

Sunset Development Stage 2 – Aboriginal Cultural Heritage Assessment

Lot 39 1257837DP, 141 Googong Rd Googong NSW



Report Prepared for Binowee Developments

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LGA: Queanbeyan - Palerang

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- ❖ Thunderstone Aboriginal Corporation
- ❖ Konnango Aboriginal Corporation
- ❖ Mundawari Aboriginal Corporation
- ❖ Woka Aboriginal Corporation
- ❖ Guntawang Aboriginal Resources
- ❖ Merrigarn Aboriginal Corporation
- ❖ Ngunnawal Elders Corporation
- ❖ Mr. Adrian Brown
- ❖ Ngambri LALC
- ❖ Yurwang Gundana Aboriginal Corporation

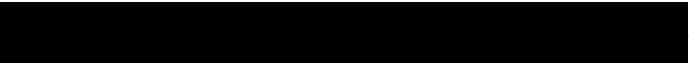
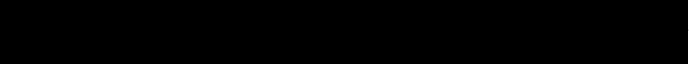
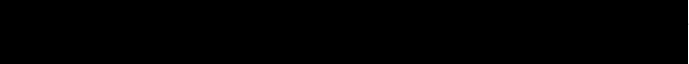
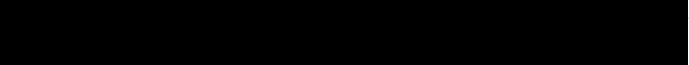
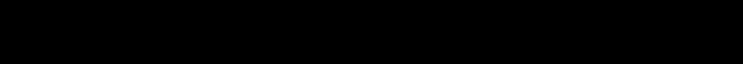
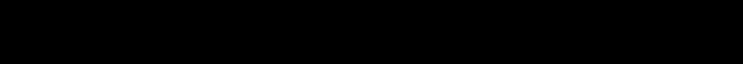
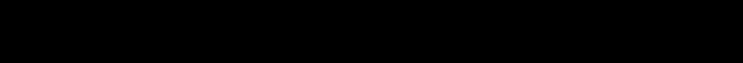
ABBREVIATIONS

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AR	Archaeological Report
DECCW	NSW Department of Environment, Climate Change and Water now NSW Heritage
GPS	Global Positioning System
GSV	Ground Surface Visibility
LALC	Local Aboriginal Land Council
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
TP	Test Pit

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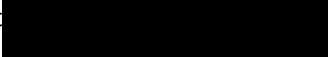
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EXECUTIVE SUMMARY

Binowee Developments are proposing to undertake a residential development for Sunset Stage 2 of Lot 39 1257837DP at 141 Googong Road, Googong NSW. Parts of the land are currently zoned R1 – General Residential, with a minimum lot size of 1000m² and the remainder of the land is zoned E2 – Environmental Conservation. An Aboriginal Cultural Heritage Assessment (ACHAR) has been undertaken for the project area which includes the current Stage 2 section in 2018 (Past Traces). A Development Application (DA) has been granted for Stage 1 previously which has been constructed to the south east of the Stage 2 section. The project area is shown in a regional context in Figure 1, in detail in Figure 2 and the proposed lot layout and development footprint in Figure 3.

As a major residential development, impacts are widespread across the development area with soils being impacted for the following:

- ❖ Access roads into the development and through the housing lots
- ❖ Residential lots
- ❖ Associated infrastructure, such as sewerage, power and communications.

Development holds the potential to impact on unrecorded Aboriginal heritage located within the project area and to address this an Aboriginal heritage assessment was undertaken to determine the extent of impacts from the project.

An ACHAR was completed for the entire Sunset Development in 2018 (Past Traces 2018) and should be read in conjunction where additional information is required. The project area of Stage 2 covers approximately 17ha and is located within a gently undulating to level landscape, which has been subject to a long history of pastoral use. This cultural heritage assessment (CHA) has been undertaken to determine the extent of impacts to heritage (Aboriginal and Historical) that may result from the current stage 2 development. The CHA provides management recommendations to mitigate or remove impacts.

It is proposed to subdivide the existing lot into a residential development, with associated infrastructure including sewerage, electricity, and communication cabling. This will involve the substantial displacement and removal of soil and the importation of materials. Ground disturbance has the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW National Parks and Wildlife Act 1974 or historical sites which are protected under the NSW Heritage Act 1977. The purpose of the assessment is therefore to investigate the presence of any heritage sites and to assess the impacts and management strategies that may mitigate any impacts, including application for an Aboriginal Heritage Impact Permit (AHIP).

Consultation with the Aboriginal community has been undertaken to assist the heritage team in assessing significance of any identified heritage sites and to provide guidance in the development of culturally appropriate management strategies. Consultation was in accordance with the *Consultation Guidelines for Proponents NSW* (DECCW 2010a). Aboriginal representatives participated in the field survey undertaken in June 2018 in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).

Five sites with two areas of PAD are present within the Stage 2 project area. Testing of PADs was undertaken in 2022 within the stage 2 area with 18 artefacts located in [REDACTED] and 19 artefacts from [REDACTED] for a total of 37, highlighting a low density across the areas. Due to this low density, conservation is not warranted, and no further actions are required for these areas [REDACTED] following the granting of an Aboriginal Heritage Impact Permit (AHIP) to allow for their destruction in the course of development.

As a result of the Aboriginal heritage field survey, subsurface testing and consultation with the local Aboriginal community, there are no items of significance that would preclude development of the project area on condition that the following heritage recommendations are implemented.

Aboriginal Heritage

- ❖ [REDACTED] within Stage 2, an AHIP approval by NSW Heritage would be required for these future stages, prior to any works commencing. The AHIP area is shown in Figure 14.
- ❖ Aboriginal heritage sites SD2 and SD5 are in proximity to the stage 2 construction boundary. To avoid accidental impact barrier fencing consisting of high visibility mesh should be erected with a 10m buffer on the site boundary. The location of boundary fencing is to be confirmed on site with the project archaeologist at time of installation.
- ❖ Sites GA31 and Sqbyn2 are distant to works and will not be impacted. Their locations should be marked on management maps and marked as a no go area. No further mitigation measures are required.
- ❖ Following the granting of an AHIP for sites [REDACTED] there are no further Aboriginal constraints within the project area for the Stage 2 development.
- ❖ Artefacts recovered through the subsurface testing programme for the Stage 2 development will be returned to country within the location of the Conservation area [REDACTED]. This location is the repository for artefacts from the Stage 1 development and will not be impacted by this project or future developments. The return to country protocol supplied in Section 9 should be implemented for the project.
- ❖ Further archaeological assessment would be required for any impacts outside of the Stage 2 area. This would include consultation with the RAPs for the project and may include further field survey and assessment.
- ❖ Continued consultation with the RAPs for the project should be undertaken. RAPs should be informed of any major changes in project design or scope, further investigations or finds.
- ❖ No further investigations for stage 2 are required should the AHIP be approved, except in the event that unanticipated Aboriginal Objects are unearthed during any phase of the Project.

1 INTRODUCTION

1.1 PROJECT BRIEF

Binowee Developments are proposing to undertake a residential development for Sunset Stage 2 of Lot 39 1257837DP at 141 Googong Road, Googong NSW. The project area is shown in a regional context in Figure 1 and the project area in Figure 2. The proposed lot layout is provided in Figure 3.

As a major residential development, impacts are widespread across the development area with soils being impacted for the following:

- ❖ Access roads into the development and through the housing lots
- ❖ Residential lots
- ❖ Associated infrastructure, such as sewerage, power and communications.

Development holds the potential to impact on unrecorded Aboriginal heritage located within the project area and to address this an Aboriginal heritage assessment was undertaken to determine the extent of impacts from the project.

The proposed works will involve the substantial displacement and removal of soil and the importation of materials. Ground disturbance has the potential to impact on Aboriginal heritage sites and objects which are protected under the *NSW National Parks and Wildlife Act 1974* or historical sites which are protected under the *NSW Heritage Act 1977*. The purpose of the assessment is therefore to investigate the presence of any heritage sites and to assess the impacts and management strategies that may mitigate any impacts, including application for an Aboriginal heritage impact permit (AHIP) if heritage impacts are unavoidable.

The aim of this assessment is to inform the proponent of their responsibilities in regards to cultural heritage sites that exist within the project area and allow for design to minimise or avoid impacts. This report will provide supporting documentation if an AHIP is required. The Archaeological report (AR) details the investigation and assessment of cultural heritage undertaken for the project. Reporting will follow the guidelines of NSW Heritage, in particular the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a).

Preparation of the ACHAR for the project has been undertaken in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

Consultation with Aboriginal representatives for the project has been undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

Figure 1: Regional Context

Legend

 Stage Boundary



7/03/2022

1:25,000

0 250 500 1,000

Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

GOOGONG

Figure 2: Study Area

Legend

- Contour - 10m
- Watercourse
- Stage Boundary
- Lot
- Development Area



25/10/2024

1:4,500

0 25 50 100 150



Metres

GDA 1994 MGA Zone 55

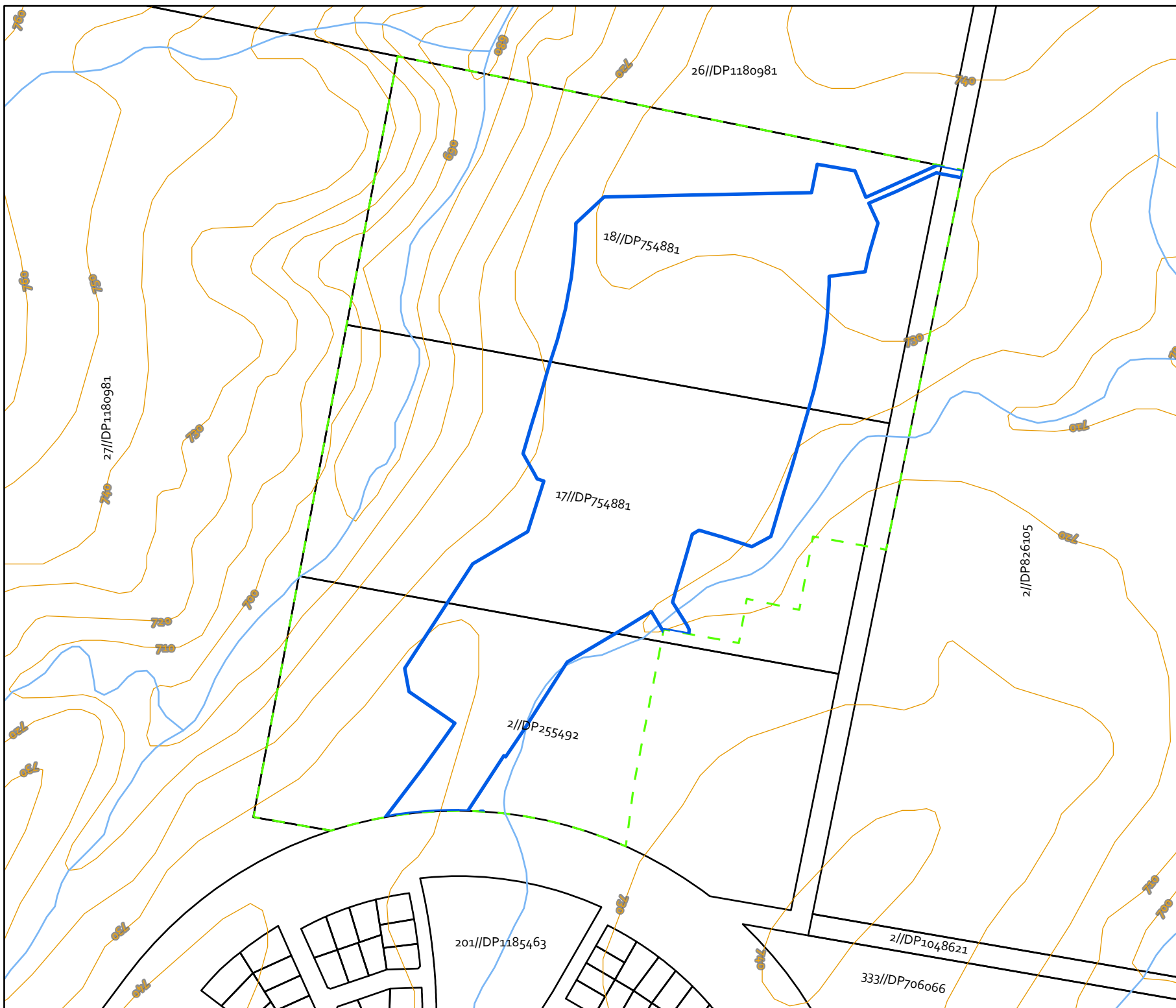
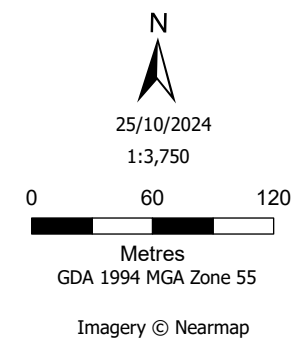


Figure 3: Lot
Layout

Legend

-  Watercourse
-  Development Area
-  Stage Boundary



1.2 RESTRICTED AND CONFIDENTIAL INFORMATION

Information in this report is restricted due to cultural sensitivities. Appendix 1 contains information which is confidential and not to be made public. Any figures within the report which show the location of heritage sites is restricted and not to be made available to the general public. If required to be displayed, this information should be redacted.

1.3 ASSESSMENT OBJECTIVES

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

- ❖ Identify and consult with Registered Aboriginal Parties (RAPs).
- ❖ Search AHIMS register to identify listed Aboriginal cultural heritage sites within the project area
- ❖ Review previous heritage reports in the vicinity of the project area in order to recognise any pattern in Aboriginal site distribution.
- ❖ Develop a predictive site location model.
- ❖ Conduct a site visit across the project area to confirm the previously assessed area of archaeological potential, recorded sites and levels of previous disturbance.
- ❖ Through consultation with the Aboriginal community assess the significance of identified heritage sites.
- ❖ Undertake sub surface testing of the identified sensitive landforms that occur within the project area to determine their archaeological potential.
- ❖ Identify the impacts of the proposed development on heritage sites within the project area.
- ❖ Develop management strategies for the identified heritage sites within the project area

1.4 INVESTIGATORS AND CONTRIBUTORS

1.4.1 *Lyn O'Brien*

This report has been prepared by Lyn O'Brien, Director of Past Traces Pty Ltd with over 20 years' experience in the heritage profession. Since completing her BA (Hons) in Archaeology at the Australian National University (ANU) in 1996, Lyn has held a variety of consulting positions, from field assistant through to regional manager/senior archaeologist. As a senior archaeologist Lyn has extensive experience managing major and small scale projects, conducting numerous field surveys and excavations and authoring reports across both Aboriginal and Historical archaeology.

1.4.2 *Nathaniel Cracknell*

Nathaniel is a graduate of the University of Wollongong (Bachelor of Arts (Hons) majoring in History 2017). In 2021 he graduated with a Masters of Archaeological and Evolutionary Science, specialising in Bioarchaeology and Forensic Anthropology from the Australian National University. He has experience in field mapping, GIS, test excavations, salvage, and has assisted with surveys and excavations in both NSW and the ACT.

2 ABORIGINAL CONSULTATION

2.1 ABORIGINAL CONSULTATION

Consultation with the Aboriginal community has been undertaken to assist the heritage team in assessing significance of any identified heritage sites and to provide guidance in the development of culturally appropriate management strategies. Consultation was in accordance with the *Consultation Guidelines for Proponents NSW* (DECCW 2010a). Aboriginal representatives participated in the field survey undertaken in June 2018 and provided input into the management recommendations.

The *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* guideline (DECCW 2010a) outlines the following process to be undertaken:

- ❖ Stage 1 – Notification of project proposal and registration of interest.
- ❖ Stage 2 – Presentation of information about the proposed project.
- ❖ Stage 3 – Gathering information about cultural significance.
- ❖ Stage 4 – Review of draft cultural heritage assessment report.

The full list of consultation steps, including those groups and individuals that were contacted and a consultation log is provided in Appendix 2. A summary of actions carried out in following these stages are as follows.

Stage 1. Letters outlining the development proposal and the need to carry out subsurface testing were sent on 2nd of March 2022 to the National Native Title Tribunal (NNTT), Native Title Service Corp (NTSCORP) Ngambri Local Aboriginal Land Council (LALC), and various statutory authorities including NSW Heritage, as identified under the consultation guidelines (DECCW 2010). A further series of letters was sent to organisations identified by these agencies in response to the request on the 7th of March. Responses are provided in Appendix 2. In each instance, the closing date for submission was 14 days from receipt of the letter.

An advertisement was placed in the local newspaper, the Queanbeyan Age, on the 8th of March 2022 seeking registrations of interest from Aboriginal people and organisations. The advertisement is provided in Appendix 2.

As a result of this process, 14 groups contacted the consultant to register their interest in the proposal. The Registered Aboriginal Groups (RAPs) who registered interest were:

- Ms. Maria Williams
- Didge Ngunawal Aboriginal Corporation
- Corroboree
- Murrabidgee Mullangarri
- Thunderstone
- Konnango

- Mundawari
- Woka
- Guntawang Aboriginal Resources
- Merrigarn
- Ngunnawal Elders Corporation
- Mr. Adrian Brown
- Ngambri LALC
- Yurwang Gundana

Stage 2. A Project Pack document was sent to the RAPs providing details of the background to the proposal on the 31st of March, with a summary of previous archaeological surveys and results of the previous assessment. This project pack is attached at Appendix 2.

Stage 3. A Methodology Pack with the proposed heritage assessment methodology for the proposal was sent to all RAPs on the 1st of April. The document invited comments regarding the proposed methodology and also sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein. No responses were received within the 28 day review period. This document is attached at Appendix 2.

Stage 4 on the 5th August 2022 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the project (this document) was forwarded to the RAPs and a timeframe of 28 days provided to allow for responses to the document.

2.2 ABORIGINAL COMMUNITY FEEDBACK

Aboriginal community feedback has been sought during the design of methodology and cultural assessment. No information in respect of the project area holding specific cultural values or known heritage sites being located within the project boundaries has been provided.

Representatives of the Aboriginal community (Yurwang Gundana, Ngambri LALC and Didge Ngunnawal) were present during the subsurface testing programs and provided feedback on the project in relation to significance and management recommendations.

A draft of this report was forwarded on its completion (5th August 2022) to the RAPs for their comments. Responses received have been included in the RAP correspondence file and included in management recommendations.

3 ABORIGINAL ARCHAEOLOGICAL CONTEXT

A desktop assessment has been undertaken to review existing archaeological studies for the Project Area, and the wider Queanbeyan region. This information has been synthesised to develop an Aboriginal site prediction model for the Project Area and identify known Aboriginal sites and/or places recorded in the Project Area. This review has been prepared in accordance with requirements 1 to 4 of the Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010).

3.1 ABORIGINAL GROUPS WITHIN THE PROJECT AREAS

The major language group identified in the Queanbeyan region by Norman Tindale in his seminal work on Aboriginal tribal boundaries are the Ngunnawal people. The Ngunnawal (Ngunnawal) were also known as the Yass tribe, Lake George Blacks or Molonglo tribe. The boundaries of the Ngunnawal ran to the south east where they met the Ngarigo at the Molonglo and the Wiradjuri in the Yass region (Tindale 1974). This distribution with minor amendments is still accepted and the review of tribal boundaries undertaken in the 1990s (Horton 1996) confirmed these earlier linguistic divisions.

One of the best sources for observations of the Indigenous inhabitants of the Queanbeyan region is Schumack who lived in the district from the 1830s and noted many features and traditions of Aboriginal life (1967). His observations must be viewed as from a white perspective and filtered through his cultural traditions as with all cross cultural ethnography but despite these limitations his work is a valuable reference for the region. His reflections on the Aboriginal life of the region provide a glimpse of a functioning hunter and gatherer lifestyle with a cycle of repeated visits to areas at times of seasonable resource availability and a ceremonial life that imposed duties and responsibilities on members of the group.

The flat, rolling topography of the region and the lack of natural physical barriers (such as impassable gorges or rivers) would have facilitated contact and movement through the region and the surrounding Aboriginal people. Broad ridgelines were often used for travelling distances through country, avoiding steep valleys and river gorges to reach resource areas.

Disease followed the settlement of the area and may have preceded it with the smallpox epidemic originating in Sydney in 1789 possibly spreading throughout the region (Flood 1980:32). This disease would have decimated the Aboriginal population and was followed by Influenza in 1846. The notable decline of the number of the Aboriginal people was noted in 1845 at Bungonia and in 1848 at Goulburn by the Bench of Magistrates (Tazewell 1991:244).

3.2 PREVIOUS ARCHAEOLOGICAL WORK

A large number of cultural heritage surface surveys and sub-surface excavations have been conducted throughout the Queanbeyan region of New South Wales in the past 30 years. There has been an increasing focus on cultural heritage assessments in NSW due to ever increasing development, along with the legislative requirements for this work and greater cultural awareness of Aboriginal cultural heritage. This body of work allows for the development of regional settlement models; landscape usage; the use of resources; group movements; and site locations for the Queanbeyan Region.

3.2.1 *Queanbeyan Region*

The Project Area is located within the Southern Tablelands. Regional models of aboriginal landscape and resource use, along with models of intensity of utilization and number of Aboriginal occupants have been developed for the Queanbeyan region (NOHC 2017, Boot and Heffernan 1989, Kuskie 1989) which focus on the occupation of broad ridgelines and proximity to water.

A co-relation between permanent water courses and larger campsites was noted by Flood (1980) along with focused occupation along smaller creek lines within 100m of water. Wider models of the larger region (Southern Tablelands) or adjoining regions (Southern Alps, South coast) of NSW have also been formulated (Koettig and Lance 1986, Fuller 1989). The wider regional pattern of Aboriginal occupation reflects higher site size and frequency in areas proximate to major permanent creek lines with smaller sites along smaller water resources. Whilst sites have been found to occur throughout the landscape, away from water sources, these tend to be small artefact scatters or isolated finds. The large number of completed surveys cannot be listed but the most relevant of these studies for the wider Queanbeyan region are summarized below.

Smith in 1975 completed a survey over the area of the proposed Googong Dam located on the Queanbeyan River southeast of the current project area. The survey identified 13 sites, the majority consisting of small artefact scatter or isolated finds in proximity to water sources. One large site was identified containing over 80 artefacts. One stone arrangement was also located consisting of 2 stone cairns at the high water contour of the Queanbeyan River.

Navin Officer Heritage Consultants (NOHC) in 1990 completed a survey of the 130 ha Gale Precinct approximately one kilometre to the north of the project area identifying a total of twelve Aboriginal sites, consisting of eight low density artefact scatters [REDACTED] three isolated finds and one possible Aboriginal scarred tree [REDACTED]. Artefacts at the sites included chert (27%), fine-grained volcanics (25%), quartz (18%) and silcrete (10%).

NOHC (1993) completed a survey over the Readymix Quarry on the west of Old Cooma Road. Survey conditions were not favourable and no sites were located. Based on the topography the study concluded that the absence of sites was indicative of low usage rather than survey factors.

Dearling (2007) completed the assessment for the upgrade of Edwin Land Parkway connecting Jerrabomberra to Queanbeyan. The survey identified five small Aboriginal sites all in areas of disturbance.

Umwelt in 2012 completed an Aboriginal heritage assessment of the extension of the Old Cooma Road Quarry, last assessed in 2009. The quarry is located approximately 2km northwest of the current project area. The assessment identified two small Aboriginal isolated artefacts, both outside of the project impact areas.

Cultural Heritage Management Australia (CHMA) assessed the Ellerton Drive Extension Queanbeyan (2015, 2016 and 2017) located 6km to the north of the current project area. The studies consisted of a number of salvage programs and further studies and identified one large site with over 150 artefacts which was salvaged but considered to be larger than recorded. The area crossed into Jumping Creek which has been studied by Kuskie (1989) and Boot and Heffernan (1989). A model of occupation for Jumping Creek that focused on the confluence of the water courses was developed. This model has been supported by further studies.

NOHC in 2015 commenced assessment of the Mt Pleasant Residential subdivision on Burra Road, located approximately 4.5km to the south of the current project area. Twenty three surface sites were identified and subsurface testing undertaken along the margins of Church Creek. The results of the survey and archaeological test excavation program at Mount Pleasant confirms the predictive model for the region, showing that permanent sources of water were used as a focus of activities by Aboriginal people with small artefact scatters across the landscape, growing in frequency closer to more permanent water sources.

3.2.2 Local Overview

Archaeological Heritage Surveys (AHS) in 2001 completed studies for the South Queanbeyan Urban Expansion Area (2001a) and for the area of Talpa Crest (2001b). These studies included the current project area and identified a number of Aboriginal sites and one European Hut site. The sites were located along the margins of Gorge and Talpa Creek and consisted of small artefact scatters.

NOHC (2003) completed surveys for the Googong Local Environment Study. The Googong LES was to allow for rezoning of the area of Googong for residential development. This survey covered 1000ha and included the current project area, locating thirty four Aboriginal sites and seventeen Historical sites across the wider study area. A predictive model of ridgeline transport with focus of occupation in proximity to water courses was developed. The area of Googong was assessed to be highly attractive to Aboriginal occupation with low ridgelines facilitating access to creek lines and east to the Queanbeyan River. Areas of PAD were identified along the broad ridgeline and descending spur lines to Talpa Creek.

NOHC (2008) completed further surveys for Neighbourhood 1 of the Googong Township Development. This was a smaller section of the original 2003 survey area and is located directly adjacent to the current study area. The survey identified additional Aboriginal sites supporting the model of occupation, focused in proximity to drainage lines. Further studies were undertaken through the Neighbourhood 1 area including additional works for water infrastructure (2009), subsurface testing of areas (2010).

Subsurface testing of 5 areas of PAD and surface collection of three surface sites was undertaken (NOHC 2010). The testing program identified overall very low surface areal incidence (0.006m²) and low subsurface densities with a single concentration of flaked material at [REDACTED]. This concentration (Feature 1) was identified as a knapping floor and recovered 84 artefacts, mainly from the 10-25cm horizons. This site has since been destroyed under an AHIP for the Googong Township Development. The testing program undertaken in 2010 supported the previous model of occupation and site location developed for the 2003 and 2008 surveys:

- Sites were typical of South Eastern Australia – all except [REDACTED] hold low significance
- Very low surface areal incidence with majority of site consisting of surface scatters
- Typical low subsurface density in a local and regional context
- Most sites are located on level ground on spurline crests in proximity to a creek line or water feature
- Contained a rare cluster of material indicative of a single event of lithic production [REDACTED].

Following the subsurface testing program in 2010, surface collections of remaining sites were completed (2013a and b) and technical papers covering status of works and further investigations (2014a to d) undertaken. None of these additional reports reversed the earlier findings of the main surveys for Neighbourhood 1 (2008) and the main subsurface testing program (2010) which concluded that the occupation model was focused on level areas within spur line crests and to a lesser extent lower slopes in proximity to water.

NOHC in 2017 (a and b) commenced assessment of Googong Township Neighbourhood 2 relocating previously recorded sites, identifying further Aboriginal sites and undertaking a program of subsurface testing. All sites consisted of low density artefact scatters. The surface surveys and testing program supported the predictive model of occupation on level areas of spur lines and near water resources. All Aboriginal sites were assessed to only hold local significance. The low overall density of artefacts across the broader Googong project area was considered to be a consequence of the proximity to the Queanbeyan River to the east which would have been a focus for Aboriginal occupation.

Past Traces in 2018 undertook an assessment for the proposed rezoning and residential development of Stage 1 of the Sunset development. The survey of the area was conducted not only for Stage 1 but anticipating further stages of development. Previously recorded sites [REDACTED] [REDACTED] were revisited and five new sites were identified consisting of one potential scarred tree [REDACTED] one isolated find [REDACTED] and three small artefact scatters [REDACTED] and one area of PAD ([REDACTED]). Site [REDACTED] was associated with previous site [REDACTED] and [REDACTED] was considered an extension of [REDACTED]. [REDACTED] were subsurface tested resulting in a low-density cultural deposit at [REDACTED] and no cultural deposit across [REDACTED] where it was recommended the PAD designation be removed. Site [REDACTED] was salvaged (surface collection) with all uncovered artefacts being repatriated to the north of the block, as part of the return to country protocol.

3.3 AHIMS SEARCH AND SITE ANALYSIS

A search of the NSW Heritage Aboriginal Heritage Information Management System (AHIMS) database was undertaken on the 23/5/2022 covering the 1km surrounding area centred on the project area. The extensive search revealed five previously recorded heritage sites within the project area with a further 55 within a 1km radius. A breakdown of site types is shown in Table 1, with the search results attached at Appendix 1.

Table 1. Recorded AHIMS sites

Site Type	No
Potential Archaeological Deposit	4
Isolated Finds	29
Artefact scatters	21
Culturally Modified Tree	1

It is clear from these results that the dominant site type in the region are occurrences of stone artefacts, either as isolated finds or in clusters as artefact scatters. The locations of these sites conform to the predictive model for the placement of sites in the Queanbeyan all being located within 50m of a creek line.

Five heritage sites, consisting of three artefacts scatter, 1 artefact scatter with PAD and one area of PAD are recorded within the project area. [REDACTED] are located within the proposed Stage 2 developments. As impacts to these areas are unavoidable and within the area of an approved AHIP, subsurface testing is required for [REDACTED]. The areas of PAD with the central co-ordinates of each are provided below in Table 2 and shown on Figure 4 along with AHIMS sites within the project area. An additional heritage site [REDACTED] is located on the boundary of the project area and may be impacted by the development.

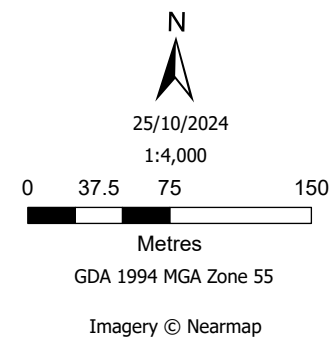
Table 2. Previously Recorded Sites within the Project Area

Site ID	Site Name	Site Type	Location [REDACTED]
[REDACTED]	[REDACTED]	Artefact scatter	[REDACTED]
		Artefact scatter	
		PAD	
		Artefact scatter/PAD	
		Artefact scatter	

Figure 7: Previously
Recorded Sites

Legend

-  Artefact Scatter
-  PAD
-  Scarred Tree
-  AHIMS Sites
-  PAD
-  Development Area



3.4 HISTORICAL CONTEXT

A detailed historical heritage assessment for the Sunset Development has been completed by Dr Rebecca Parkes (Lantern Heritage) to provide the context, assessment of significance and management recommendations. No historical sites are present within the Stage 2 Development. A historical heritage present within the project Stage 1 boundaries and will not be impacted by the current development. The main findings of the report are summarised in the following sections.

3.4.1 *European Occupation*

The earliest records of European exploration around the Limestone Plains date to the early 1820s, when expeditions were undertaken in search of the Murrumbidgee River (Gillespie 1985). However, the region has a much longer history of Aboriginal occupation dating back at least 21,000 years (Flood et al 1987).

The Queanbeyan River itself was first documented by explorers led by William Kearns in 1822 (Lea-Scarlett 1968). Within a few years of that expedition the first squatters were already moving into the district. At this point in Australia's European history, while exploration was reasonably extensive, there were attempts by the government to contain official settlement to the area around Sydney. Governor Darling famously established the "limits of location" in 1826, which was effectively an arbitrary line around the Sydney region, bounded by the Manning River in the north, the Lachlan River in the west and the Moruya River in the South. This imaginary line designated the area within which European settlers could officially be granted land. The limits of location were then extended in 1829 to include an area known as the Nineteen Counties, which included County Murray (including modern day Queanbeyan Palerang) on the Limestone Plains (Poiner and Jack 2007; Campbell 1968).

Squatting still continued within and beyond the limits of location, with pastoral runs not always formally leased or selected. As the pastoral industry, and the wool industry in particular, boomed during the 1830s, much of the best quality land was taken up by the larger pastoral runs. Then, during the second half of the nineteenth century, there was a deliberate move toward closer settlement with the introduction of what was commonly referred to as the Robertson Land Acts of 1861. These acts were the *Crown Lands Alienation Act* and the *Crown Lands Occupation Act*, which allowed for smaller parcels of land to be selected on conditional purchase. Essentially, selectors had to reside on their land, undertaking improvements such as vegetation clearing, fencing and house construction before the land grant would be finalised. The idea was that selectors would pay a 25% deposit with an aim to settle the balance in three years following completion of improvements to the value of at least £1 per acre. However, the reality was that the land sales often took longer to complete and titles could be transferred multiple times while different selectors attempted to meet the requirements of the sale (Ferry 1988; Jansen 1991).

The smaller farms that were the result of the new land acts were often on poorer quality land, or simply weren't large enough to be viable in the long term. This was further complicated by the fact that the larger land holders took advantage of the new acts to expand their own holdings.

Parish maps often provide informative snapshots of the pattern of land acquisition that took place during the late nineteenth and early twentieth centuries. At Googong (Figure 5), some of the earliest and largest land grants to Charles Campbell can be seen as a series of much larger holdings between Jerrabomberra Creek and the Queanbeyan River. Other smaller, but still sizeable holdings, can be seen in the names of John Swan, John Brown and John McCawley. All of whom managed to select multiple adjoining portions to form some of the key pastoral estates at Googong at the end of the nineteenth century.

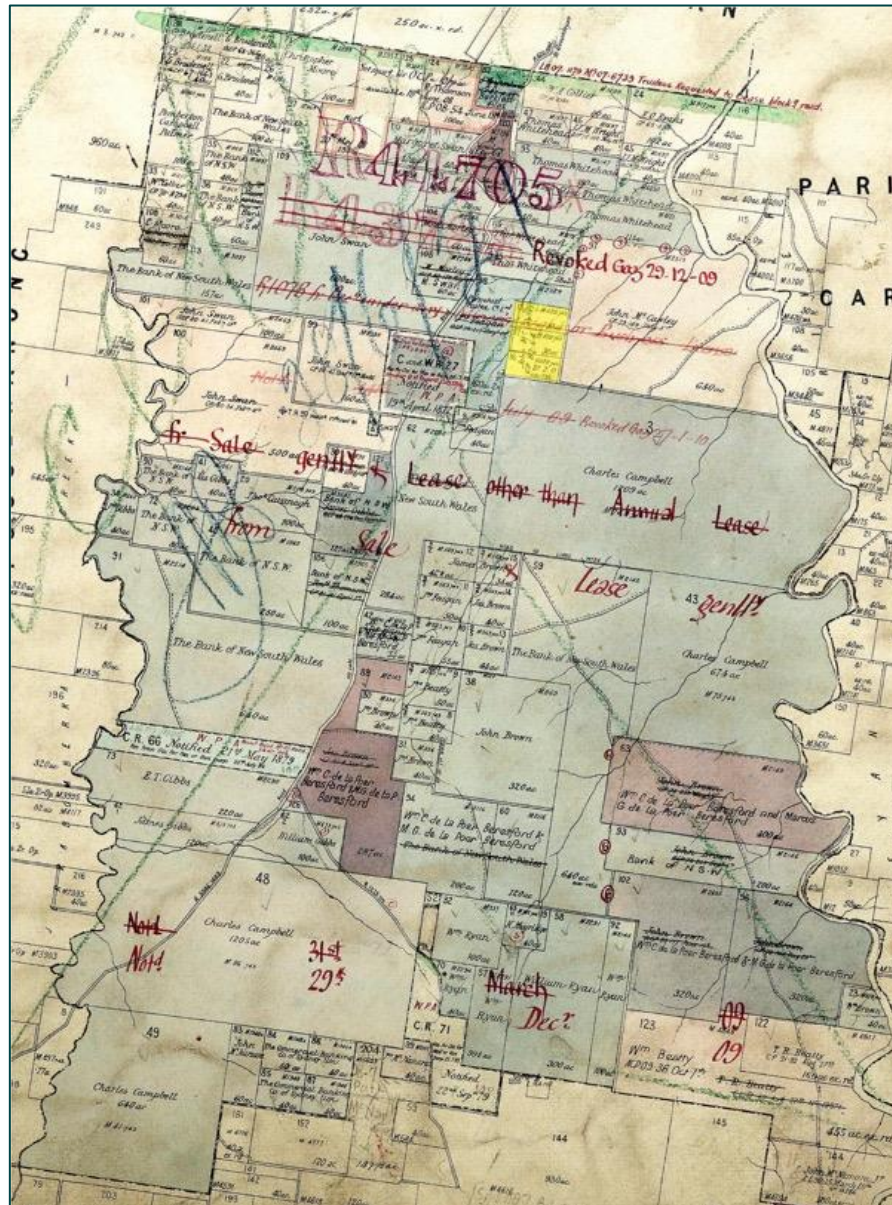


Figure 5 Extract of Googong 3rd Edition Parish Map – 1905, Sunset Development highlighted yellow (LPI 2017).

3.4.2 Sunset Land Grant

The "Sunset" Hut is situated on Portion 16, Parish of Googong, County of Murray. Portion 16 was one of four blocks purchased by John McCawley during the late 1800s. McCawley initially established his home on the neighbouring block, Portion 97, which he selected in July 1879 (Giovanelli 2010). It then appears that John McCawley had several attempts to purchase Portions 16, 17 and 18 during the 1880s. The first published record of the purchase appears to be that documented in the *Goulburn Evening Penny Post* (30 July 1887), which refers to John McCawley's forfeited purchase of 90 acres of land at Googong, which was originally purchased on the 8th February 1883. The *Queanbeyan Age* (26 October 1887) then advertised a government land sale of the forfeited portions.

The crown plan similarly documents Conditional Purchase 83.21 (CP83.21) of 8 February 1883 by John McCawley, which was forfeited in the Government Gazette on 20 July 1887. There are further references on the crown plan to a conditional purchase of portions 16, 17 and 18 on 2 June 1887 (CP87.40) that was disallowed on 18 August 1887. Then with the abovementioned land sale in September of that year it appears that John McCawley finally secured ownership of the land on 22 September 1887 (CP87.64), with sale confirmed and completed on 14 December 1887.

While it is unclear why McCawley's first attempts to purchase portions 16, 17 and 18 failed, it may be that he had not fulfilled the requirements relating to land improvements that were necessary for completion of a conditional purchase. Given that he had been residing on Portion 97 since 1879, it may be that the construction of the house at Sunset, on Portion 16, was part of the requirement for fulfilment of the conditional purchase. In any case, it appears that he moved his family into the "Sunset" homestead within a few years of completing the sale in 1887 (Giovanelli 2010).

4 LANDSCAPE CONTEXT

4.1 GEOLOGY AND SOILS

Googong lies on the western edge of the Queanbeyan catchments, in the centre of an area known as the Canberra Lowlands. Geologically, the project area is located on the Colinton Volcanics of Silurian age within the Canberra Lowlands. The Colinton Volcanics consists of various tuffaceous materials with siltstone, shales, sandstones and limestone (Jenkins 2000:44).

The geology of the project area is shown in Figure 6.

Soils in the study area consists of the Burra Soil Landscape (Jenkins 2000) a transferral soil landscape are generally formed from the deposition of weathered sediment material from upslope areas. Colluvial soils are located within the steeper area of Gorge Creek on the western boundary. The Burra Soil landscape consists of shallow, well drained Lithosols on Crests and upper slopes. Red Podzolic soils and red earths occur on midslopes and lower slopes. Yellow Podzolic soils are present along minor drainage lines. These soils are strongly acidic with low permeability. These soils are thin, highly erodible and overlay the base shales, tuffs and gravels. The substrate will degrade into a yellow/red clay level before reaching the base bedrock.

The distribution of soil landscapes across the project area are shown in Figure 7.

From an archaeological perspective, these thin, highly erodible soils will result in a conflation of artefacts on the underlying clay pan amidst gravels and overlaying shales. The contemporary nature of all artefacts within an exposure cannot be assumed in these exposed surface situations. Subsoils are expected to be shallow or non-existent in these locations and to expose artefacts onto the surface.

4.2 FLORA AND FAUNA

The natural vegetation across the proposal area has been almost totally cleared and is now considered as a modified environment. Grass coverage appears to have been subject to pasture improvement but has large areas of weed coverage in the western sections. Some native trees were present along the ridgeline areas to the north and widely scattered on the flatter area. The natural vegetation of the area would most likely have consisted of grassy woodland prior to clearing with native grasses under an understory of Eucalypts (Hird 1991).

The grassy woodland environment supported a wide range of edible plant and fauna species. Fauna present would range from small marsupials (i.e. possums), to avian species and macropods. A range of lizards also inhabit this environment that would have been utilised by Aboriginal groups. The NSW OEH lists over 200 flora and fauna species as present within these woodlands, the majority of which had some utilisation in traditional Aboriginal lifeways.

Figure 4: Geology

Legend

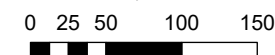
Geology

-  Limestone and dolomitic limestone
-  Porphyritic adamellite
-  Rhyolitic to rhyodacitic crystal and lithic tuff, minor siltstone, sandstone, and limestone; dacite, andesite, rhyolite, tuff, limestone (Scra, Scrab, Scr1-3)
-  Tuffaceous shale
-  Water
-  Development Area
-  Stage Boundary



25/10/2024

1:5,000



Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap



Figure 5: Soil Landscapes

Legend

Soil Landscapes

- Burra
- Campbell
- Round Hill
- Stage Boundary
- Development Area



25/10/2024

1:5,000



Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

4.3 LANDFORM ELEMENTS

The topography of the project area was examined using topographic maps and satellite imagery and classified following Speight (1990). From this review the landscape is best characterised as gently sloping to level, with gently undulating to flat lower slopes. There is only minor topographic variation within the land for the proposed development.

The majority of the project area covers a broad ridgeline which runs in a northeast to southwest direction between Gorge and Talpa Creeks. The ridgeline rises to crests to the north and south of the project area with the landform elements of simple slopes along the ridgeline being present within the project area. The central portion of the project area is therefore a low 'saddle' between these two crests along the ridgeline. The area consists of gently inclined footslopes, hillslopes and fans descending to Talpa Creek in the east.

Within the central to the western side of the project area, the slope decreases to almost level before descending steeply to Gorge Creek through this 'saddle' area. The western portion of the project area then terminates abruptly and descends steeply to Gorge Creek. This area is not suitable for development and will not be effected by the development. Animal trails are incised into the steep sides along with areas of erosion that have occurred along the crest interface.

A spur line runs to the east of the project area from Talpa Creek northwards and another spurline rises from Talpa Creek through the south eastern portion of the project area. Both of the sections of these spurlines within the project area consist of simple slopes.

The majority of the project area consists of simple slopes (after Speight 1990) across the ridgeline and spur line landforms.

4.4 LANDSCAPE CONTEXT

Most archaeological surveys are conducted in a situation where there is topographic variation and this can lead to differences in the assessment of archaeological potential and site modelling for the location of Aboriginal archaeological sites. The project area ranges over creek flats and simple slopes across broad ridge and spurlines. To the west a gorge falls steeply to Gorge Creek.

The broad ridgeline running northeast across the study area would enable travel down the eastern side of Gorge Creek to the undulating terrain to the east, Talpa Creek and the Queanbeyan River. Access around this landform would be required for groups to move through the area. It is suggested by the mapping of previous sites and the ease of movement across the project area that the rising midslopes on the ridgelines would be a focus of utilisation providing wind shelter and views across landscape.

The landforms for the survey based on topographic mapping are determined to be stable landforms, with an aggrading landscape on the creek flats and floodplains. Soils appear to have suffered only low impacts from pastoral activities with areas of erosion confined to the steeper western section on the edge of Gorge Creek.

The landscape would indicate that it would have been traversed and utilised by Aboriginal people but the lack of large scale water resources or known locality resources (such as ochre or stone materials) would render it less suitable for large scale gatherings or long term camping sites.

4.5 PREDICTIVE MODEL

The spatial distribution of Aboriginal sites in the local area provided by the body of archaeological work completed for the Googong area suggests that higher artefact distributions are rare and would be most probably located on level areas of spur lines and ridge crests in association with creek lines or water features.

Based on this body of previous heritage work, the landscape context and previous disturbance to the area a site prediction model has been developed for the project (Table 3). This predictive model as outlined in Table 3 was applied for the 2018 field survey and confirmed by the findings detailed in Section 5.

Table 3. Site Prediction Model

Probability	Site Type	Definition	Landform
High	Isolated finds and surface scatters of stone artefacts	Stone artefacts ranging from single artefact to high numbers	Creek lines and broad spur lines are both present within the project area. Small scatters and isolated finds have been previously recorded within the project area.
High	Potential Archaeological Deposits (PADS)	Area considered on landform to hold higher potential for unidentified subsurface deposits	Varies, but most frequent on elevated terraces along creek lines and broad crest spur lines. Features present in project area, three areas of PAD previously recorded with area.
Low	Culturally Modified Trees (CMTs)	Trees which have been modified by scarring, marking or branch twining	Wherever old remnant trees remain - Few remaining within the project area.
Nil	Stone quarries/Ochre sources	Quarry sites where resources have been mined.	Any landform. No known resources in project area.
Low	Stone arrangements	Arrangements of stones by human intention, including circles lines or patterns.	Crest lines or large ceremonial areas on creekflats,
Nil	Axe grinding grooves	Grooves in stone caused by the grinding of stone axes	Usually in creek lines, as water is used as abrasive with sand. None present in project area.
Nil	Burials	Burials of Aboriginal persons	Usually requiring deep sandy soils on eastern facing slopes - not present in project area.

5 ARCHAEOLOGICAL FIELD SURVEY

A field survey of the Project Area was undertaken as part of the ACHAR completed for the Stage 1 area in 2018 (Past Traces 2018) and should be read in conjunction with this report where additional information is required. The field survey was completed with representatives of the RAPs (Thunderstone and King Brown Tribal Group) in accordance with the Code of Practice.

The following details of survey coverage and results is reproduced from the 2018 Past Traces report for ease of reference.

5.1 ARCHAEOLOGICAL SURVEY AIMS

The principle aims of this survey were to:

- Provide the RAPs an opportunity to view the project area and to discuss previously identified Aboriginal object(s) and/or place(s) in or within close proximity to the project area.
- To undertake a systematic survey of the project area targeting areas with the potential for Aboriginal or Historical heritage.
- Identify and record any heritage sites visible on the ground surface.
- Identify and record areas of potential archaeological deposits (PADs).

5.2 FIELD SURVEY STRATEGY

The 2018 field survey was undertaken at a time of drought, resulting in extremely high visibility across the project area with large areas of ground exposures and low to negligible grass coverage.

The survey identified three landform units in the project area: creek flats surrounding a small first order creek line running northwest to southeast, and simple (lower, middle and upper) slopes of the undulating hills and the broad crest of the ridgeline located within the project area. Survey units were based on these landform units. As a result the project area was divided into nine main survey units.

The predictive model developed for the project does not indicate a significant difference in the potential of landforms within the project area. As a result, the survey aimed to achieve the greatest coverage possible of all landforms. All landforms were sampled during the field survey though ground surface visibility (GSV) varied due to grass length and erosional exposures at the time of survey. All survey units were sampled with spaced pedestrian transects with an estimated 7% of survey units (SU) being surveyed. A detailed discussion of survey coverage and results of the pedestrian survey is provided in Section 5.4.

The results of the survey are summarised below, with Plates 1 to 6 displaying the conditions at the time of survey:



Plate 1. Survey Unit 1 – upper slopes



Plate 2. Survey Unit 2 – Middle Slopes



Plate 3. Survey unit 8 – crest

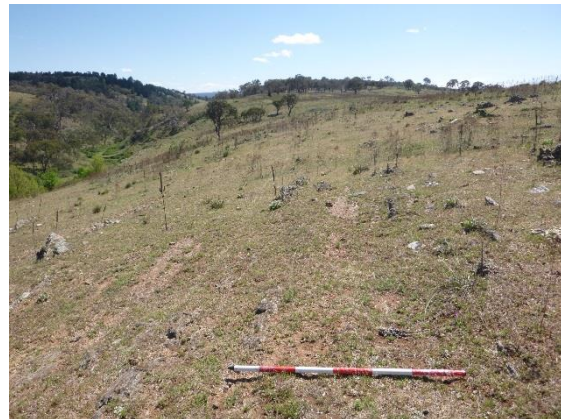


Plate 4. Survey unit 9 – upper slopes

5.3 FIELD SURVEY METHODS

The archaeological survey was conducted on foot with a field team of three members. Recording during the survey followed the archaeological survey requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). Information that recorded during the survey included:

- Start and End points of each transect.
- Survey Units along landforms.
- Aboriginal objects or sites present in the project area during the survey.
- Survey coverage.
- Landform.
- Photographs of the site indicating landform.
- Evidence of disturbance.

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

Transects were positioned to cover all landforms present within the project area. Landforms consisted of, simple slopes (middle and lower) and open creek flats in the vicinity of drainage lines. Upper slopes and crest are present to the north and south of the project area which covers the middle section of a low ridgeline running northwest. The small size of the project area allowed for pedestrian transects to be completed across all landforms. Additional transects were completed to the east of the project area to the fenceline. These pedestrian transects and the landforms within the project area are shown on Figure 8 and 9.

5.3.1 Ground Surface Visibility (GSV) and Levels of Disturbance

Ground Surface Visibility (GSV) is the percentage of ground that can be visibly assessed. GSV varies by the degree of grass coverage across the ground surface, presence of leaf litter, branches and the presence of natural gravels. Exposures are areas that provide high levels of GSV and usually result from erosion, stock impacts, clearing, previous construction or vehicle trails. The higher the rate of exposures and the background GSV of a survey unit (SU) the higher the effectiveness of the field survey.

Background GSV did not vary greatly through the project area, with consistent levels of grass coverage. The western extent of SU8 and SU9 held lower levels of grass coverage (higher background GSV) and increased rate of exposures. This was a result of the erosion, soil type and increased rock outcrops prior to the steep descent to Gorge Creek. The GSV, degree of disturbance and rate of exposures for each Survey Unit is provided in Table 5 below.

Table 2. Ground Surface Visibility Rating

Landform	GSV	Disturbance	Mechanism of disturbance
Upper slope	20%	Low	Vegetation clearing in past, stock impacts vehicle trails
Middle slope	20%	Low	Vegetation clearing in past, stock impacts, some vehicle trails
Lower slope	40%	Moderate	Grass coverage low, higher rate of exposures due to isolated erosion, stock impact areas. Extensively cleared.
Creek Flat	25%	Moderate	Grass coverage extensive to creek banks, stock impacts along creek banks.
Crest	60%	High	High rate of exposures under trees, stock impact trails present and large erosion scours in areas of small knolls and depressions. Central section grassed and GSV decreases to 30-40%.

Figure 6: Survey Units and Landforms

Legend

- Contour - 10m
- Stage Boundary
- Development Area

Landform

- Crest
- Upper Slope
- Middle Slope
- Lower Slope
- Creek Flat



25/10/2024
1:3,250

0 25 50 100

Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

PastTraces
Heritage Consultants

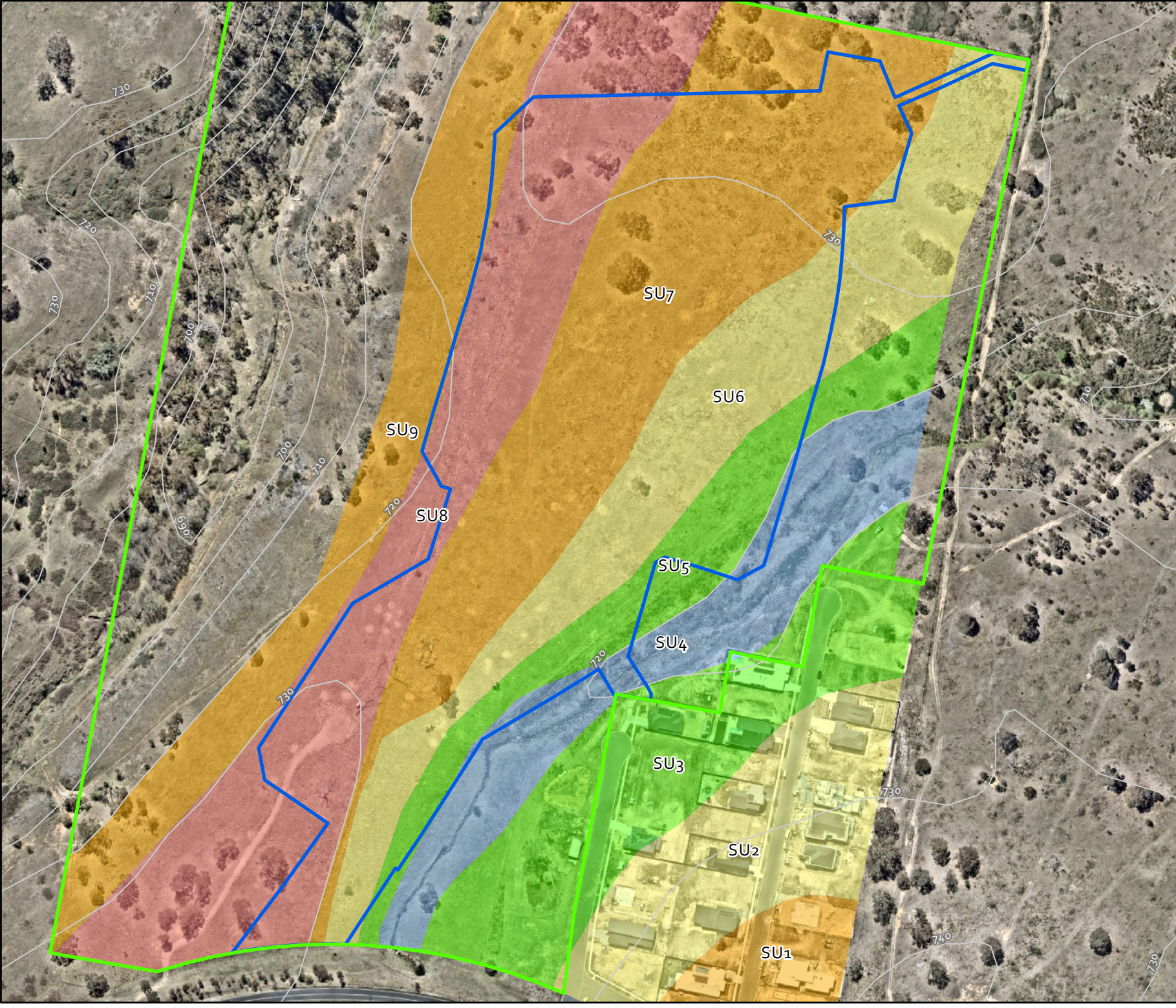


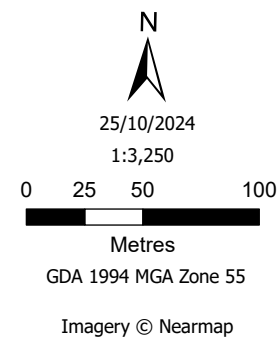
Figure 7:
Survey Transects

Legend

- Contour - 10m
- Survey Transects
- Stage Boundary
- Development Area

Landform

- Crest
- Upper Slope
- Middle Slope
- Lower Slope
- Creek Flat



5.3.2 Survey Coverage

The factors of GSV, level of disturbance, the number of survey participants and the spacing of transects all combine to provide estimates of survey coverage and effectiveness.

Three participants completed surveys at approximately 10m spacing, with each participant effectively inspecting an area of 2m on each side of them (Burke and Smith 2004). The physical area inspected with the GSV and exposure rate for each Survey Unit and Landform taken into account provides the survey coverage.

The landform summary and a summary of effective survey coverage for the Project Area is provided in Table 6 and 7. These calculations are based on the formula provided in Requirement 10 of the Code of Practice.

Table 3. Survey Coverage

Landform	SU Area (m2)	GSV%	Exposure %	Effective Coverage Area (SU area x GSV% x Exp%)	Effective coverage (Eff coverage area/SU Area x 100)
Upper slope	51073	30%	5%	766.095	2%
Middle slope	35648	30%	10%	1069.44	3%
Lower slope	13446	40%	25%	1,344.60	10.00%
creek flat	2075	25%	30%	155.63	7.50%
Crest	36392	60%	30%	6,550.56	18.00%

Table 4. Landform Summary

Landform	Area (m2)	effective coverage area (m2)	% of landform surveyed	no of sites	No of PADS
Creek flat	2075	155.63	7.50%	3	0
Lower slope	13446	1344.60	10.00%	0	
Middle slope	35648	1069.44	3.00%	1	1
Upper slope	51073	766.09	200%	0	
Crest	36392	6550.56	18.00%	0	1

5.4 ARCHAEOLOGICAL SURVEY RESULTS

The field survey completed by Past Traces (2018) confirmed the predictive model with a number of small artefact sites on the boundary of the Stage 2 area and an extension south of one area of PAD recorded during this survey.

Details of these sites and areas of PAD are provided in the following sections and shown on Figure 10.

5.4.1

was recorded during the 2018 survey by Past Traces and is located in an exposure along stock impact trail on the lower western slopes above Talpa Creek. The slope gradient is moderate at this location and the location is an exposed erosional environment with sediment displacing to the creek line. The thinness of the soils in this location indicates low potential for the site to be associated with subsurface deposits. The rock outcrops present in the area can be seen in the rear of Plate 5 showing site location.

in 2018 consisted of a single artefact constructed on pink/grey silcrete and is considered to be an isolated find representing background scatter. GSV was very high in this area at the time of field survey due to the closeness of the paddock gates, stock trail, fence line boundary and vehicle impact trail across the creek line to the northeast. This site is within close proximity to the current development, and mitigation measures will be required. The recorded artefact is shown in Plate 6. Details of artefacts are provided in Table 4.



Plate 3. Location of

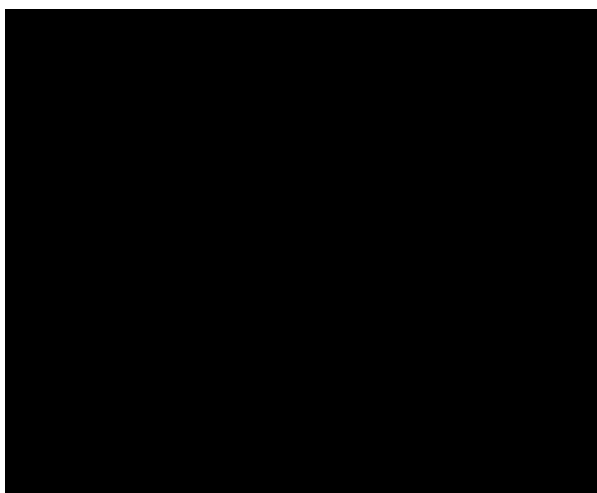


Table 4. Details of artefacts

Artefact Type	Material	Dimensions (mm)	Comments
Flake	Silcrete	22 x 24 x 12	Flaked platform, step termination, usewear left lateral margin

5.4.2 [REDACTED]

This site was recorded (NOHC 2003) as a small low-density scatter comprising three artefacts located in an area of sheet erosion on the edge of a dam on a drainage line feeding into Talpa Creek. Topographic context is the creek flats along Talpa Creek. The exposure in which the artefacts were located was approximately 75m², and the artefacts were concentrated in an area of some 40m². This area was closely examined during the 2018 field survey with no indications of surface artefacts being located. Site [REDACTED] is located on the edge of the previous [REDACTED] recorded as running from the spur line to the southeast to Talpa Creek. The soils in this location are very thin, with subsurface rocks and boulders present further demonstrated by the subsurface testing of [REDACTED] revealing no subsurface deposits.

5.4.3 [REDACTED]

The site was originally recorded in 2001 by Saunders consisting of three artefacts within a stock impact trail along creek flats on the eastern margin of Talpa Creek. Visible site extent at the time of recording was approximately 12m by 2m, no information regarding artefact details was provided. No artefacts or site indication was identified at this location during the 2018 survey. This site is also within the mapped confines of [REDACTED], however as noted for [REDACTED] soils appear thin and to hold low subsurface potential.

5.4.4 [REDACTED]

This recording consists of a broad flat spur crest overlooking a tributary of Talpa Creek. The area of PAD is approximately 150 m long x 150 m wide, with a generally level gradient and open aspect (Plate 7). This landform includes the location of identified site [REDACTED] located outside of the project area on the adjoining property to the northeast. Local deposit is a light brown silty loam of indeterminate depth. The majority of this area of PAD is outside of the project area, but the western section of the PAD is within the Project Area for Stage 2. As a result, subsurface testing of the area of [REDACTED] that falls within the Project Area was undertaken to determine the subsurface potential and is discussed in Section 6.4.3. The area of [REDACTED] is displayed in Plate 7.

This area was examined within the project area during the 2018 field survey with site SD4 being recorded as an artefact scatter within the confines of, and therefore associated with, [REDACTED] (NOHC 2003). [REDACTED] is located in area of erosion exposure at base of old dead Eucalypt on a mid-slope area. The site consists of two artefacts, one constructed on red silcrete, the other on quartz. The site is located within identified [REDACTED] and is considered to hold moderate potential for subsurface artefacts, which extends to the south and north of the site. While some of this wider area may hold deeper soils, in the immediate area of [REDACTED] the soils have eroded due to surface wash, leaving the artefacts exposed on base clays. No subsurface potential is present in the immediate area of the artefacts.



Plate 7. Location of [REDACTED]

5.4.5 [REDACTED]

This recording comprises a shoulder-crest interface of a major ridgeline between Gorge and Talpa Creeks. The identified area is approximately 350m long x 75m wide, with a gentle gradient and westerly aspect. The area of PAD to the north is associated with two recorded surface artefact scatters [REDACTED] at a location where access to the creek, while difficult, is possible. NOHC 2003 theorised that this area may have acted as natural route across landscape along this ridgeline.

A large proportion of this area of PAD and both surface sites are outside of the current project area, but the southern section of the PAD is within the Project Area for Stage 2. As a result, subsurface testing of the area of [REDACTED] that falls within the Project Area was undertaken to determine the subsurface potential and is discussed in Section 6.4.1. The area was examined during the field survey and the finding of PAD confirmed along with the artefacts at [REDACTED]. An extension to this area of PAD to the southwest has been recorded as [REDACTED] and details are provided within the new site recording section of the report. The location of [REDACTED] is shown in Plate 8.



Plate 8. Location of [REDACTED]

Previously recorded sites [REDACTED] are also present within the project area on the southern boundaries. Neither of these two artefact scatters are within the development impact areas (see Figure 4). As no impacts are anticipated in these locations, the sites require no further investigation, though barrier fencing to prevent accidental impact will be required.

5.5 SUMMARY OF SURVEY RESULTS

The 2018 Archaeological survey resulted in the following findings:

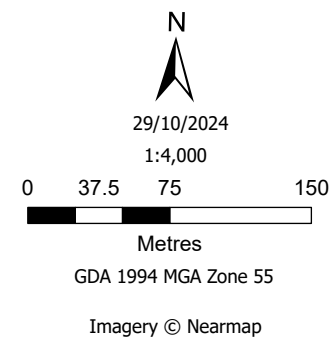
- One Aboriginal heritage site consisting of a portion of an artefact scatter [REDACTED] area of [REDACTED] and one area of [REDACTED] were identified within the Stage 2 impact area.
- Subsurface testing is required in the PADs [REDACTED] within the stage 2 project area to determine the presence, extent, and significance of any deposits in these areas.
- Sites S [REDACTED] are within the Stage 2 project area, but located outside of the impact area. The location of the sites may result in accidental impacts. Barrier fencing will be required.
- [REDACTED] artefact scatter) is located outside of the Stage 2 project area in adjacent area. The location of the site may result in accidental impacts. Barrier fencing will be required.

As a result of the field survey, it is concluded that it is unlikely that any unidentified cultural heritage sites are located within the project area of Stage 2 that have not been recorded, due to the high level of GSV present at the time of field survey. Field surveys by AHS (2001) and NOHC (2003) have also been completed over the project area.

Figure 10: PAD, AHIMS
and Survey Results

Legend

-  Artefact Scatter
-  PAD
-  Scarred Tree
-  AHIMS Sites
-  PAD
-  Stage 2
-  Development Area



6 SUBSURFACE TESTING OF PADS

As defined previously in Section 4.5, areas of PAD are landforms with a higher potential to contain subsurface deposits of past Aboriginal occupation than the surrounding landscape. NOHC in 2003 (Bungendore HQ assessments) stated:

"A potential archaeological deposit, or PAD, is defined as any location where the potential for sub-surface archaeological material is considered to be moderate or high, relative to the surrounding study area landscape" (NOHC 2003:7).

Two areas of PAD are present within the current project area of Stage 2 and required testing to determine the presence, extent and significance of subsurface deposits. This testing was carried out in 2022, in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010) and the methodology detailed in Section 6.2.

As set out in Section 3.1 of the Code of Practice (DECCW 2010), subsurface testing is only permissible where "*sub-surface objects have a high probability of being present and the area cannot be avoided by the proposed development*". The purpose of subsurface testing is "*to collect information about the nature and extent of sub-surface deposits based on a sample recovered from the sub-surface investigations*". Based on the recovered sample, the archaeologist uses the sample's data to calculate the probability of the site continuing in area. By extrapolating artefact density from the excavated testpits, the probability of further subsurface deposits being present and their significance is assessed.

Requirement 15b of the Code states that the excavation strategy must:

"Describe the differentiation of the PAD to be test-excavated from the surrounding archaeological landscape (i.e. explain why the PAD is anticipated to be of higher significance than the continuous distribution of archaeological material in which it exists)" (DECCW 2010: 25)

Under this requirement, if a large landform with high potential is identified, an area of PAD within that landform must hold an additional feature indicating the need and/ or appropriateness of undertaking test excavations within the broad landform.

Requirement 16a of the Code states that the

"test excavation should be sufficiently comprehensive to allow characterisation of the Aboriginal objects present without having a significant impact on the archaeological value of the subject area" (DECCW 2010:27).

Requirement 17 (DECCW 2010:28) provides guidance on when a test excavation is to cease:

"Any test excavation carried out under this Requirement must cease when:

- 1). suspected human remains are encountered (see Section 3.6), or
- 2). enough information has been recovered to adequately characterise the objects present with regard to their nature and significance."

Enough information is defined in the explanatory notes: *"the sample of excavated material clearly and self-evidently demonstrates the deposit's nature and significance"* (DECCW 2010: 28). Consequently, test excavation must cease when the archaeologist has recovered sufficient information from the test excavations, irrespective of whether all planned test pits have been completed or the extent of the entire impact area has been physically investigated. Continuance is only permitted if there is reason to believe that a significant variance may occur within the investigation area.

6.1 AIMS OF THE SUBSURFACE TEST EXCAVATIONS

Subsurface testing was undertaken to determine the presence, significance and extent of any archaeological subsurface deposit which may be present within the identified areas of potential archaeological deposit (PAD). Subsurface testing ceased when enough information has been gathered to fulfil these aims.

The aims of the testing program were to:

- ❖ Investigate whether sub surface deposits are present which may be impacted by the development.
- ❖ If identified, to determine the extent and nature of the deposits.
- ❖ Identify the degree of disturbance within the PAD area by examining the soil profile and stratigraphy.
- ❖ Analyse any Aboriginal material recovered
- ❖ In consultation with RAPs determine the significance of any cultural material.
- ❖ Develop management strategies for any heritage items identified by the subsurface testing program.

6.2 EXCAVATION METHODOLOGY

The following excavation methodology was developed in consultation with RAPs and the requirements of the Code of Practice (DECCW 2010). As a result of this process a series of test pits measuring 50 x 50cm were excavated across the identified areas of sensitivity, sampling the different landforms to determine the presence of subsurface deposits and to locate any areas of differing density of artefacts.

The following methodology was followed:

- ❖ Transect lines of 50 x 50cm test pits were placed across the PAD area at a spacing of 10m apart. Depending on the extent of the surface area of the PAD these varied from a single transect to a series of transects forming a grid across the area of PAD.
- ❖ To determine extent of site, additional test pits will be placed at 10m distance to any testpit that within subsurface artefacts are identified. This process will continue till no artefacts are present.
- ❖ Based on previous research in the project area (NOHC 2010) cultural material is most likely to occur in the upper layers prior to 50cm depth. As a result each test pit was excavated to a maximum of 50cm or if cultural material was located to a culturally sterile layer below the artefactual layers. In the absence of any cultural material the excavation ceased at this 50cm level or when underlying clay levels or bedrock were reached.
- ❖ A trigger for expansion of test pits would occur in the event of high density deposits. Should a test pit reveal high density artefact concentrations (i.e. greater than 40 artefacts per square metre) or archaeological features such as hearths, the test pit will be expanded up to a maximum of 3m² in order to establish the nature of the archaeological deposits or features.
- ❖ Pits were hand excavated (shovel and trowel) with recording of spit levels, presence of artefacts, and any stratigraphic features. Each test pit was photographed at end and pH measurements for each excavation level recorded.
- ❖ Spit intervals were 50mm for the first spit then 100mm unless cultural or stratigraphic features required this interval to be varied as set out in the Code of Practice.
- ❖ All excavated material was dry sieved through a 5mm mesh. Wet sieving was undertaken on sandy deposits. The excavation and sieving stations were under the direction of heritage staff assisted by representatives of the RAPs.
- ❖ Any cultural material recovered was labelled with its location and depth, removed for temporary storage and analysis, recorded and analysed. The artefacts will be reburied in accordance with the Code of Practice in each excavated square, unless an AHIP is issued for the project. Under the AHIP a return to country protocol will be developed.
- ❖ If human bone materials were encountered then work would cease immediately in that testpit.
- ❖ As soon as possible after completion test pits were backfilled with excavated soil.

6.3 ANALYSIS OF CULTURAL MATERIAL

Any faunal material recovered would be sorted to species and minimum number of individuals. All lithic items were examined in detail using a low-power hand lens and microscope. A basic analysis of lithic variables such as raw material, size, primary and secondary flaking characteristics (platform and termination type, degree of retouch) was undertaken on recovered lithics from subsurface contexts for the study area as an assemblage.

On completion of the lithic analysis the items were stored individually in resealable plastic bags marked with their identification number and provenance. Artefacts are being held in temporary storage at the office of Past Traces for analysis while the AHIP process is undertaken.

Lithic categories are based as follows:

- ❖ Flakes – dorsal and ventral face, platform and termination
- ❖ Retouched flakes – negative scars removed after ventral face creation (flake detachment)
- ❖ Flaked pieces – negative scars on dorsal face but ambiguous ventral face and striking platform
- ❖ Cores – one or more negative scars but no positive scars
- ❖ Angular shatter – indistinct scar faces assumed to be cultural based on association with cultural material

6.4 RESULTS OF SUBSURFACE TESTING PROGRAMME

The subsurface testing program was undertaken on the 20th and 21th June 2022 for the first stage of testing. The locations of test pits across all of the areas of PAD are shown in Figure 11.

An additional day of fieldwork was required due to rainy weather and was completed on the 24/06/2022 in accordance with the testing methodology, aims and requirements of the Code of Practice.

Results of the test pitting programme for each of the areas of PAD are provided in the following sections under each PAD designation. Appendix 3 contains test pit photos and sections for each testpit and the recovered artefact database is located in Appendix 4.

Figure 11: Test Pits

Legend

-  Test Pit
-  Test Pit with deposit
-  Artefact Scatter
-  PAD
-  AHIMS Sites
-  PAD
-  Stage 2
-  Development Area
-  PAD Test Pit



29/10/2024

1:1,300

0 5 10 20



Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

6.4.1

consists of a shoulder-crest interface of a major ridgeline between Gorge and Talpa Creeks. The identified area is approximately 350m long x 75m wide, with a gentle gradient and westerly aspect. The area of PAD is associated with two recorded sites located within the project area and located to the north outside of the project area. The area of PAD is in proximity to Gorge Creek at a location where access to the river while difficult is possible. NOHC 2003 theorised that this area may have acted as natural route across landscape along this ridgeline.

Development is proposed for southern area of The area was examined during the field survey. Following the 2018 assessment an extension to this area of PAD to the southwest has been recorded as The location and extent of is shown on Figure 12. The location of the area of at the time of the subsurface testing in 2022 is shown in Plate 9.



Plate 9.

During the subsurface testing program, the basal clay levels were consistently reached at 20-30cm in each test pit. Soil depths consisted of sandy loams overlaying a mottled tan/red clay substrate. Test pits were excavated to a depth of 30cm in most test pits. Results for a representative test pit are provided in the following section and results (photos and stratigraphy) for each test pit is provided in Appendix 3. Details of the recovered artefacts are provided in Appendix 4.

Figure 8: Test Pits



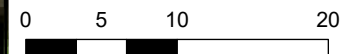
Legend

-  Test Pit
-  PAD
-  AHIMS Sites
-  PAD
-  Stage 2
-  Development Area
-  PAD Test Pit



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Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

The representative stratigraphy of [REDACTED] is shown in test pit 9. The soil section is provided in Table 4. The soils within the test pit consisted of sandy fine grained light brown loam overlain on a compacted mottled tan and red clay base. Test pit photos and sections are provided in Appendix 3 for all excavated test pits within [REDACTED].

Table 4. Test pit 9 Section

Spit	Comment/Description	
1a – 0-5cm	Brown sandy loam fine grained topsoil with grass rootlets – friable, loose compaction.	
1b – 5-10cm	As above – loam, transitioning to a lighter colour.	
2 – 10-20cm	Transitioning to increased tan clay content. Small, hardened clay inclusions.	
3 – 20-30cm	Tan sandy loam with and orange/yellow clay lenses appearing to basal mottled tan and red clay layer at 25cm.	

6.4.2 Artefact Assemblage [REDACTED]

A total of 18 artefacts were recovered from six of the 23 excavated test pits within [REDACTED]. The majority of the recovered artefacts consisted of flakes constructed on chert (chert = 77.8%). This is consistent with findings from the region and the southern tablelands that flakes dominate (flakes = 83.3%) (Packard 1988, Stone 1988, Lance 2009).

The proportion of silcrete and cores within the assemblage is unusually low as are the rates of retouch and usewear. Whilst the assemblage is too small to be analysed statistically the breakdown of the artefacts by main category and test pit location is shown in Table 5. Full details of the lithics recovered are provided in Appendix 4.

Table 5. Recovered artefacts

Square	Spit	No of Artefacts	Silcrete	Chert	Quartz	Cores	Flakes	Notes
6	1	1	1	0	0	0	1	Flake missing its distal tip. Proximal Flake
7	1	1	0	1	0	0	1	
7	2	1	0	1	0	1	0	Angular Fragment
9	1	3	0	3	0	0	3	
9	2	3	1	2	0	1	2	One chert and one silcrete Flakes, one chert angular fragment
10	1	4	1	3	0	1	3	One core fragment
13	1	1	0	1	0	0	1	One black chert flake with 3 negative flake scars
14	1	4	1	3	0	0	4	

The artefacts recovered from the subsurface testing program were consistently located within the top 20cm of deposit within the brown sandy loam topsoil and into increasing clay content with depth.

6.4.3

This recording consists of a broad flat spur crest overlooking a tributary of Talpa Creek. The area of is approximately 150 m long x 150 m wide, with a generally level gradient and open aspect (Plate 11). The majority of this area of PAD is outside of the project area, but the western section of the PAD is within the larger project boundary. This landform includes the location of identified sites is located outside of the project area on the adjoining property to the northeast, with artefact scatter is located within the western area of . Local deposit is a light brown silty loam of indeterminate depth. This area was examined within the project area during the field survey.

The location of the area of PAD is shown in Plate 8.



Plate 8. [REDACTED].

For the subsurface testing of [REDACTED] 10 testpits were placed in one transect across the western section of the PAD running approximately north/south. [REDACTED] was located at the base of a large tree and was moved 5m west of its coordinate. Artefacts were located in seven testpits, requiring the setting out of a further 12 testpits. Of these additional testpits, two could not be excavated due to their location within a large rocky outcrop [REDACTED] and one was located on a dead tree stump with an extensive root system [REDACTED]. Of the additional testpits that were excavated, two testpits ([REDACTED] [REDACTED]) yielded artefacts, but their location was on the very western boundary of [REDACTED] and therefore, no additional excavations were required. As a result a total of 19 testpits were excavated from [REDACTED] with a total of 19 artefacts. The location of the excavated test pits are shown on Figure 13.

A representative stratigraphy of the testpits from [REDACTED] is shown in [REDACTED]. The stratigraphy of test pit 1 is shown in Table 6. The soils within the test pit consisted of sandy loam overlain on a compacted silty/sandy clay base. Test pit photos and sections are provided in Appendix 3 of all the excavated test pits within area [REDACTED].

Table 6. [REDACTED] Section

Spit	Description	Photo
1a – 0-5cm	Dark Brown loam topsoil with grass rootlets –loose compaction.	
1b – 5-10cm	As above – dark loam transitioning to a mixed tan sandy loam with increasing clay content.	
2 – 10-20cm	Mixed tan and brown sandy loam with increasing clay content, and some shale gravel inclusions	
3 – 20-30cm	Tan sandy loam with clay throughout. Increasing gravel inclusions to a base of mottled tan and red sandy clay at 25cm.	

Figure 9: Test Pits



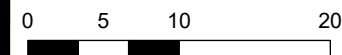
Legend

-  Test Pit
-  Artefact Scatter
-  AHIMS Sites
-  PAD
-  Stage 2
-  Development Area
-  PAD Test Pit



25/10/2024

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Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap

6.4.4

A total of 19 artefacts were recovered across [REDACTED] from nine of the 19 excavated testpits. The assemblage is dominated by chert and silcrete flakes, without usewear or retouch. The breakdown of materials, test pit locations and main artefact category is provided in Table 7.

Table 7. Artefact distribution [REDACTED]

Square	Spit	No of Artefacts	Silcrete	Chert	Quartz	Tuff	Volcanic	Cores	Flakes	Notes
2	1	1	0	1	0	0	0	1	0	Chert core fragment
3	2	2	0	0	2	0	0	0	2	Two large quartz flakes, one white in colour and the other yellow/orange
5	1	2	2	0	0	0	0	0	2	
6	1	4	1	2	0	1	0	2	2	Tuff partial core and a chert angular fragment.
7	1	1	0	1	0	0	0	0	1	
8	1	3	1	1	1	0	0	0	3	One chert proximal flake, small silcrete flake fragment, and quartz flake
9	1	2	2	0	0	0	0	0	2	
12	1	1	0	1	0	0	0	0	1	
13	1	3	1	1	0	0	1	0	3	

6.5 TESTPIT PROGRAMME RESULTS SUMMARY

The test pitting programme has shown that a low density, and likely background dispersal of cultural deposits are present at areas of [REDACTED]. The test pits returned low artefact numbers (usually 1 per 0.25m) over most of the tested areas, with no more than four artefacts found in each 10cm deep spit. This is consistent with the traditional activities of lithic maintenance or construction.

Thirty-seven (37) artefacts were recovered in total from the areas of excavation from both [REDACTED] and [REDACTED]. Artefacts were namely constructed of chert (57.9%) and silcrete (31.6%), with small amounts of quartz (7.9%) as a minor component, and largely consisted of flakes or flake portions (84.2%), with some cores and core fragments (15.8%). The composition of the artefact assemblage along with the lithic database from the excavations is provided in Appendix 4 with Figures 11, 12 & 13 depicting the locations of testpits with deposits.

The test pit program showed an expected result with artefacts confined to the surface and upper levels in areas of low disturbance across the crest features and adjacent slopes. Based on the recovered artefacts from the test pitting program, the areas of PAD within the stage 2 project area consist of low density, dispersed deposits, containing common material and artefact types in shallow contexts.

The majority of both areas of PAD [REDACTED] are located outside of the Stage 2 project area and will not be impacted by the proposed development. To ensure that impacts do not extend into these areas during construction works, mitigation measures consisting of barrier fencing will be required. Details of the mitigation measures required are provided in Section 8.

Updated site cards have been completed for each area of PAD. AHIMS site cards are attached at Appendix 5.

7 SIGNIFICANCE ASSESSMENT

7.1 INTRODUCTION TO THE ASSESSMENT PROCESS

The NSW heritage assessment criteria is set out in the NSW Heritage guideline Assessing Heritage Significance (NSW Heritage 2001) and requires assessment against the four values in the Australia ICOMOS Burra Charter (2013) generally accepted as heritage best practice.

These values are (as defined in NSW Heritage 2001):

- ❖ Historical significance refers to historic values. Items which demonstrate strong associations to a particular event, historical theme, people or philosophies, regardless of the intactness of the item or any of its structures hold varying levels of significance.
- ❖ Aesthetic significance refers to items which demonstrate creative, aesthetic or technical excellence, innovation or achievement. Aesthetic items may also have been the inspiration for creative achievement.
- ❖ Social/cultural significance refers to items which are esteemed by the community for their cultural values; which if damaged or destroyed would cause the community a sense of loss; and/or items which contribute to a community's sense of identity.
- ❖ Scientific significance refers to the assessment of whether a site has the ability to reveal valuable archaeological, technical, or scientific information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the ICOMOS Burra Charter significance values guidelines, of primary interest are guidelines prepared by the NSW OEH and the Heritage Branch, NSW Department of Planning.

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values (ICOMOS 2013). Historical sites are assessed against a range of criteria including their scientific, conservation and educational values.

There are two criteria generally used in assessing the scientific significance of heritage sites:

- Research potential – the potential of a site to provide information which is of value in the scientific analysis of research questions.
- Representativeness – an assessment of whether the artefact or place is a good representative of its type.

Cultural value to the Aboriginal community can only be assessed by discussion with RAPs and feedback provided in response to the site identifications.

7.2 SCIENTIFIC SIGNIFICANCE ASSESSMENT

The following archaeological significance assessment is based on Requirement 11 of the *Code of practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). Using the assessment criteria of representativeness, condition and research potential, an assessment of scientific significance was determined. The results of the archaeological significance assessment are given in Table 8 below.

Table 8: Scientific significance assessment of archaeological sites recorded within the Project Area.

Site Name	Research Potential	Representativeness	Condition	Scientific Significance
	Low	Common	Fair	Low
	Low	Common	Fair	Low
	Low	Common	Missing	Low
	Low	Common	Fair	Low
	Low	Common	Missing	Low

7.3 CULTURAL SIGNIFICANCE

All heritage sites are important to Aboriginal people and all represent the past occupation and use of the region by Aboriginal people. As a reminder of the widespread nature of Aboriginal occupation, site provide a physical guide to usage, and points for education, discussion and if important enough cultural transmission of knowledge.

The sites within the Sunset Development generally are small and common in their nature. The information they provide will further support existing information but will not provide new or innovative research themes. Aboriginal communities do not accept the western view of site importance with all sites being considered to be of overall importance within the landscape.

From discussions with representatives on site following the completion of subsurface testing all sites hold cultural significance as markers of Aboriginal occupation and use of the area. The subsurface sites are considered to hold low cultural significance.

7.4 STATEMENT OF ARCHAEOLOGICAL SIGNIFICANCE

The Project Area overall has five Aboriginal heritage sites [REDACTED] within its boundaries. Of these sites, the two areas of PAD [REDACTED] were subsurface tested in 2022, revealing a low density of stone artefacts.

The majority of the stone artefact sites located within the study area represent common site types found throughout New South Wales and consist of common materials and artefact types. The recorded sites are considered to hold low cultural and scientific values. Recording of these sites will assist in regional studies aimed at assessing Aboriginal usage of the landscape, but do not hold the potential to provide significant new information or to inform research questions.

The sites are considered to hold low scientific and cultural significance.

8 IMPACT ASSESSMENT

8.1 DEVELOPMENT IMPACTS

The proposed Stage 2 development requires a high level of disturbance within the project area. The proposed residential infrastructure will cause disturbance in the form of soil excavation, grading of access roads, heavy vehicle and plant movement across the site and placement of underground piping, cables and the installation of overhead road lighting and infrastructure.

The types of activities that will impact the ground surface and sub-soils include:

- the excavation for infrastructure, such as drainage, sewerage, and communications;
- construction of access roads;
- construction of roads, street verges and
- foundation trenches for residential structures.

Design of the development has been undertaken to try to avoid impact to the heritage sites. However, due to the nature of the development, impacts will be widespread. Within Stage 2 there are five heritage sites of which two [REDACTED] will be impacted by the development. Two additional Aboriginal heritage sites [REDACTED] are located in close proximity to the Stage 2 impact area boundary and may be accidentally impacted by construction work unless preventative measures are undertaken. Fencing should be undertaken at the construction boundary in the vicinity of these sites to prevent accidental impacts.

The remaining two site [REDACTED] are distant to the proposed works and will not be impacted in any manner. No mitigation measures are required for these two sites.

The assessed statement of impact for the Aboriginal archaeological sites in the project area has been summarised in Table 9. Mitigation strategies that should be employed for the potential impacts from the Stage 1 works are discussed in Section 9.

Table 9. Summary of potential archaeological impact Stage 2 Development

AHIMS No	Site Name	Type of Harm	Degree of Harm	Impact of Harm	Mitigation Strategy
[REDACTED]	[REDACTED]	Indirect	Partial	Nil	Barrier Fencing
		Direct	Partial	Partial removal of values	AHIP
		Direct	Partial	Partial removal of values	AHIP
		Indirect	Partial	Nil	Barrier Fencing
		Nil	Nil	Nil	Nil
		Nil	Nil	Nil	Nil

8.2 SUSTAINABLE DEVELOPMENT PRINCIPLES

8.2.1 *Intergenerational equity*

Intergenerational equity is maintained by the continued dissemination of cultural knowledge and ability to visit cultural sites into the future. It is considered detrimental to future generations if cultural knowledge is lost by the current generation. Any destruction of cultural heritage sites runs the risk of negatively impacting in the future. This issue has been addressed by discussion of the significance of the sites and whether they would play any part in teaching the next generation about cultural traditions. Responses to this question were that the sites were common, that the use of the area was well known to the community (and enhanced by studies at Googong Township and Googong Foreshores) and this would continue to be passed on. The small, dispersed nature of the sites renders them unable to be used as teaching aids and not warranting conservation for that criteria. The impact of their destruction would be negligible, though the destruction of any site should be avoided where possible. No further mitigation or options could be suggested by the community apart from those contained in the recommendations in the following section.

8.2.2 *Cumulative Impacts*

Developments are occurring at a rapid pace in the Googong/Queanbeyan region – the project area is surrounded by housing developments under construction. Cumulative impacts by the continued destruction of sites is of concern to the community and should be addressed by continued assessments and focus on preserving sites that are either intact, contain many artefacts, or are significant to the community. The majority of significant sites are located along the Queanbeyan River and require conservation. The Googong Foreshores area maintains a range of Aboriginal sites and the presence of this Conservation Area (now listed on the Commonwealth Heritage List) acts as a method of preserving cultural knowledge and ensuring its transmission to the next generation.

The cumulative impact of future developments at Sunset, based on this heritage assessment would appear to be limited, due to the impacts being confined to a few small surface sites. However, the future stages will need to be assessed for their heritage impacts when development footprints, lot size and boundaries have been defined and consultation with the Aboriginal community undertaken.

Cumulative impacts from development in the loss of sites can be mitigated through an increased understanding of landscape use and increased knowledge in the wider community of the extent of Aboriginal occupation and use of the land. This increased knowledge can be transmitted to the residential community through cultural tours and most importantly interpretative signage and retention of landmarks within the development.

9 MANAGEMENT AND MITIGATION STRATEGY

Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable for the current Stage 2 development. In cases where avoidance and conservation is not practical, the salvage of surface and subsurface artefacts, prior to their impacts is an appropriate mitigation strategy.

For this project, harm to the identified sites within the Stage 2 impact area cannot be avoided as the development footprint will extend across all of the impact area. The small size of the impacted areas of the sites and their subsurface nature does not make them suitable for exclusion from the area of impact in the form of a conservation area or nature park. The nature of the sites being common, consisting of common artefact types and materials and being low in significance does not warrant this class of treatment to ensure their preservation. A strategy of surface collection by the RAPs and heritage consultant should be undertaken for these sites. This strategy is detailed in section 9.1.

9.1 SURFACE COLLECTION OF ABORIGINAL ARTEFACTS (SALVAGE).

As a mitigation strategy collection of the surface artefacts, recording of their attributes and reburial within the landscape by the Aboriginal community is the most appropriate option. As a result it is proposed that an AHIP be applied for covering the Stage 2 project area and covering the area of the impacted Aboriginal heritage sites [REDACTED]. Reburial in the north of the larger project area should be undertaken and include artefacts collected during the subsurface testing of [REDACTED]. The surface collection should be undertaken in accordance with the following methodology:

- Following granting of an AHIP by NSW Heritage (with completed return to country protocol appended) collection can proceed.
- Return to recorded site GPS Co-ordinates with representatives of the RAPs and heritage consultant. The surrounds of the recorded site and extents will be visually inspected for any artefacts.
- All locations of artefacts flagged prior to movement. Photo of flagged locations taken.
- Each artefact GPS location recorded, allocated individual number and bagged individually.
- Artefacts will be returned to office of Past Traces in Canberra for examination under low power microscope, photography and cataloguing.
- Details of artefacts reported to NSW Heritage in the form of a salvage (community collection) report (AHIP compliance report) detailing participants, conditions and outcomes.
- Site cards updated and submitted to AHIMS by heritage consultant.

The artefacts would then be returned and reburied in accordance with the following Return to Country Protocol which was developed for the project in consultation with the RAPs and implemented for the Stage 1 artefacts.

- Reburial location [REDACTED] within the treed area on the mid slopes will be returned to. Photos of this location will be taken.

- A small 50 x 50cm pit will be hand dug by RAOs
- The artefacts will be deposited into the pit in direct contact with the ground and not within plastic bags or wrappings of any kind.
- RAOs will place soil over the artefacts. Photos will be taken of finished location
- Site card will be completed and submitted to OEH showing location of reburial.
- Reburial will be noted in the AHIP compliance report for the project.

9.2 FENCING OF HERITAGE SITES

Boundary fencing will be required at the construction impact boundary in vicinity of sites [REDACTED] to prevent accidental impacts during construction. These sites are outside of the planned impact area and in the case of [REDACTED] outside of the Stage 2 area in an adjoining area to the north. To prevent any accidental impacts, the site locations must be marked on construction plans as no-go zone and construction personnel and contractors informed of the location and this condition. Barrier fencing should be placed at the site boundaries to prevent any accidental impacts during construction.

9.3 MANAGEMENT RECOMMENDATIONS

Based on results of the archaeological program and consultation with the Registered Aboriginal Parties the following recommendations have been developed in regards to Aboriginal Cultural Heritage values and historical heritage sites located within the project area. Following the implementation of these heritage recommendations development of the area should be able to proceed.

The management recommendations for the project are:

Aboriginal Heritage

- ❖ As impacts will occur to the Aboriginal heritage sites [REDACTED] and [REDACTED] within Stage 2, an AHIP approval by NSW Heritage would be required for these future stages, prior to any works commencing. The AHIP area is shown in Figure 14.
- ❖ Aboriginal heritage sites [REDACTED] are in proximity to the stage 2 construction boundary. To avoid accidental impact barrier fencing consisting of high visibility mesh should be erected with a 10m buffer on the site boundary. The location of boundary fencing is to be confirmed on site with the project archaeologist at time of installation.
- ❖ Sites [REDACTED] are distant to works and will not be impacted. Their locations should be marked on management maps and marked as a no-go area. No further mitigation measures are required.
- ❖ Following the granting of an AHIP for sites [REDACTED] there are no further Aboriginal constraints within the project area for the Stage 2 development.

- ❖ Artefacts recovered through the subsurface testing programme for the Stage 2 development will be returned to country within the location of the Conservation area at [REDACTED]. This location is the repository for artefacts from the Stage 1 development and will not be impacted by this project or future developments. The return to country protocol supplied in Section 9 should be implemented for the project.
- ❖ Further archaeological assessment would be required for any impacts outside of the Stage 2 area. This would include consultation with the RAPs for the project and may include further field survey and assessment.
- ❖ Continued consultation with the RAPs for the project should be undertaken. RAPs should be informed of any major changes in project design or scope, further investigations or finds.
- ❖ No further investigations for stage 2 are required should the AHIP be approved, except in the event that unanticipated Aboriginal Objects are unearthed during any phase of the Project.

Figure 14: AHIP Area

Legend

-  Development Area
-  AHIP Area
-  Stage Boundary



25/10/2024

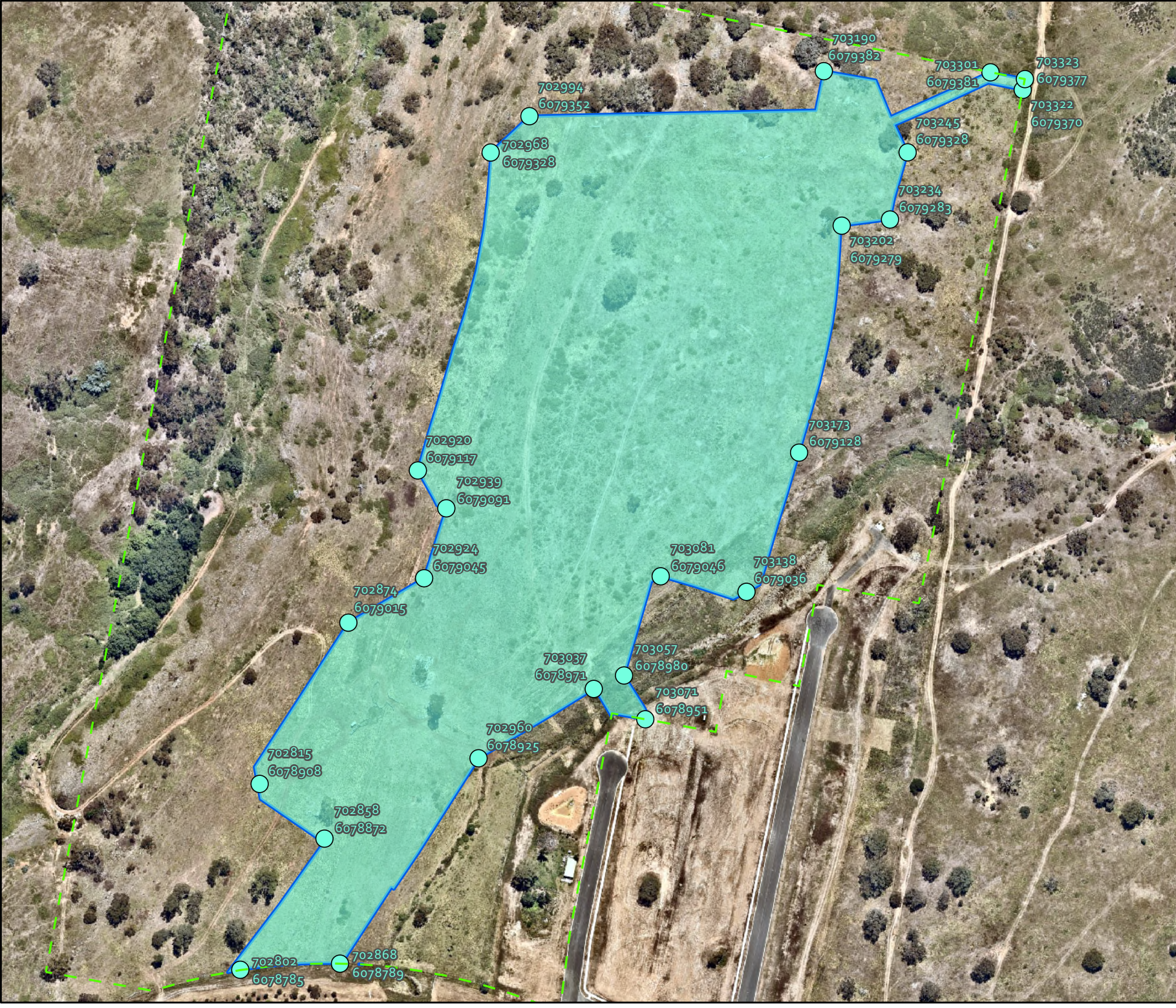
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0 25 50 100

Metres

GDA 1994 MGA Zone 55

Imagery © Nearmap



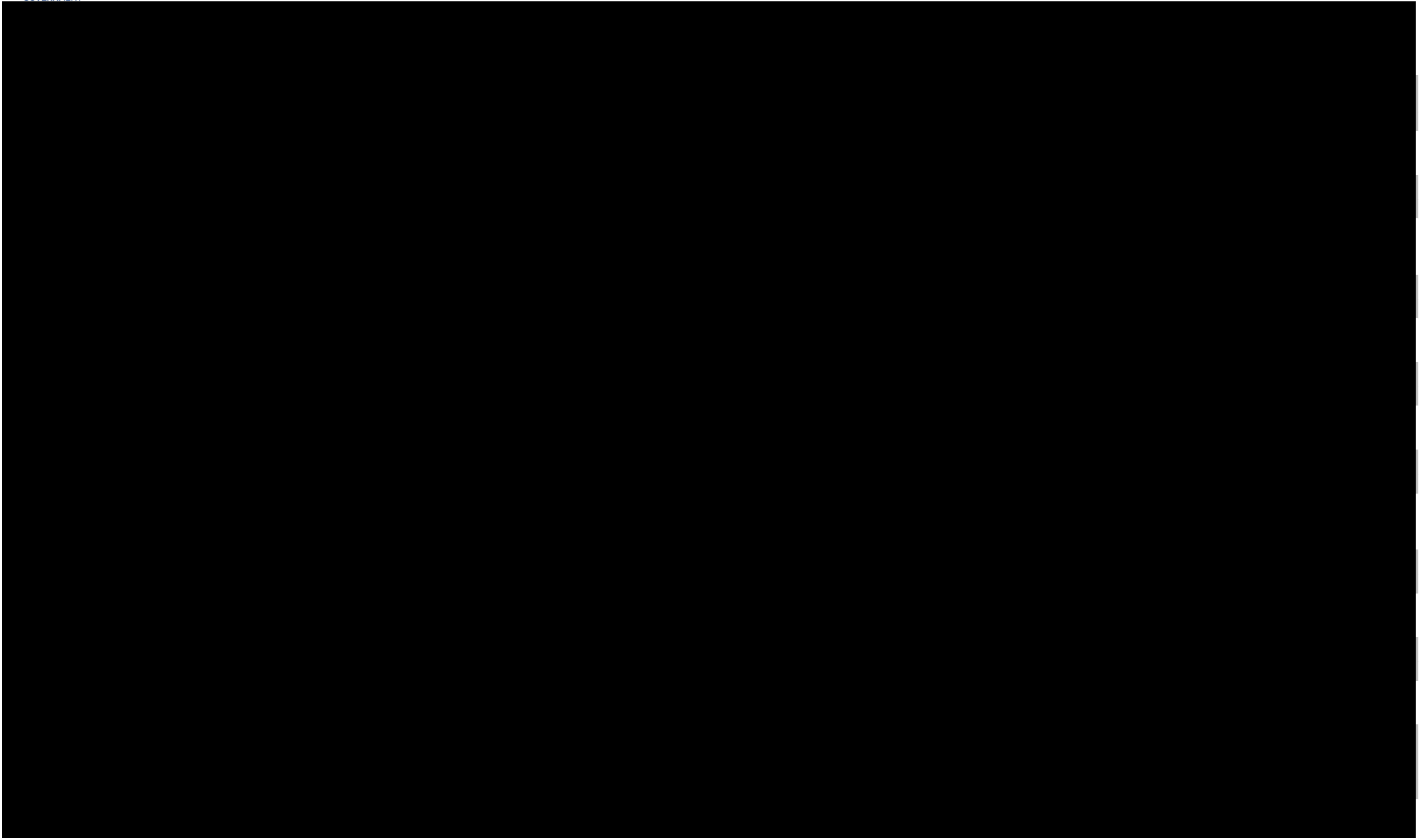
10 REFERENCES

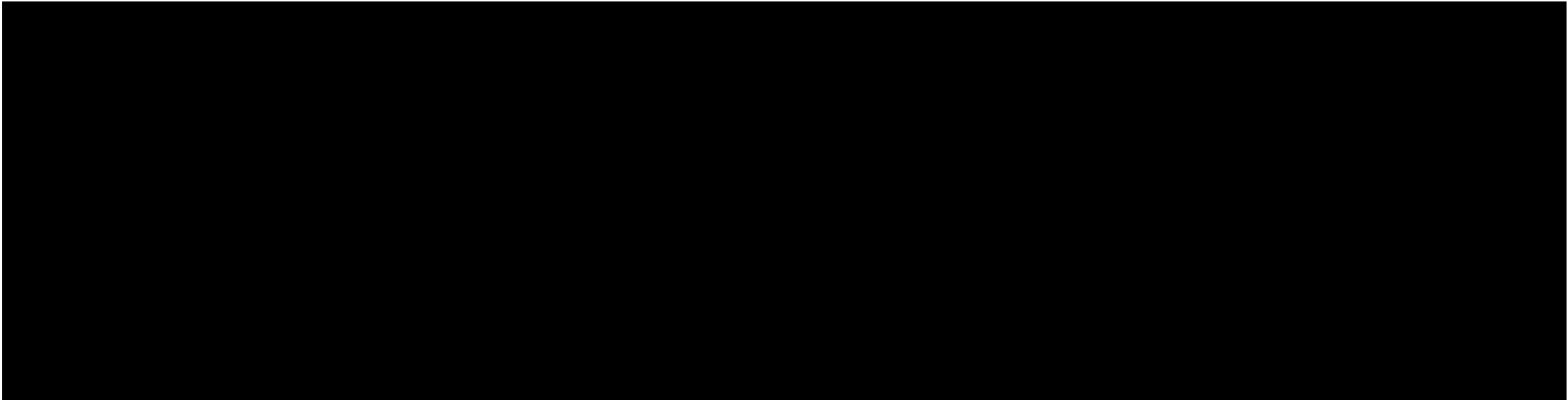
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A.1 AHIMS SITE SEARCH





**** 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

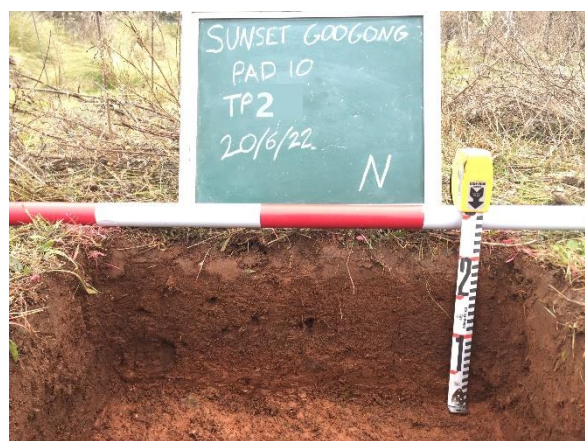
Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

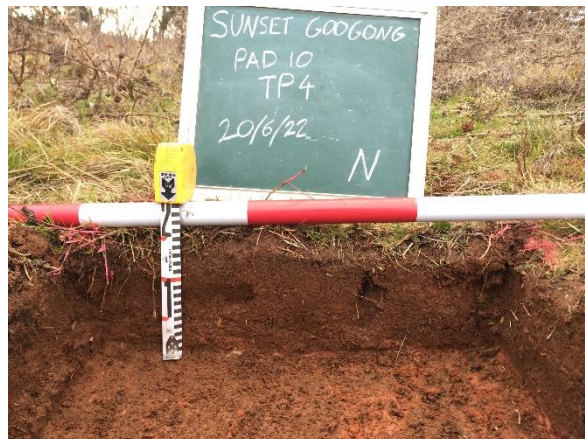
A.2 ABORIGINAL CONSULTATION

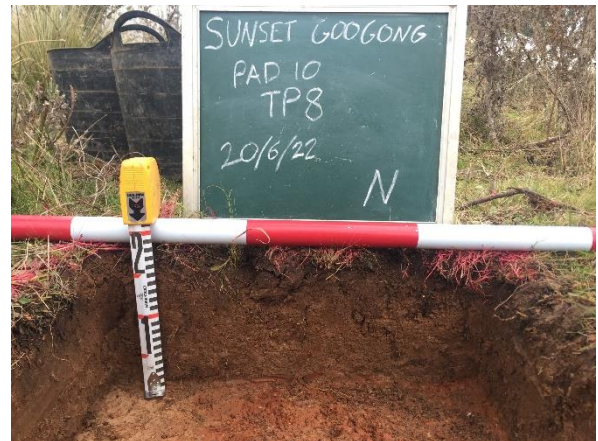
Date/Time	Type of Consultation	Organisation	Response
	Step 1 – Public Notice (insert name of paper) and end of review period date	Queanbeyan Age – 8 March 2022 end 22 March 2022	
	Step 2 – Notice to Regulators		
	Email on 2/3/2022	NNTT – on line search	
		NTSCorp	
		NSW Heritage	Letter reply on 4/3
		Local Council	
		Registrar ALR	
		LALC	
		LIs – not sent in line with advice received 21 Dec 21	
	Step 3 – letter/email to identified stakeholders from Above		
7/3	To all stakeholders	End registration	
	Step 4 – List of Registrations		
	Maria Williams	Rang 7/3/2022	Maria Williams rang on 7/03/2022 to register. Checked contact details.
	Didge Ngunnawal	Emailed 7/3	
	Corroboree	Emailed 7/3	
	Murrabidgee Mullangarri	Emailed 7/3	
	Thunderstone	Emailed 7/3	
	Konnango	Emailed 7/3	
	Mundawari	Emailed 7/3	
	Woka	Emailed 7/3	
	Guntawang Aboriginal Resources	Email 10/3	
	Merrigarn	Email 14/3	
	Ngunnawal Elders Corporation	Email 23/3	
	Adrian Brown	Phone call 23/3	
	Ngambri LALC	Email 8.3	
	Yurwang Gundana	Email 22/3	
	Step 5 – Project Pack		
31/3/2022	Emailed to all RAPS		
	Step 6 – Methodology pack (end review period 27/4/2022)		
1/4/2022	Emailed to all RAPS		
	Step 6 - List of RAPS to NSW Heritage and LALC (by 28 days from Step 4)	23/4/2022	Email to NSW Heritage

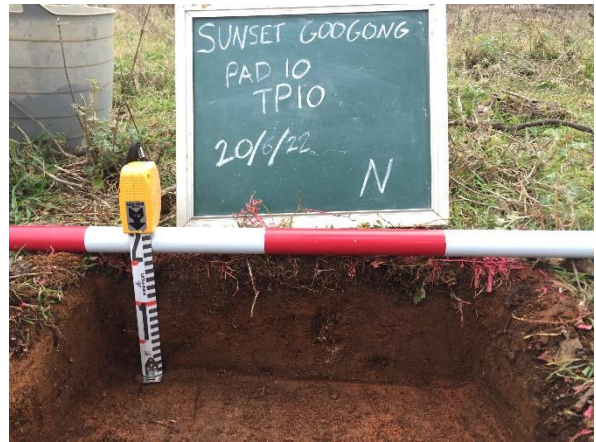
Date/Time	Type of Consultation	Organisation	Response
	Field work/ SST	20/6-24/6	
		Yurwang Gundana	
		Ngambri LALC	
		Didge Ngunnawal	
	Draft Reports – end review 5/9		
5/8	Emailed to all Groups		5/8 – Email from Murrumbidgee Mullangarri objecting to inclusion of Didge Ngunawal in fieldwork as do not accept Aboriginality of this party. 6/8 – Email from Merrigarn objecting to inclusion of Didge Ngunawal in fieldwork as do not accept Aboriginality of this party.

A.3 TESTPIT SECTIONS AND PHOTOGRAPHS



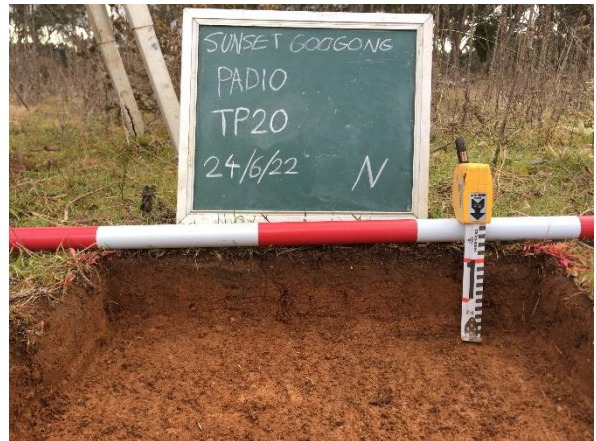














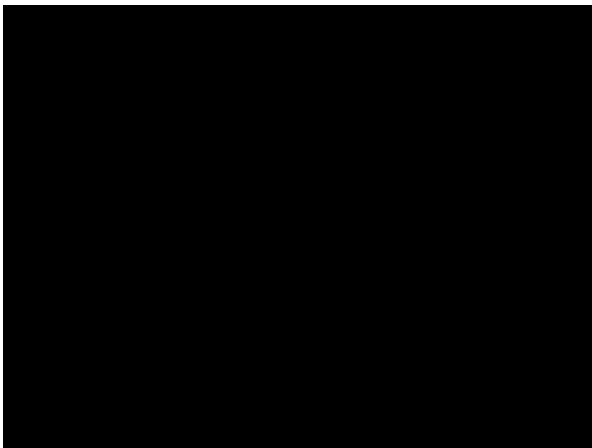














A.4 LITHIC DATABASE