fishhooks and barbs being manufactured from bone and shell (Bennett, 1968). Stone tools, such as cutting blades, scrapers and ground edge axes, were also utilised for a range of purposes. As the archaeological record is limited to materials and objects that were able to withstand degradation and decay, stone tools are the most common type of Aboriginal objects remaining in the archaeological record. Technologies used for making tools changed, along with preference of raw material. Different types of tools appeared at certain times, for example ground stone hatchets are first observed in the archaeological record around 4,000 BP in the Sydney region (Attenbrow 2010:102).

Based on the above background, it is possible that similar evidence of Aboriginal occupation is present within original and/or intact topsoils within the present subject area.

#### 2.1.2. Local Archaeological Studies

Previous archaeological investigations may provide invaluable information on the spatial distribution, nature and extent of archaeological resources in a given area. Summaries of the most pertinent reports to the subject area are provided below.

### 2.1.2.1. Archaeological Reports from the Subject Area

Several archaeological reports relating directly to the present subject area have been identified and are summarised below.

#### ***Conybeare Morrison, 2009. Westfield Tuggerah Site, Tuggerah, Central Coast NSW. Part 3A Preliminary Environmental Assessment***

A Preliminary Environmental Assessment report encompassing the subject area describes the results of a survey conducted by McCardle Cultural Heritage Pty Ltd and two Aboriginal representatives of the Guringai Tribal Link Aboriginal Corporation in 2006. No archaeological sites were identified during the survey, which focussed on areas of high visibility and exposure. However, the report identifies the sandstone “knoll” at the northeast corner of the subject area as a Potential Archaeological Deposit (PAD), with a high heritage significance. The sandstone knoll does not appear to have been registered as a site with AHIMS. Furthermore, the report notes that the location of the subject area in relation to known Aboriginal sites suggests that the subject area was used as a travel route to and from other sites or as a possible hunting ground. The identification of a PAD within the subject area and the close proximity of other Aboriginal sites to the subject area, suggest that there is potential for the subject area to retain Aboriginal objects.

#### ***Dean-Jones, P, 1986. Wyong draft local environmental plan. Tuggerah land release***

An archaeological survey of an area of approximately 170 ha encompassing the present subject area (Figure 6) was conducted as part of a land release. The survey identified a single artefact within the present subject area, a broken flaked piece of yellow chert (1.5 x 1.0 x 1.2 cm). The artefact was found in the A soil horizon in the south-western portion of the present subject area (see Figure 6). The find was “not considered significant” and does not appear to have been recorded on the AHIMS register. It is noted in the report that, although no other artefacts were identified, the dense ground cover in the subject area may have obscured other finds. The survey further identified two Aboriginal sites close to the present subject area: a quarry site and a small, possibly utilised, scraper of veined grey quartz (1.5 x 1.5 x 0.7 cm). Both were located on Tangy Angy hill, which forms the southern boundary of the subject area (see Figure 6). The quarry site is now registered as AHIMS ID# 45-3-0816 (see Section 3.4 above), while the scraper does not appear to have been registered as a site. The results of the survey, with Aboriginal artefacts having been found within and the vicinity of the subject area, suggest that there is potential for Aboriginal objects to be retained within the subject area.

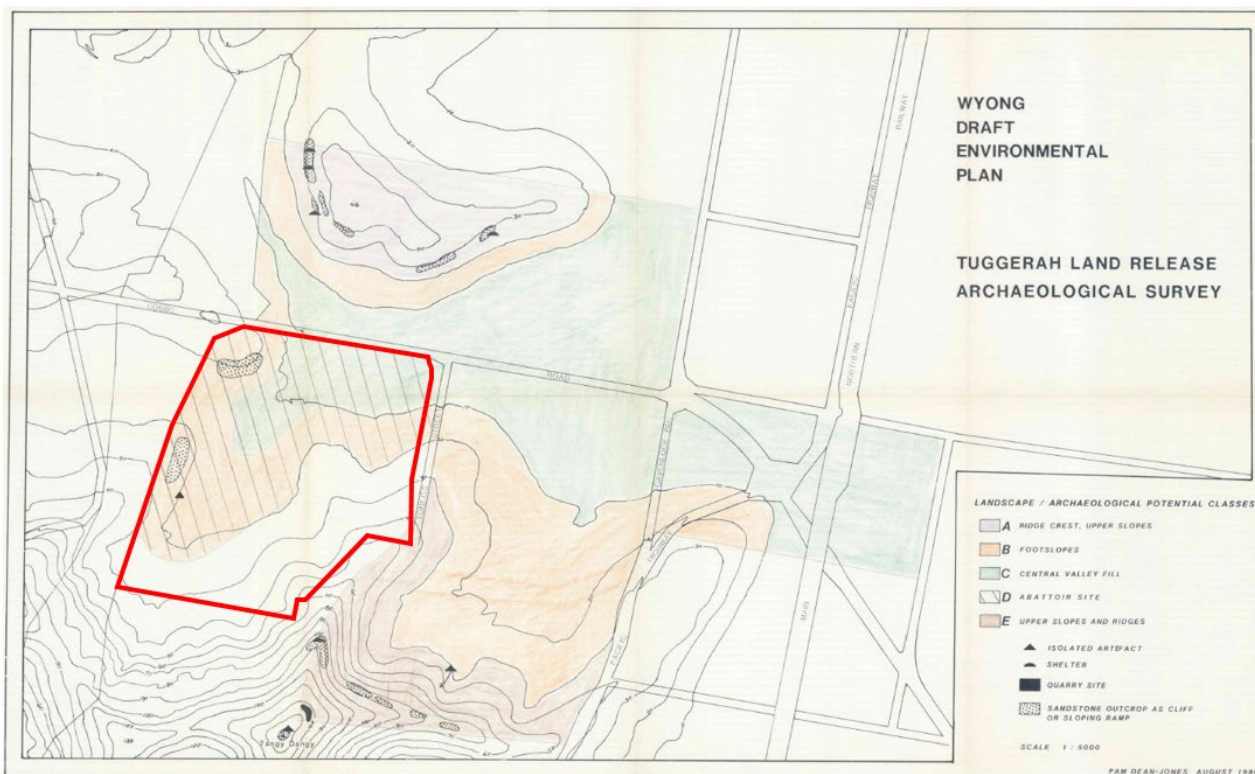


Figure 6 – Area surveyed for Tuggerah land release, with present subject area indicated by red polygon.

Source: Dean-Jones, 1986

### 2.1.2.2. Archaeological Reports from Local Area

Numerous archaeological reports have been produced relating to the broader area around the present subject area. The most relevant to the specific conditions of the present subject area are summarised in Table 1 below.

Table 1 – Pertinent archaeological investigations from local area

Report	Summary	Relevance to Subject Area
<p>Artefact, 2019. New Intercity Fleet Maintenance Facility, Orchard Road, Kangy Angy. Archaeological Technical Report.</p>	<p>Archaeological test excavation report for the Transport for NSW 'New Intercity Facility Maintenance Facility Project', Kangy Angy. The test excavation encompassed two areas associated with the main project: an alternate construction access assessment area, approximately 1.3 km south-east of the present subject area, and an HV transmission line assessment area, approximately 1 km south of the present subject area. The latter area yielded no Aboriginal objects. However, a low-density artefact scatter was found in the alternate construction access assessment area, despite the area having been subjected to substantial post depositional impacts. Significantly, the artefact scatter was found in proximity to a waterway (Ourimbah Creek).</p>	<ul style="list-style-type: none"> <li>▪ Approximately 1.3km southeast of the present subject area.</li> <li>▪ Aboriginal objects may be associated with waterways in the area.</li> <li>▪ Aboriginal objects may remain in areas subject to historical ground disturbance.</li> </ul>
<p>Advitech, 2013. Aboriginal Archaeological Salvage Excavation, AHIMS Site # 45-3-3393 'Mardi to Mangrove 3'</p>	<p>Archaeological Salvage Excavation Report for the site of AHIMS ID# 3393 at Mardi Dam, approximately 1.8km northwest of the present subject area. No Aboriginal objects were identified during the salvage works. A high level of disturbance associated with the construction of the dam was recorded throughout the entire study area.</p>	<ul style="list-style-type: none"> <li>▪ Approximately 1.8km northwest of the present subject area.</li> <li>▪ A high level of ground disturbance (e.g. due to dam construction) may significantly reduce archaeological potential.</li> </ul>
<p>Artefact, 2012. Pacific Highway/Wyong Road intersection upgrade. Aboriginal Archaeological Survey Report.</p>	<p>Aboriginal Archaeological Survey Report for the Pacific Highway and Wyong Road intersection, approximately 1km east of the present subject area. No Aboriginal sites were located during the site survey. The study area was assessed as having low archaeological potential and low archaeological significance due to high levels of historical ground disturbance.</p>	<ul style="list-style-type: none"> <li>▪ Approximately 1km east of the present subject area.</li> <li>▪ A high level of ground disturbance may significantly reduce both archaeological potential and archaeological significance.</li> </ul>

<p>Therin Archaeological Consulting, 2000. Archaeological Survey of Woodbury Park Estate, Mardi. Stage 4.</p>	<p>Archaeological Survey Report for Woodbury Park Estate, approximately 1.7km north of the present subject area. Two artefact scatters and two isolated finds were located by the survey. One of the artefact scatters was found in imported gravel, while the other artefact scatter (two flakes of mudstone and quartz) and two isolated finds (each a broken flake, one of mudstone and the other of silcrete) were located on a floodplain, in proximity to billabongs.</p>	<ul style="list-style-type: none"> <li>▪ Approximately 1.7km north of the present subject area.</li> <li>▪ Aboriginal objects may be associated with fresh water in the area.</li> </ul>
---	---	--

### 2.1.3. AHIMS Database

The Aboriginal Heritage Information Management System (AHIMS) database comprises previously registered Aboriginal archaeological objects and cultural heritage places in NSW and it is managed by the Department of Premier and Cabinet (DPC) under Section 90Q of the NPW Act. 'Aboriginal objects' is the official term used in AHIMS for Aboriginal archaeological sites. The terms 'Aboriginal sites', 'AHIMS sites' and 'sites' are used herein to describe the nature and spatial distribution of archaeological resources in relation to the subject area.

A search of the Aboriginal Heritage Information Management System (AHIMS) was carried out on the 26 March 2021 (AHIMS Client Service ID: 579382) for an area of approximately 6km x 6km. The Basic and Extensive AHIMS search results are included in Appendix A. A summary of all previously registered Aboriginal sites within the extensive search area is provided in Table 2 and Figure 7 and their spatial distribution is shown in Figure 8 and Figure 9. An updated AHIMS search was conducted on 9 April 2024 using the same geographical parameters (AHIMS Client Service ID: 881409). The Basic and Extensive AHIMS search results for the updated search are also included in Appendix A.

No new sites were registered within or in close proximity to the subject area.

The updated AHIMS search identified one less site than that of 2021. The site in question is AHIMS ID# 45-3-1102 *Main Range*, recorded as a Shelter with Midden and Isolated Find. This does not significantly alter the previous assessment, the results of which are discussed below.

Table 2 – Summary of extensive AHIMS search (AHIMS Client Service ID: 579382)

Site Type	Context	Total	Percentage
Artefact Scatter	Open	7	64%
Isolated Find	Open	1	9%
Modified Tree	Open	1	9%
Quarry	Open	1	9%
Shelter with Midden and Isolated Find	Closed	1	9%
<b>Total</b>		<b>11</b>	<b>100%</b>

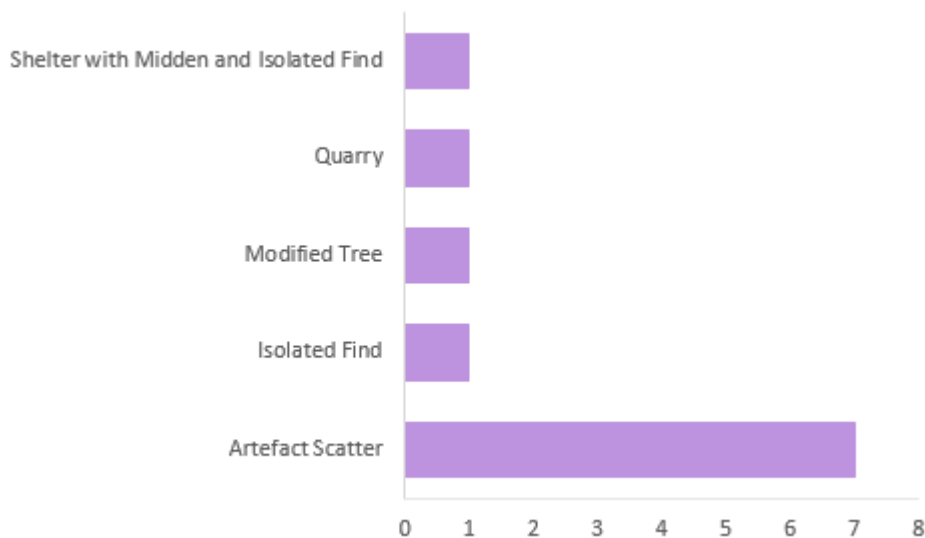


Figure 7 – Site types within the extensive search area

It should be noted that the AHIMS register does not represent a comprehensive list of all Aboriginal objects or sites in a specified area as it lists recorded sites only identified during previous archaeological survey effort. The wider surroundings of the subject area and the region in general have been the subject of various levels and intensity of archaeological investigations during the last few decades. Most of the registered sites have been identified through targeted, pre-development surveys for infrastructure and maintenance works, with the restrictions on extent and scope of those developments.

The AHIMS search identified no Aboriginal sites or Aboriginal places within the subject area.

In the broader search area, a total of 12 Aboriginal objects are registered (see Figure 8). One of those Aboriginal objects is identified on the AHIMS register as 'not a site', reducing the total number to 11.

The most common site types identified in the search are artefact scatters, which comprise 64% (n=7) of search results. Artefact scatters are sites with multiple culturally modified lithics within an approximately 10m area. Artefact scatters can range in size from small, low intensity 'background' scatters to large scatters of hundreds of artefacts. Within the extensive search area, the registered artefact scatters are all low density, consisting of no more than ten individual pieces. Spatially, objects within the search area tend to be located near water bodies. While the number of sites is low, the results of the AHIMS search reflect an environment in which sites are more frequently occurring as surface artefact exposures near fresh water.

The nearest registered Aboriginal objects to the subject area are AHIMS ID# 45-3-0816 and AHIMS ID# 45-3-1108. These sites are described briefly below.

#### AHIMS ID# 45-3-0816

AHIMS ID# 45-3-0816 is located approximately 250m south of the subject area and is described as a quarry. The site is located on the upper northern slope of Tangy Angy Hill, which rises at the southern boundary of the present subject area. The quarry utilises a band of metamorphosed fine-grained quartz sandstone. It is noted that the material does not appear to be a good flaking medium, having numerous internal fractures. Ten flaked pieces were found in association with the quarry.

#### AHIMS ID# 45-3-1108

AHIMS ID# 45-3-1108 is located approximately 700m north of the subject area and is described as an artefact scatter. The site consists of one flaking core (grey rhyolite) and four waste flakes (one honey-coloured chert, one pink rhyolite and two quartz). The artefacts were found on an eroded area of a hillside overlooking the head of a small creek.

The proximity of the present subject area to a lithic source and evidence of stone tool manufacture is a positive indicator for the stone artefacts occurring within the subject area.



GDA 1994 MGA Zone 56

© 2021, PSMA Australia Ltd, HERE Pty Ltd, ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



Project No: P0033071

Project Manager: Balazs hanel

**AHIMS SITES IN EXTENSIVE SEARCH AREA**  
Tuggerah Gateway Precinct  
Scentre Group Limited

- ▭ Subject Area
- Isolated Find
- Contours
- Modified Tree
- Hydrology
- Quarry
- Artefact Scatter
- Shelter with Midden and Isolated Find

Figure 8 – Registered Aboriginal sites in extensive search area





GDA 1994 MGA Zone 56

© 2021, PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



Project No: P0033071  
 Project Manager: Balazs hansenl

**AHIMS SITES IN PROXIMITY**  
 Tuggerah Gateway Precinct  
 Scentre Group Limited

- Subject Area
- Contours
- Hydrology
- Artefact Scatter
- Quarry

Figure 9 – Registered Aboriginal sites within proximity to the subject area

## 2.1.4. Conclusions Drawn from Archaeological Context

The following conclusions are drawn from the archaeological background information, including AHIMS results and pertinent regional archaeological investigations:

- Archaeological objects within the region surrounding the subject area are found in greater frequency in the vicinity of fresh water.
- There are no Aboriginal objects registered within the subject area.
- Two Aboriginal objects are registered within 1km of the subject area: a quarry and an artefact scatter.
- Previous studies of the subject area and surrounds identified a single flaked stone artefact and a PAD within the subject area and a scraper in close proximity to the subject area, none of which is registered with AHIMS.
- The archaeological context of the subject area suggests a potential for it to retain Aboriginal objects.

## 2.2. ENVIRONMENTAL CONTEXT

The environmental context of a subject area is relevant to its potential to include Aboriginal objects and places. Aboriginal objects and places may be associated with certain landscape features that played a part in the everyday lives and traditional cultural activities of Aboriginal people. Landscape features that are considered indicative of archaeological potential include rock shelters, sand dunes, waterways, waterholes and wetlands. Conversely, disturbance to the landscape after Aboriginal use may reduce the potential for Aboriginal objects and places. An analysis of the landscape within and near to the subject area is provided below.

### 2.2.1. Topography

Certain landform elements are associated with greater archaeological potential for Aboriginal objects and places. Areas that are located on a ridge top, ridge line or headland, located within 200m below or above a cliff face or within 20m of or in a cave, rock shelter or cave mouth are considered sensitive areas for Aboriginal objects and places.

The subject area is relatively flat, rising slightly on the western and southern boundaries (Figure 10). A ridgeline is present approximately 250m to the south of the subject area, running in a generally east-west direction. The slightly elevated ground on the western and southern boundaries of the subject area are the lower flanks of that ridgeline. As the subject area is not located on a ridge top, ridge line or headland, or within the vicinity of a cliff face, cave or rock shelter, the topography of the subject area is not indicative of archaeological potential.

### 2.2.2. Hydrology

Proximity to a body of water is a factor in determining archaeological potential. Areas within 200m of the whole or any part of a river, stream, lake, lagoon, swamp, wetlands, natural watercourse or the high-tide mark of shorelines (including the sea) are considered sensitive areas for Aboriginal objects and places.

The subject area includes several lower order waterways running in a generally north-eastward direction towards Tuggerah Creek. The waterways rise in the elevated ground on the western and southern boundaries of the subject area. The confluence of these waterways occurs within the northern portion of the subject area. These waterways have been dammed for agricultural purposes and canalised in the north-eastern portion of the subject area. The majority of the subject area is within 200m of at least one of these waterways, indicative of the likely presence of Aboriginal objects.

### 2.2.3. Vegetation

The presence of certain types of vegetation within in an area may be indicative of archaeological potential for certain site types, such as modified trees, or more generally of the habitability of an area for Aboriginal people.

The vegetation associated with the Erina soil landscape would have originally comprised tall open-forest. Common species of the open forest would have included blackbutt (*Eucalyptus pilularis*), forest oak (*Allocasuarina torulosa*), turpentine (*Syncarpia glomulifera*), spotted gum (*E. maculata*), smooth-barked apple (*Angophora costata*), grey ironbark (*E. paniculata*) and sydney blue gum (*E. saligna*).

The vegetation associated with the Woodbury's Bridge soil landscape would have originally comprised tall open-forest with a grass understorey. Common species of the open-forest would have included spotted gum (*E. maculata*), grey gum (*E. punctata*), white stringybark (*E. globoidea*) and grey ironbark (*E. paniculata*). Rough-barked apple (*Angophora floribunda*) often occurs in association with spotted gum on footslopes, while paperbarks (*Melaleuca spp.*) are common along drainage lines. Kangaroo grass (*Themeda australis*) would have been a common grass species in the understorey.

The vegetation associated with the Wyong soil landscape would have originally comprised closed-forest. Common species of the closed-forest would have included *Melaleuca linariifolia* and prickly-leaved paperbark (*Melaleuca styphelioides*), woollybutt (*E. longifolia*) and swamp mahogany (*E. robusta*). Sydney blue gum (*E. saligna*) occurs along the better drained levee banks and terraces whilst swamp oak (*Casuarina glauca*).

The variety of floral and faunal species in the subject area could have been utilised by Aboriginal people for medicinal, ceremonial and subsistence purposes.

Furthermore, the subject area includes approximately 2.5ha of mature trees, primarily concentrated on its south-eastern boundary. Although the area of remnant vegetation is relatively small, there is nevertheless some potential for it to include one or more trees that have been culturally modified.

## 2.2.4. Soil Landscape and Geology

Certain soil landscapes and geological features are associated with greater archaeological potential for Aboriginal objects and places. For example, sand dune systems are associated with the potential presence of burials and sandstone outcrops are associated with the potential presence of grinding grooves and rock art. The depth of natural soils is also relevant to the potential for archaeological materials to be present, especially in areas where disturbance is high. In general, as disturbance level increases, the integrity of any potential archaeological resource decreases. However, disturbance might not remove the archaeological potential even if it decreases integrity of the resources substantially.

The NSW Soil and Land Information System (SALIS) provides information on expected soil landscapes within NSW. There are three soil landscapes identified within the subject area (Figure 10): the Erina soil landscape (er), the Woodbury's Bridge soil landscape (wo) and the Wyong soil landscape (wy). The Erina landscape is present across the higher elevations of the southern portion and north western corner of the subject area. Two bands of the Wyong soil landscape occupy the intermediate elevations within the norther portion of the subject area, with the lower elevation being occupied by the Woodbury's Bridge soil landscape.

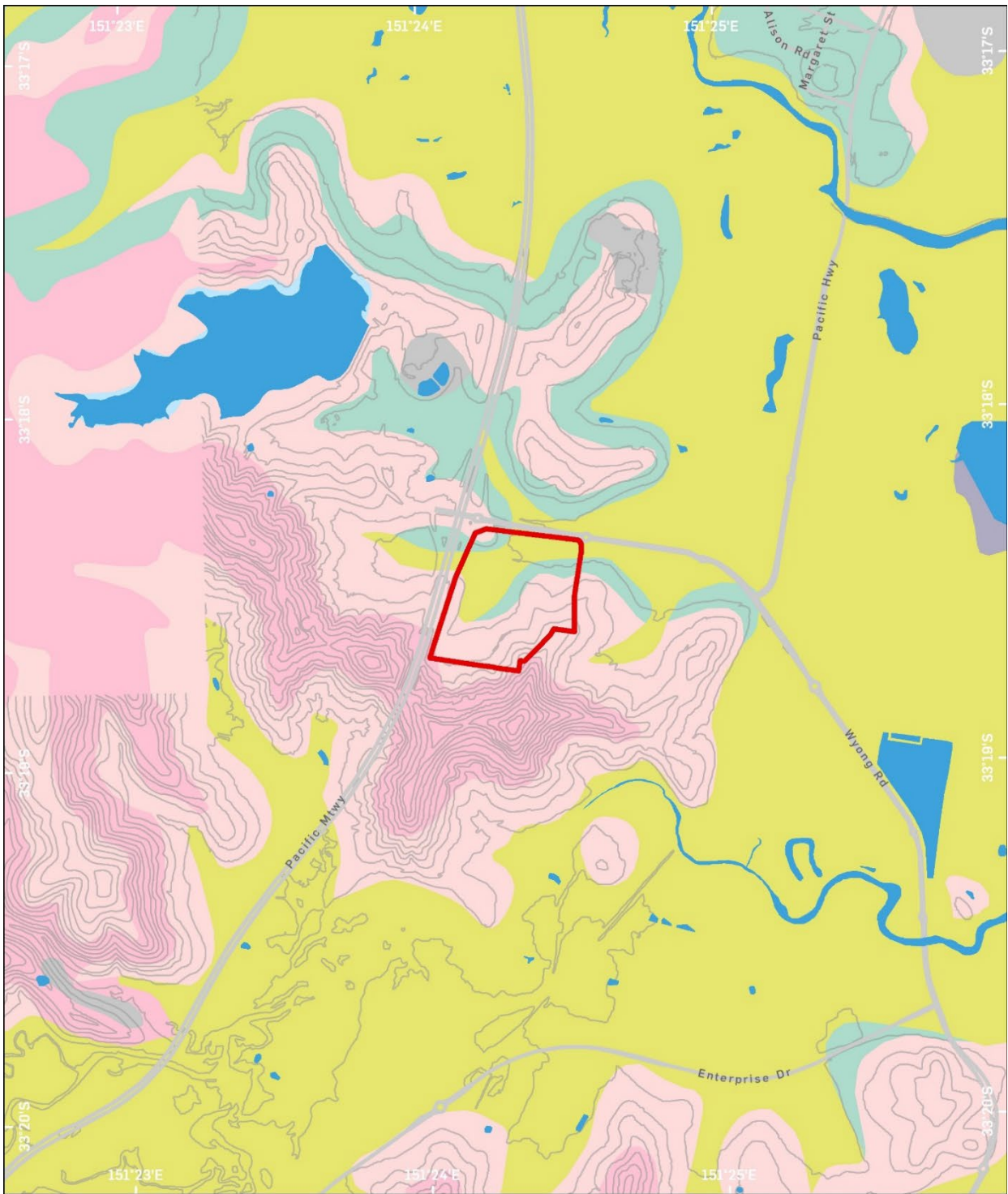
The Erina soil landscape is described as residing on undulating to rolling rises and low hills on the Terrigal Formation. The Terrigal Formation consists of lithic and quartz sandstone and siltstone, minor sedimentary breccia, claystone and conglomerate, with some sandstones being highly weathered and friable. Soils are described as moderately deep to deep (100 to 200cm) Yellow Podzolic Soils (Dy2.11, Dy3.11, Dy5.11) on fine-grained bedrock with Yellow Podzolic Soils (Dy3.21) in poorly drained areas; moderately deep to deep (50 to >150 cm) Yellow Podzolic Soils (Dy2.21, Dy3.21, Dy2.51) and Yellow Earths (Gn2.21) on coarse-grained parent material with Yellow Earths (Gn2.44, Gn2.21, Gn2.24) on foot-slopes and deep (>300 cm) Structured Loams (Um6.11) and Yellow Earths (Gn2.24) along drainage lines. Dominant soil materials include weakly pedal brownish black fine sandy loam, hard-setting weakly pedal clay loam, yellowish brown sandy clay, brown strongly pedal clay, light grey mottled strongly pedal clay and brown earthy sandy clay loam.

The Woodbury's Bridge soil landscape is described as residing on gently undulating rises to rolling low hills on Patonga Claystone. Patonga Claystone consists of red brown and light-coloured claystone and siltstone with some sandstone. Soils are described as deep (>150 cm) Red Podzolic Soils (Dr2.21, Dr3.21) with some Soloths (Dr2.41, Db2.41, Dy2.41) in poorly drained areas on claystone bedrock and shallow to moderately deep (50–150 cm) Yellow Podzolic Soils (Dy3.21, Dy5.11) on sandstone bedrock. Dominant soil materials include dark brown pedal fine sandy loam, hard-setting dull yellowish-brown sandy clay loam, Reddish brown slaking pedal clay and yellowish-brown pedal sandy clay.

The Wyong soil landscape is described as residing on broad poorly drained deltaic floodplains and alluvial flats of Quaternary sediments on the Central Coast Lowlands. Quaternary sediments consist of sand, silt, gravel and clay. Soils are described as deep (>200 cm) Yellow Podzolic Soils (Dy5.11, Dy5.51), Brown Podzolic Soils (Db2.11) and Soloths (Dy5.81, Dy5.41) with some Humus Podzols (Uc2.22) around lake edges. Dominant soil materials include brownish black pedal loam and mottled brownish grey plastic clay.

On the basis of the information provided by SALIS, it is possible that intact natural soil profiles exist within the subject area. Any historical ground disturbance is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area.

Furthermore, outcrops of sandstone occur across the subject area, including the 'knoll' in the north-western corner of the subject area and scattered smaller outcrops. Give the proximity of the sandstone outcrops to water (see Section 2.2.2 above) there is potential for grinding grooves to be present on those outcrops (possibly concealed by vegetation overgrowth) and also the potential for rock art.



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021



**SOIL LANDSCAPES AND HYDROLOGY**  
Tuggerah Gateway Precinct  
Scentre Group Limited

Project No: P0033071  
Project Manager: Balazs hansel

- Subject Area
- Alluvial (ALwy)
- Disturbed Terrain (DTxx)
- Erosional (ERgk)
- Water
- Hydrology
- Alluvial (ALya)
- Erosional (ERer)
- Residual (REwo)
- Hydrology 200m Buffer
- Colluvial (COwn)
- Erosional (ERer/wo)
- Swamp (SWts)
- Contours

Figure 10 – Soil Landscapes and Hydrology

## 2.2.5. Historical Ground Disturbance

Historical ground disturbance, either through human activity (e.g. soil ploughing, construction of buildings and clearing of vegetation) or natural processes (e.g. erosion), can reduce the archaeological potential of a site. Ground disturbance may reduce the spatial and vertical integrity of archaeological resources and expose sub-surface deposits.

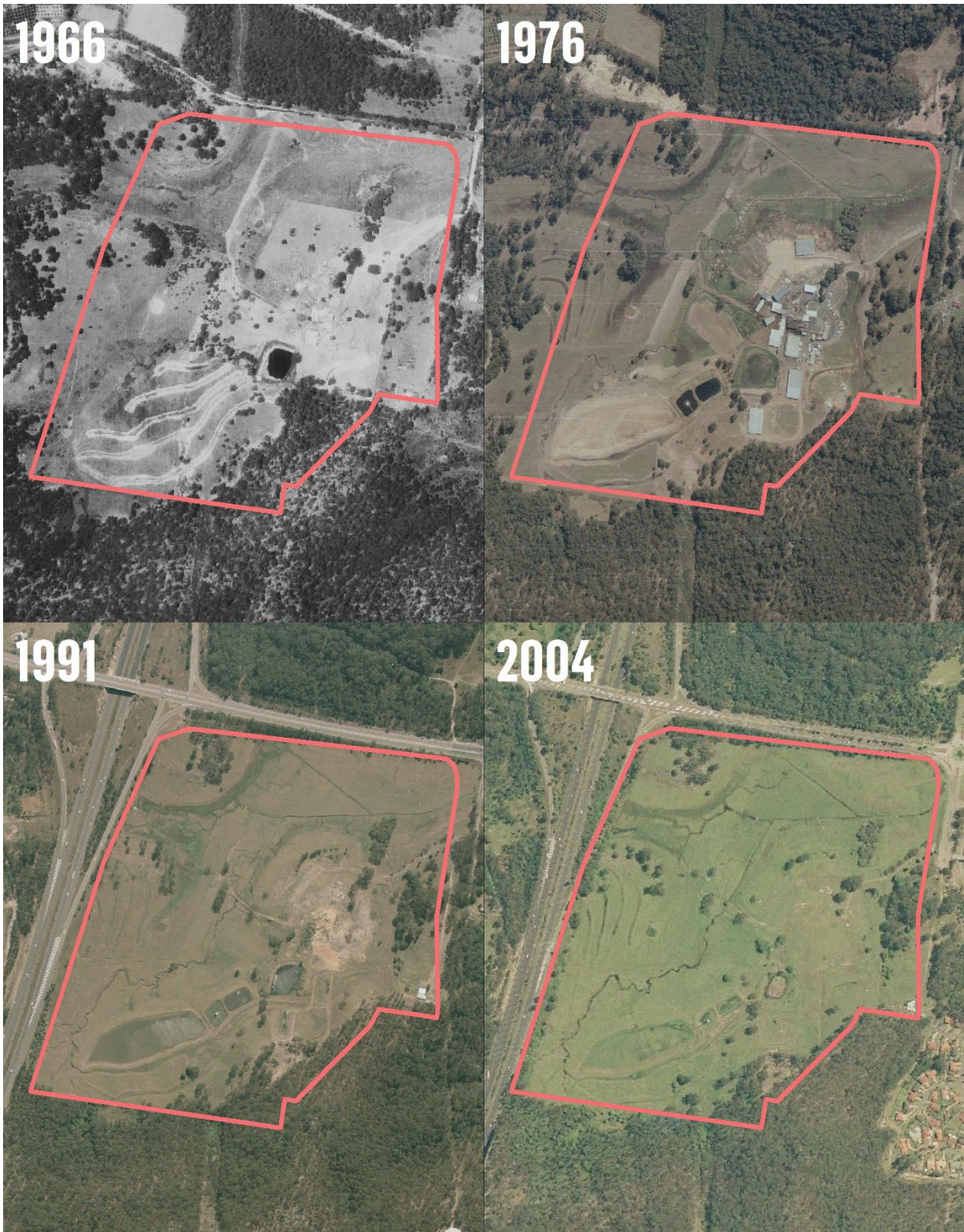
The subject area is the site of the former Wyong District Abattoir (Wyong DCP 2013, Chapter 6.14, Section 32), dating to the mid-twentieth century (Conybeare-Morrison 2009, p. 16). An assessment of the impact of the development and use of the subject as an abattoir and other historical activities on archaeological potential is provided below.

Aerial photographs from 1966, 1976, 1991 and 2004 (Figure 11) were analysed to develop an understanding of ground disturbance within the subject area. The analysis of the aerial photography is provided in Table 3.

Table 3 – Analysis of historic aerial imagery

Year	Observation
1966	A significant portion of the subject area has been cleared of vegetation, although a band of remnant trees remains on the south-eastern boundary and scattered patches of trees remain across the subject area. A dam has been constructed adjacent the band of remnant trees in the south-eastern portion of the subject area. Earthworks, apparently associated with that dam in the form of contour banks, cover much of the south-western portion of the subject area. To the northeast of the dam is a large area that appears to have been cleared in preparation for building works. A number of roads are also apparent in the northern portion of the subject area.
1976	Further clearance of trees has occurred to the southeast of the earlier dam, leaving a narrower band of remnant trees, and elsewhere across the subject area. The majority of the earthworks to the southwest of the earlier dam are now replaced by three more dams. The area to the east and northeast of the dams is now occupied by buildings associated with the abattoir, with the exception of a strip of partially vegetated land along the eastern boundary of the subject area. Further earthworks in the form of contour banks are now present in the middle of the western boundary of the subject area. In the north-eastern portion of the subject area the natural creek-lines have now been canalised.
1991	Vegetation coverage and earthworks in the subject area are little changed. The only significant change is the demolition of almost all buildings, leaving exposed earth, especially to the northeast of the dams.
2004	Vegetation coverage in the subject area is again little changed, although the previously exposed earth has now been covered by grass. The dams in the southern portion of the subject area are now filled in. New earthworks are evident in the north-east corner of the subject area in the form of a mound of apparently imported fill.

It is apparent from analysis of the historical aerial imagery that the subject area has been subject to varying degrees of ground disturbing activity since at least the mid-twentieth century. The combined impacts of historical land use have significantly changed the original environment across a large part of the subject area. Early clearance of native vegetation and consequent erosion is likely to have caused low levels of ground disturbance within the subject area. The moderate to high depths of the natural soil profiles (see Section 2.2.2 above) would likely have somewhat mitigated the deleterious effects of erosion on archaeological potential. Activities associated with the utilisation of the subject area as an abattoir would have had a greater impact on the natural soil profile. In particular, construction of the dams would have significantly reduced archaeological potential. However, portions of the subject area near the unmodified waterways and near exposed sandstone outcrops (e.g. the 'knoll' in the north-western corner of the subject area) have a greater potential for retaining Aboriginal objects.



GDA 1994 MGA Zone 56



Project No: P0033071

Project Manager: Balazs hanel

Subject Area

© 2021. PSMA Australia Ltd, HERE Pty Ltd, ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Apr 2021

**HISTORICAL AERIAL PHOTOGRAPHS**  
Tuggerah Gateway Precinct  
Scentre Group Limited

Figure 11 – Historical aerial imagery

## 2.2.6. Conclusions Drawn from Environmental Context

The following conclusions are drawn from the above assessment of the environmental context of the subject area:

- As the subject area is not located on a ridge top, ridge line or headland, or within the vicinity of a cliff face, cave or rock shelter, the topography of the subject area is not indicative of archaeological potential.
- The majority of the subject area is within 200m of lower order waterways, indicative of the potential for Aboriginal objects.
- The subject area includes approximately 2.5ha of mature trees, among which there is potential for culturally modified trees to occur.
- Development and utilisation of the subject area as an abattoir is determined to have caused localised high levels of ground disturbance (dam construction), while the majority of the subject area has been subject to low to moderate levels of physical impact (vegetation clearance, building construction and earthworks).
- Historical ground disturbance is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area.
- The environmental context of the subject area suggests a potential for it to retain Aboriginal objects.



## 2.3. FIELD SURVEY

A visual inspection of the subject area was carried out on 15 April 2021 by Andrew Crisp (Urbis Senior Consultant, Archaeology) to visually assess ground disturbance. The field survey targeted areas of exposure, including sandstone outcroppings, and areas associated with potential ground disturbance based on the above assessment of historical aerial photographs.

No Aboriginal objects were identified during the field survey. A generally low level of visibility across the subject area may have concealed any Aboriginal objects present on the ground surface or on rock outcrops within the subject area.

The mature trees in the north-western corner of the subject area were inspected for scarring consistent with cultural modification. No culturally modified trees were identified in this area. The sandstone outcrops in the north-western corner of the subject area were inspected for rock art and grinding grooves. No art or grinding grooves were identified in this area. The absence of observed Aboriginal objects in the north-western corner does not preclude the possibility of such objects being present elsewhere in the subject area or, in the case of rock art and grinding grooves, being concealed by vegetation overgrowth.

Inspection of the dams in the southwestern portion of the subject area shows significant earthworks associated with the construction of the dam walls (Figure 13 and Figure 14). These earthworks are determined to have caused high levels of ground disturbance. The earthworks on western boundary appear as terracing and are far less pronounced than the dam walls (Figure 15). It is determined that these earthworks have caused moderate levels of ground disturbance. Demolition rubble is present in places formerly occupied by buildings (Figure 16). The construction and demolition of these buildings is determined to have caused moderate levels of ground disturbance. The artificial mound in the north-eastern corner of the subject area appears to have been imported fill (Figure 17). The construction of the mound is determined to have caused a moderate level of ground disturbance, with the potential for intact natural soil to remain beneath the imported fill. Areas around sandstone outcrops appear to have been subjected to low levels of historical ground disturbance, with the sandstone appearing generally intact (Figure 18, Figure 19 and Figure 20).

The field survey confirmed the findings of the historical aerial photograph analysis that the subject area comprises localised areas of low, moderate and high disturbance.

A detailed ground disturbance map based on the above assessment is provided in Figure 21. The map provides a spatial estimate of ground disturbance within the subject area. Geotechnical and soil contamination data are required to further confirm the accuracy of the map.



Figure 12 – View northeast of small dams in southwest portion of subject area



Figure 13 – View southwest of large dam in southwest portion of subject area



Figure 14 – View north across terracing on western boundary of subject area



Figure 15 – Rubble associated with former buildings in southwest portion of subject area



Figure 16 – View towards artificial mound in north-eastern corner of subject area



Figure 17 – View north towards sandstone knoll in north-western corner of subject area



Figure 18 – View of sandstone outcrop on south-eastern boundary of subject area



Figure 19 – View of sandstone outcrop in the north eastern portion of subject area



Project No: P0033029  
 Project Manager: Balazs Hansel

**GROUND DISTURBANCE**  
 Tuggerah Gateway Precinct  
 Scentre Group Limited

- Subject Area
- High Ground Disturbance
- Medium Ground Disturbance
- Low Ground Disturbance
- Contours

Figure 20 – Ground disturbance map

## 2.4. PREDICTIVE MODEL

A predictive model may be used to estimate the nature and distribution of evidence of Aboriginal land use in a subject area. A predictive model should consider variables that may influence the location, distribution and density of sites, features or artefacts within a subject area. Variables typically relate to the environment and topography, such as soils, landscape features, slope, landform and cultural resources.

The general process archaeologists employ to determine the likelihood of any particular site type (artefact scatter, shelter, midden etc) occurring within a given subject area requires the synthesis of information for general distribution of archaeological sites within the wider area including:

- Detailed analysis of previous archaeological investigations within the same region.
- Presence or absence of landscape features that present potential for archaeological resources (human occupation, use) such as raised terraces adjacent to permeant water.
- Analysis of the geology and soil landscape within the subject area which allows for a determination to be made of the type of raw material that would have been available for artefact production (silcrete, tuff, quartz etc) and the potential for the accumulation of archaeological resource within the subject area.
- Investigation of and determination of the level of disturbance/historical land use within the subject area which may impact on or remove entirely any potential archaeological material.

An indicative process of determining the likelihood of a given site occurring within a subject area is provided in Table 4 below.

Table 4 – Indicative process for determining the potential presence of a site.

<b>Likelihood</b>	<b>Indicative subject area context</b>	<b>Indicative action</b>
High	Low level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Detailed archaeological investigation including but not limited to survey, test excavation and potentially (depending on density and/or significance of archaeological deposit) salvage excavation.
Moderate	Moderate level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Detailed archaeological investigation including but not limited to survey, test excavation and potentially (depending on density and/or significance of archaeological deposit) salvage excavation.
Low	High level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Employ chance finds procedure and works can continue without further archaeological investigation.
Nil	Complete ground disturbance (i.e. complete removal of natural soil landscape); or no archaeologically sensitive landscape features and no archaeological sites within subject area.	Employ chance finds procedure and works can continue without further archaeological investigation.

## 2.4.1. Application of Predictive Model

There are a range of Aboriginal site types that are known to occur within New South Wales. Those site types and their likelihood to occur within the subject area are evaluated in Table 5 below. The likelihood of occurrence is based on the predictive model described above.

Table 5 – Predictive Model

Site type	Description	Likelihood	Justification
Artefact Scatters / Camp Sites	Artefact scatters represent past Aboriginal subsistence and stone knapping activities and include archaeological remains such as stone artefacts and hearths. This site type usually appears as surface scatters of stone artefacts in areas where vegetation is limited, and ground surface visibility increases. Such scatters of artefacts are also often exposed by erosion, agricultural events such as ploughing, and the creation of informal, unsealed vehicle access tracks and walking paths. These types of sites are often located on dry, relatively flat land along or adjacent to rivers and creeks. Camp sites containing surface or subsurface deposit from repeated or continued occupation are more likely to occur on elevated ground near the most permanent, reliable water sources. Flat, open areas associated with creeks and their resource-rich surrounds would have offered ideal camping areas to the Aboriginal inhabitants of the local area.	Moderate to High	<ul style="list-style-type: none"> <li>▪ The proximity of the subject area to a quarry and a lithic artefact scatter is a positive indicator for the presence of other lithic artefacts.</li> <li>▪ The subject area includes lower order waterways, which area archaeologically sensitive landforms for artefact scatters/camp sites.</li> <li>▪ Areas of low to moderate historical ground disturbance within the subject area may retain artefact scatters/camp sites.</li> </ul>
Isolated Finds	<p>Isolated finds represent artefactual material in singular, one off occurrences. Isolated finds are generally indicative of stone tool production, although can also include contact sites.</p> <p>Isolated finds may represent a single item discard event or be the result of limited stone knapping activity. The presence of such isolated artefacts may indicate the presence of a more extensive, in situ buried archaeological deposit, or a larger deposit obscured by low ground visibility. Isolated artefacts are likely to be located on landforms associated with past Aboriginal activities, such as ridgelines that would have provided ease of movement through the area, and level areas with access to water, particularly creeks and rivers.</p>	Moderate to High	<ul style="list-style-type: none"> <li>▪ The proximity of the subject area to a quarry and a lithic artefact scatter is a positive indicator for the presence of other lithic artefacts.</li> <li>▪ The subject area includes lower order waterways, which area archaeologically sensitive landforms for isolated finds.</li> <li>▪ Areas of low to moderate historical ground disturbance within the subject area may retain isolated finds.</li> </ul>

Site type	Description	Likelihood	Justification
PAD	Potential Archaeological Deposits (or PADs) are areas where there is no surface expression of stone artefacts, but due to a landscape feature there is a strong likelihood that the area will contain buried deposits of stone artefacts. Landscape features which may feature in PADs include proximity to waterways, particularly terraces and flats near 3rd order streams and above; ridge lines, ridge tops and sand dune systems.	Moderate to High	<ul style="list-style-type: none"> <li>▪ The proximity of the subject area to a quarry and a lithic artefact scatter is a positive indicator for the presence of other lithic artefacts.</li> <li>▪ The subject area includes lower order waterways, which are archaeologically sensitive landforms associated with PADs.</li> <li>▪ Areas of low to moderate historical ground disturbance within the subject area may retain Aboriginal objects.</li> </ul>
Modified Trees	Tree bark was utilised by Aboriginal people for various purposes, including the construction of shelters (huts), canoes, paddles, shields, baskets and bowls, fishing lines, cloaks, torches and bedding, as well as being beaten into fibre for string bags or ornaments. The removal of bark exposes the heart wood of the tree, resulting in a scar. Trees may also have been scarred in order to gain access to food resources (e.g. cutting toeholds so as to climb the tree and catch possums or birds), or to mark locations such as tribal territories. Such scars, when they occur, are typically described as scarred trees. These sites most often occur in areas with mature, remnant native vegetation. The locations of scarred trees often reflect an absence of historical clearance of vegetation rather than the actual pattern of scarred trees. Carved trees are different from scarred trees, and the carved designs may indicate totemic affiliation; they may also have been carved for ceremonial purposes or as grave markers.	Moderate	<ul style="list-style-type: none"> <li>▪ The subject area includes approximately 2.5ha of mature trees, which is a positive indicator for modified trees.</li> </ul>
Grinding Grooves	Grinding grooves are the physical evidence of tool making or food processing activities undertaken by Aboriginal people. The	Low to Moderate	<ul style="list-style-type: none"> <li>▪ Sandstone outcrops across the subject</li> </ul>

Site type	Description	Likelihood	Justification
	manual rubbing of stones against other stones creates grooves in the rock; these are usually found on flat areas of abrasive rock such as sandstone. They may be associated with creek beds, or water sources such as rock pools in creek beds and on platforms, as water enables wet-grinding to occur.		<p>area may have been suitable for grinding.</p> <ul style="list-style-type: none"> <li>Previous inspections of the area, including the present survey, would likely have revealed any axe grinding grooves.</li> </ul>
Bora / Ceremonial	Aboriginal ceremonial sites are locations that have spiritual or ceremonial values to Aboriginal people. Aboriginal ceremonial sites may comprise natural landforms and, in some cases, will also have archaeological material. Bora grounds are a ceremonial site type, usually consisting of a cleared area around one or more raised earth circles, and often comprised of two circles of different sizes, connected by a pathway, and accompanied by ground drawings or mouldings of people, animals or deities, and geometrically carved designs on the surrounding trees.	Low	<ul style="list-style-type: none"> <li>Historical land-use in the subject area is likely to have destroyed any bora grounds or ceremonial sites.</li> </ul>
Burial	<p>Aboriginal burial of the dead often took place relatively close to camp site locations. This is due to the fact that most people tended to die in or close to camp (unless killed in warfare or hunting accidents), and it is difficult to move a body long distance.</p> <p>Soft, sandy soils on, or close to, rivers and creeks allowed for easier movement of earth for burial; and burials may also occur within rock shelters or middens. Aboriginal burial sites may be marked by stone cairns, carved trees or a natural landmark. Burial sites may also be identified through historic records or oral histories.</p>	Low	<ul style="list-style-type: none"> <li>The subject area is not situated on soft, sandy soils.</li> <li>The subject area does not include any visible rock overhangs suitable as shelters.</li> </ul>
Contact site	Contact sites are most likely to occur in locations of Aboriginal and settler interaction, such as on the edge of pastoral properties or towns. Artefacts located at such sites may involve the use of introduced materials such as glass or ceramics by Aboriginal people or be sites of Aboriginal occupation in the historical period.	Low to Moderate	<ul style="list-style-type: none"> <li>Contact sites are possible due to the early construction of the Old Maitland Road to the west of the subject area.</li> </ul>

Site type	Description	Likelihood	Justification
Midden	Midden sites are indicative of Aboriginal habitation, subsistence and resource extraction. Midden sites are expressed through the occurrence of shell deposits of edible shell species often associated with dark, ashy soil and charcoal. Middens often occur in shelters, or in eroded or collapsed sand dunes. Middens occur along the coast or in proximity to waterways, where edible resources were extracted. Midden may represent a single meal or an accumulation over a long period of time involving many different activities. They are also often associated with other artefact types.	Nil to low	<ul style="list-style-type: none"> <li>▪ The subject area is not situated near the coast.</li> <li>▪ The lower order tributary within the subject area is not conducive to this type of site.</li> </ul>
Art	Art sites can occur in the form of rock engravings or pigment on sandstone outcrops or within shelters (discussed below). An engraving is some form of image which has been pecked or carved into a rock surface. Engravings typically vary in size and nature, with small abstract geometric forms as well as anthropomorphic figures and animals also depicted. In the Sydney region engravings tend to be located on the tops of Hawkesbury Sandstone ridges where vistas occur. Pigment art is the result of the application of material to a stone to leave a distinct impression. Pigment types include ochre, charcoal and pipeclay. Pigment art within the Sydney region is usually located in areas associated with habitation and sustenance.	Low to Moderate	<ul style="list-style-type: none"> <li>▪ Sandstone outcrops across the subject area may have been suitable for art.</li> <li>▪ Previous inspections of the area, including the present survey, would likely have revealed any art.</li> </ul>
Shelters	Shelter sites are places of Aboriginal habitation. They take the form of rock overhangs which provided shelter and safety to Aboriginal people. Suitable overhangs must be large and wide enough to have accommodated people with low flooding risk. Due to the nature of these sites, with generic rock overhangs common particularly in areas with an abundance of sandstone, their use by Aboriginal people is generally confirmed through the correlation of other site types including middens, art, PAD and/or artefactual deposits.	Nil	<ul style="list-style-type: none"> <li>▪ The subject area does not include any visible rock overhangs.</li> </ul>



## 2.5. SUMMARY

The assessments of the archaeological and environmental contexts of the subject area are summarised as follows:

- Archaeological objects within the region surrounding the subject area are found in greater frequency in the vicinity of fresh water.
- There are no Aboriginal objects registered within the subject area.
- Two Aboriginal objects are registered within 1km of the subject area: a quarry and an artefact scatter.
- Previous studies of the subject area and surrounds identified a single flaked stone artefact and a PAD within the subject area and a scraper in close proximity to the subject area, none of which is registered with AHIMS.
- As the subject area is not located on a ridge top, ridge line or headland, or within the vicinity of a cliff face, cave or rock shelter, the topography of the subject area is not indicative of archaeological potential.
- The majority of the subject area is within 200m of lower order waterways, indicative of the potential for Aboriginal objects.
- The subject area includes approximately 2.5ha of mature trees, among which there is potential for culturally modified trees to occur.
- Development and utilisation of the subject area as an abattoir is determined to have caused localised high levels of ground disturbance (dam construction), while the majority of the subject area has been subject to low to moderate levels of physical impact (vegetation clearance, building construction and earthworks).
- Historical ground disturbance is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area.
- No Aboriginal objects were identified during the field survey.
- The field survey confirmed that the subject area comprises areas of low, moderate and high disturbance.
- The assessment of archaeological and environmental context and visual inspection of the subject area suggest a potential for it to retain Aboriginal objects.
- The assessment determined that the subject has moderate-high potential to retain artefact scatters, isolated finds and PADs, moderate potential to retain modified trees, low-moderate potential to retain grinding grooves, contact sites, middens and art, and low potential to retain bora/ceremonial sites and burials.

## **3. DUE DILIGENCE ASSESSMENT**

### **3.1. OVERVIEW OF DUE DILIGENCE PROCESS**

The NPW Act provides statutory protection for Aboriginal objects and places in NSW. Section 87 (2), Part 6 of the NPW Act ensures that a person who exercises 'due diligence' in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence, outlined by Section 86 of Part 6 of the NPW Act, if they later unknowingly harm an object without an Aboriginal Heritage Impact Permit (AHIP).

The Due Diligence Code (DECCW, 2010) was developed to help individuals and/or organisations to establish whether certain activities have the potential to harm Aboriginal objects within a given proposed activity footprint. Following the generic due diligence process (Figure 3), which is adopted by the NPW Regulation, would be regarded as 'due diligence' and consequently would provide a defence under the NPW Act.

The due diligence process outlines a set of practicable steps for individuals and organisations to:

1. Identify whether or not Aboriginal objects are, or likely to be, present in an area.
2. Determine whether or not their activities are likely to harm Aboriginal objects (if present).
3. Determine whether an AHIP application is required to carry out the harm.

The present assessment follows the steps of the due diligence process and provides clear and concise answers. Where necessary the present assessment provides detailed description to every aspect of the due diligence code to ensure the compliance of the proposed development and assessment of any Aboriginal heritage constraints.

### **3.2. IS THE ACTIVITY A LOW IMPACT ACTIVITY FOR WHICH THERE IS A DEFENCE IN THE REGULATIONS?**

NO.

At this stage, the ADD is intended to support a PP for the re-zoning of the subject area and no actual physical works are proposed. It is understood that should the PP be successful, the proposed works will include vegetation clearance, the excavation of existing soil profiles and construction of new buildings (see Section 1.2 above). The subject area will therefore be exposed to high levels of ground disturbance during development and would therefore not be considered low impact under the NPW Regulation.

### **3.3. STEP 1 – WILL THE ACTIVITY DISTURB THE GROUND SURFACE?**

YES.

At this stage, the ADD is intended to support a PP for the re-zoning of the subject area and no actual physical works are proposed. It is understood that should the PP be successful, the proposed works will include vegetation clearance, the excavation of existing soil profiles and construction of new buildings (see Section 1.2 above), which will disturb the ground surface.

### **3.4. STEP 2A – ARE THERE ANY RELEVANT CONFIRMED SITE RECORDS OR OTHER ASSOCIATED LANDSCAPE FEATURE INFORMATION ON AHIMS?**

YES.

The AHIMS database records the two Aboriginal objects within 1km of the subject area: a quarry (AHIMS ID# 45-3-0816) and an artefact scatter (AHIMS ID# 45-3-1108), which are determined to be positive indicators for the occurrence of Aboriginal objects within the subject area (see Section 2.1.3 above).

Spatial analysis of the registered AHIMS sites in the region around the subject area is consistent with the general predictive for Aboriginal objects that they are found in greater frequency in the vicinity of fresh water (see Section 2.1.3 above).

### **3.5. STEP 2B – ARE THERE ANY OTHER SOURCES OF INFORMATION OF WHICH A PERSON IS AWARE?**

YES.

A Preliminary Environmental Assessment of the subject area (Conybeare Morrison, 2009) identified the sandstone “knoll” in the northeast corner of the subject area as a PAD, with a high heritage significance (see Section 2.1.2.1 above). In addition, a previous archaeological survey (Dean-Jones, P, 1986) identified an isolated find within the subject area: a broken flaked piece of yellow chert (see Section 2.1.2.1 above). The results of the Preliminary Environmental Assessment and the archaeological survey, with an Aboriginal artefact and a PAD having been identified, suggest that there is potential for Aboriginal objects to be retained within the subject area.

### **3.6. STEP 2C – ARE THERE ANY LANDSCAPE FEATURES THAT ARE LIKELY TO INDICATE THE PRESENCE OF ABORIGINAL OBJECTS?**

YES.

The Due Diligence Code specifies the following landscape features are indicative of the likely presence of Aboriginal objects: areas within 200 m of waters including freshwater and the high tide mark of shorelines; areas located within a sand dune system; areas located on a ridge top, ridge line or headland; areas located within 200m below or above a cliff face; and areas within 20m of or in a cave, rock shelter, or a cave mouth.

The majority of the subject area is within 200m of lower order waterways, indicative of the likely presence of Aboriginal objects (see Section 2.2.3 above). The presence of mature native trees and outcrops of sandstone across the subject area also indicate a potential for the presence of culturally modified trees, grinding grooves and rock art (see Sections 2.2.3 and 2.2.4 above).

While historical land use has caused localised high levels of ground disturbance (dam construction), the majority of the subject area has been subject to low to moderate levels of physical impact (vegetation clearance, building construction and earthworks) (see Section 2.2.5 above). Furthermore, historical ground disturbance within the subject area is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area (see Section 2.2.4 above).

The landscape features within and near to the subject area therefore indicate a potential for the presence Aboriginal objects.

### **3.7. STEP 3 – CAN HARM TO ABORIGINAL OBJECTS LISTED ON AHIMS OR IDENTIFIED BY OTHER SOURCES OF INFORMATION AND/OR CAN THE CARRYING OUT OF THE ACTIVITY AT THE RELEVANT LANDSCAPE FEATURES BE AVOIDED?**

NO.

No Aboriginal objects listed on AHIMS will be affected by the proposed works as no such objects are present within the subject area (see Section 2.1.3 above). Aboriginal objects identified by other sources are an unregistered isolated find identified during a previous field survey and an unregistered PAD associated with the sandstone ‘knoll’ in the north-western corner of the subject area (see Section 2.1.2.1 above). Furthermore, the subject area includes relevant landscape features indicative of potential for Aboriginal objects (see preceding Section 3.6). The proposed works encompass the entire subject area (see Section 1.2 and Figure 4). Therefore, harm to the identified Aboriginal objects and any Aboriginal objects associated with the relevant landscape features cannot be avoided.

### **3.8. STEP 4 – DOES THE DESKTOP ASSESSMENT AND VISUAL INSPECTION CONFIRM THAT THERE ARE ABORIGINAL OBJECTS OR THAT THEY ARE LIKELY?**

YES.

The desktop assessment, which considered archaeological context and environmental context, and the visual inspection of the subject area found the following:

- Two Aboriginal objects are registered within 1km of the subject area: a quarry and an artefact scatter.
- Previous studies of the subject area and surrounds identified a single flaked stone artefact and a PAD within the subject area and a scraper in close proximity to the subject area, none of which is registered with AHIMS.
- The majority of the subject area is within 200m of lower order waterways, indicative of the potential for Aboriginal objects.
- The subject area includes approximately 2.5ha of mature trees, among which there is potential for culturally modified trees to occur.
- Development and utilisation of the subject area as an abattoir is determined to have caused localised high levels of ground disturbance (dam construction), while the majority of the subject area has been subject to low to moderate levels of physical impact (vegetation clearance, building construction and earthworks).
- Historical ground disturbance is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area.
- The field survey confirmed that the subject area comprises areas of low, moderate and high disturbance.

On the basis of the desktop assessment and visual inspection, it is determined that Aboriginal objects are likely to be present within the subject area.

### **3.9. OUTCOME OF DUE DILIGENCE ASSESSMENT**

In accordance with the due diligence process described in the Due Diligence Code and outlined in Figure 3, the above assessment has determined that an Aboriginal Cultural Heritage Assessment (ACHA) should be undertaken, leading to preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR). The ACHA should include further investigation of potential for Aboriginal objects and an impact assessment of the proposed development. Further archaeological assessment should include a detailed field survey with Aboriginal stakeholders and an archaeological test excavation program to inform a determination of archaeological potential and significance across the subject area.

## 4. CONCLUSIONS AND RECOMMENDATIONS

The present report was prepared to investigate whether development of the subject area has the potential to harm Aboriginal objects and/or places that may exist within the subject area. The assessment was undertaken in accordance with the Due Diligence Code, and included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Archaeological survey of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.

The assessment concluded that:

- Archaeological objects within the region surrounding the subject area are found in greater frequency in the vicinity of fresh water.
- There are no Aboriginal objects registered within the subject area.
- Two Aboriginal objects are registered within 1km of the subject area: a quarry and an artefact scatter.
- Previous studies of the subject area and surrounds identified a single flaked stone artefact and a PAD within the subject area and a scraper in close proximity to the subject area, none of which is registered with AHIMS.
- As the subject area is not located on a ridge top, ridge line or headland, or within the vicinity of a cliff face, cave or rock shelter, the topography of the subject area is not indicative of archaeological potential.
- The majority of the subject area is within 200m of lower order waterways, indicative of the potential for Aboriginal objects.
- The subject area includes approximately 2.5ha of mature trees, among which there is potential for culturally modified trees to occur.
- Development and utilisation of the subject area as an abattoir is determined to have caused localised high levels of ground disturbance (dam construction), while the majority of the subject area has been subject to low to moderate levels of physical impact (vegetation clearance, building construction and earthworks).
- Historical ground disturbance is likely to be mitigated by the deep to moderately deep nature of the soil landscapes present within the subject area.
- No Aboriginal objects were identified during the field survey.
- The field survey confirmed that the subject area comprises areas of low, moderate and high disturbance.
- The assessment of archaeological and environmental context and visual inspection of the subject area suggest a potential for it to retain Aboriginal objects.

Based on the above conclusions, Urbis recommends the proponent undertake an Aboriginal Cultural Heritage Assessment (ACHA) by a suitably qualified provider. This may be undertaken during the DA stage but should be finalised prior to commencement of the proposed works. Early commencement of the ACHA will de-risk the proposed development and avoid any costly delays associated with producing an ACHA at later stage of the project delivery program. The ACHA process would include Aboriginal community consultation, in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010), to identify Aboriginal cultural heritage values through consultation with Aboriginal stakeholders. Should the ACHA identify any Aboriginal archaeological resource an application for an AHIP may be required.

In accordance with the above recommendation, the following should be undertaken:

- This ADD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.

- An ACHA should be undertaken, leading to preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR), which would include further investigation of potential for Aboriginal objects and an impact assessment of the proposed development.
- Further archaeological assessment including detailed field survey with Aboriginal stakeholders and archaeological test excavation should be undertaken as part of the ACHA to inform archaeological potential and significance across the subject area.
- Further consultation with the DLALC and other Aboriginal stakeholders should be carried out as part of the ACHA to inform the development in relation to the Design for Country framework.
- The ACHAR should be finalised prior to commencement of the proposed any works within the subject area.

## 5. REFERENCES

- Advitech, 2013. *Aboriginal Archaeological Salvage Excavation, AHIMS Site # 45-3-3393 'Mardi to Mangrove 3'*.
- Artefact, 2012. *Pacific Highway/Wyong Road intersection upgrade. Aboriginal Archaeological Survey Report.*
- Artefact, 2019. *New Intercity Fleet Maintenance Facility, Orchard Road, Kangy Angy.*
- Attenbrow, V 2010. *Sydney's Aboriginal Past, 2<sup>nd</sup> Edition*, University of New South Wales Press, Sydney: Australia.
- Bennett, FC 1968. *The Story of the Aboriginal People of the Central Coast of New South Wales, Wyong*, Brisbane Water Historical Society.
- Butlin, NG 1993. *Economics and the Dreamtime: A Hypothetical History*, Cambridge University Press, Cambridge.
- Clarkson, C, et al. 2017, *Human occupation of northern Australia by 65,000 years ago*, *Nature*, vol. 547, pp. 306-310.
- Conybeare Morrison, 2009. *Westfield Tuggerah Site, Tuggerah, Central Coast NSW. Part 3 A Preliminary Environmental Assessment.*
- Dean-Jones, P, 1986. *Wyong draft local environmental plan. Tuggerah land release.*
- Department of Environment Climate Change and Water, 2010a. *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.*
- Department of Environment, Climate Change and Water, 2010b. *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW, Hurstville, NSW.*
- Mathew, S 1834. *Journal of Sarah Mathew – wife of surveyor Felton Mathew.*
- Nanson, G.C., Young, R.W., & Stockton, E.D. 1987. *Chronology and palaeoenvironment of the Cranebrook Terrace (near Sydney) containing artefacts more than 40,000 years old. Archaeology in Oceania, 22 (2): 72-78.*
- National Parks and Wildlife Act 1974.*
- National Parks and Wildlife Regulations 2009.*
- South East Archaeology, 2009. *Mardi to Mangrove Link Project: Aboriginal Heritage Impact Assessment.*
- Therin Archaeological Consulting, 2000. *Archaeological Survey of Woodbury Park Estate, Mardi. Stage 4.*
- Tindale, NB. 1974. *Aboriginal Tribes of Australia. Their Terrain, Environmental Controls, Distribution, Limits and Proper Names.* ANU Press, Canberra: Australia.

# DISCLAIMER

This report is dated March 2024 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 SCENTRE GROUP LIMITED (**Instructing Party**) for the purpose of a Due Diligence Assessment (**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.



**APPENDIX A**

**AHIMS RESULTS 2021 & 2024**

Urbis Pty Ltd - Angel Place L8 123 Pitt Street

Date: 26 March 2021

Level 8 123 Angel Street  
Sydney New South Wales 2000

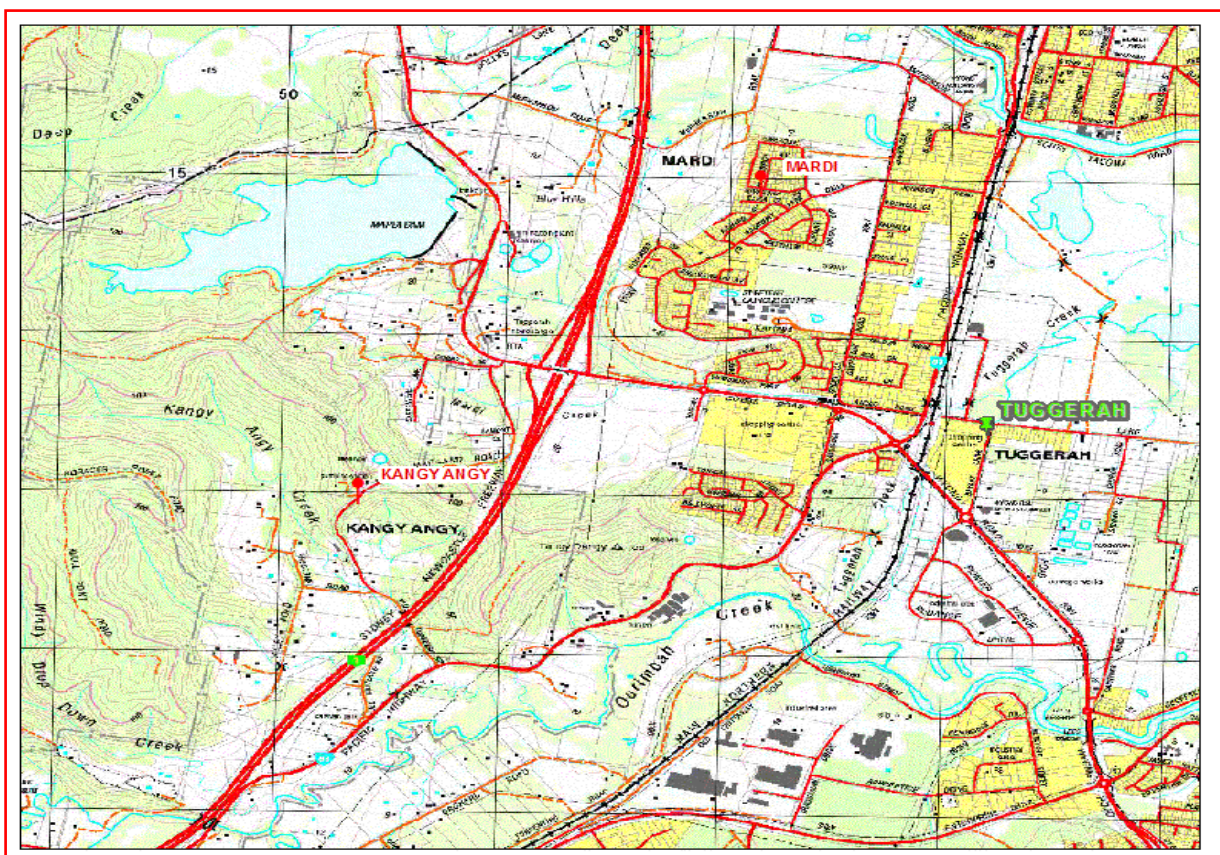
Attention: Balazs Hansel

Email: bhansel@urbis.com.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lat, Long From : -33.3266, 151.3761 - Lat, Long To : -33.2905, 151.4332 with a Buffer of 0 meters, conducted by Balazs Hansel on 26 March 2021.**

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

<b>12</b>	<b>Aboriginal sites are recorded in or near the above location.</b>
<b>0</b>	<b>Aboriginal places have been declared in or near the above location. *</b>

### **If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

### **Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-1143	Ourimbah;	AGD	56	352232	6311734	Open site	Valid	Artefact : -	Open Camp Site	308,98461
	<b>Contact</b>	<b>Recorders</b>	Len Dyall					<b>Permits</b>		
45-3-1144	Tuggerah;	AGD	56	354025	6313598	Open site	Valid	Artefact : -	Open Camp Site	308,98461
	<b>Contact</b>	<b>Recorders</b>	Len Dyall					<b>Permits</b>		
45-3-1102	Main Range;	AGD	56	348708	6314319	Closed site	Valid	Artefact : -	Shelter with Deposit	98168
	<b>Contact</b>	<b>Recorders</b>	ASRSYS					<b>Permits</b>		
45-3-1108	Tuggerah;	AGD	56	351271	6314185	Open site	Valid	Artefact : -	Open Camp Site	308,98461
	<b>Contact</b>	<b>Recorders</b>	ASRSYS					<b>Permits</b>		
45-3-0816	Tangy Dangy;Sydney;	AGD	56	351500	6312500	Open site	Valid	Stone Quarry : -, Artefact : -	Quarry	1005,98461
	<b>Contact</b>	<b>Recorders</b>	Pam Dean-Jones					<b>Permits</b>		
45-3-3181	WP1	AGD	56	352110	6315080	Open site	Valid	Artefact : -		100054,10109 3
	<b>Contact</b>	<b>Recorders</b>	Michael Therin					<b>Permits</b>	2451,2516	
45-3-3183	WP3	AGD	56	352260	6315190	Open site	Valid	Artefact : -		100054,10109 3
	<b>Contact</b>	<b>Recorders</b>	Michael Therin					<b>Permits</b>	2451,2516	
45-3-3229	Burragah Rd Chittaway Bay	AGD	56	353850	6311250	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<b>Contact</b>	<b>Recorders</b>	Brad Welsh					<b>Permits</b>		
45-3-3393	Mardi to Mangrove 3	GDA	56	350674	6315081	Open site	Destroyed	Artefact : 2		101521,10284 1
	<b>Contact</b>	<b>Recorders</b>	Doctor.Johan Kamminga					<b>Permits</b>	3549	
45-3-3384	Tuggerah PAD 1	GDA	56	353010	6313552	Open site	Not a Site	Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>	<b>Recorders</b>	Kayandel Archaeological Services					<b>Permits</b>	3084	
45-3-3576	MARDI TO MANGROVE	GDA	56	350281	6315062	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	John Holland Pty Ltd					<b>Permits</b>		
45-3-4177	Kangy Angy Artefact Site 02 (KA AS 02)	GDA	56	352333	6312051	Open site	Valid	Artefact : -		104007
	<b>Contact</b>	<b>Recorders</b>	Artefact - Cultural Heritage Management - Pymont,Ms.Alyce Haast					<b>Permits</b>		

Report generated by AHIMS Web Service on 26/03/2021 for Balazs Hansel for the following area at Lat, Long From : -33.3266, 151.3761 - Lat, Long To : -33.2905, 151.4332 with a Buffer of 0 meters. Additional Info : confirm site locations. Number of Aboriginal sites and Aboriginal objects found is 12

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Urbis Pty Ltd - Angel Place L8 123 Pitt Street

Date: 09 April 2024

Level 8 123 Angel Street  
 Sydney New South Wales 2000

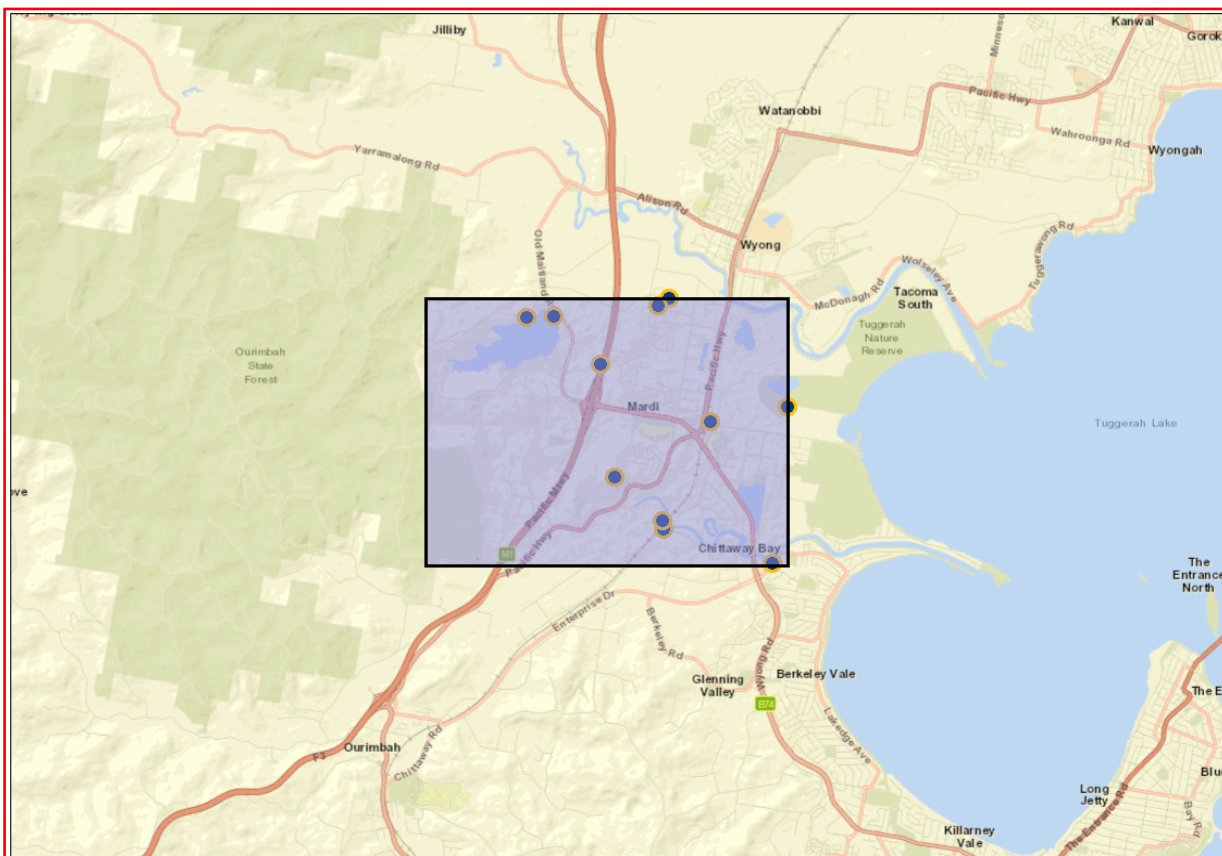
Attention: Owen Barrett

Email: obarrett@urbis.com.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lat, Long From : -33.3266, 151.3761 - Lat, Long To : -33.2905, 151.4332, conducted by Owen Barrett on 09 April 2024.**

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

	<b>11 Aboriginal sites are recorded in or near the above location.</b>
	<b>0 Aboriginal places have been declared in or near the above location. *</b>

### **If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

### **Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-3-1143	Ourimbah; <b>Contact</b>	AGD	56	352232	6311734	Open site	Valid	Artefact : -	Open Camp Site	308,98461
45-3-3393	Mardi to Mangrove 3 <b>Contact</b>	GDA	56	350674	6315081	Open site	Destroyed	Artefact : 2	3549	101521,10284 1
45-3-3183	WP3 <b>Contact</b>	AGD	56	352260	6315190	Open site	Valid	Artefact : -		100054,10109 3
45-3-1144	Tuggerah; <b>Contact</b>	AGD	56	354025	6313598	Open site	Valid	Artefact : -	Open Camp Site	308,98461
45-3-0816	Tangy Dangy;Sydney; <b>Contact</b>	AGD	56	351500	6312500	Open site	Valid	Stone Quarry : -, Artefact : -	Quarry	1005,98461
45-3-4177	Kangy Angy Artefact Site 02 (KA AS 02) <b>Contact</b>	GDA	56	352333	6312051	Open site	Valid	Artefact : -		104007
45-3-3576	MARDI TO MANGROVE <b>Contact</b>	GDA	56	350281	6315062	Open site	Valid	Artefact : 1		
45-3-3181	WP1 <b>Contact</b>	AGD	56	352110	6315080	Open site	Valid	Artefact : -		100054,10109 3
45-3-3384	Tuggerah PAD 1 <b>Contact</b>	GDA	56	353010	6313552	Open site	Not a Site	Potential Archaeological Deposit (PAD) :-		3084
45-3-3229	Burragah Rd Chittaway Bay <b>Contact</b>	AGD	56	353850	6311250	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
45-3-1108	Tuggerah; <b>Contact</b>	AGD	56	351271	6314185	Open site	Valid	Artefact : -	Open Camp Site	308,98461

**\*\* Site Status**

**Valid** - The site has been recorded and accepted onto the system as valid

**Destroyed** - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

**Partially Destroyed** - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

**Not a site** - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

