



**APPENDIX**

**F**

Technical Assessments

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# Appendix F.3

## Addendum ACHAR and HHIA

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View to the east of the addendum study area showing the landscape.

## **ADDENDUM ABORIGINAL CULTURAL HERITAGE & HISTORIC HERITAGE IMPACT ASSESSMENT REPORT**

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### **BIRRIWA SOLAR AND BATTERY PROJECT**

### **TEMPORARY WORKER'S CAMP**

BIRRIWA NSW

SEPTEMBER 2023

Report prepared by  
OzArk Environment & Heritage  
for ACEN Australia



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## ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT COVER SHEET

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Brendan Fisher, OzArk Environment & Heritage Archaeologist

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### **Acknowledgement**

OzArk acknowledge the traditional custodians of the area on which this assessment took place and pay respect to their beliefs, cultural heritage, and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the Elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.



## ABBREVIATIONS AND GLOSSARY

ACHAR	Aboriginal Cultural Heritage Assessment Report. As set out in the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> , all developments where harm to Aboriginal objects is likely must be assessed in an ACHAR.
ACHCRs	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> . Guidelines for conducting Aboriginal community consultation for developments where harm to Aboriginal objects is likely.
AHIMS	Aboriginal Heritage Information Management System. Administered by the DPE, AHIMS is the central register of all Aboriginal sites within NSW.
AHIP	Aboriginal Heritage Impact Permit. Issued by Heritage NSW to allow harm to Aboriginal objects.
BP	Years before present
Code of Practice	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> under Part 6 NPW Act. Issued by DECCW in 2010, the Code of Practice is a set of guidelines that allows limited test excavation without the need to apply for an AHIP.
DPE	NSW Department of Planning and Environment
EIS	Environmental Impact Statement. A required document for major projects documenting all potential impacts to the environment, including heritage, that may arise due to the development.
GSE	Ground surface exposure. A measure of factors that may reveal surface artefacts such as erosion scalds.
GSV	Ground surface visibility. A measure of factors that may obscure the detection of surface artefacts such as leaf litter.
Heritage NSW	Government department tasked with ensuring compliance with the NPW Act. Heritage NSW is advised by the Aboriginal Cultural Heritage Advisory Committee (ACHAC).
HHMP	Historic Heritage Management Plan
LALC	Local Aboriginal Land Council
NPW Act	<i>National Parks and Wildlife Act 1974</i> . Primary legislation governing Aboriginal cultural heritage within NSW.

- PAD Potential archaeological deposit. Indicates that a particular location has potential to contain subsurface archaeological deposits, although no Aboriginal objects may be visible.
- Pleistocene: Geological epoch which lasted from about 2.5 million years ago to 10,000 BCE. This period spans the world's recent period of repeated glaciations. Aboriginal occupation of Australia occurs during the upper Pleistocene.
- RAP Registered Aboriginal Party. An individual or group who have indicated through the ACHCR process that they wish to be consulted regarding the project.

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## EXECUTIVE SUMMARY

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OzArk Environment & Heritage (OzArk) has been engaged by ACEN Australia Pty Ltd (the proponent) to prepare an Addendum Aboriginal Cultural Heritage Assessment Report (ACHAR) and a Historic Heritage Assessment Report (HHAR) for the proposed construction of a temporary worker's camp and internal access track for the Birriwa Solar and Battery Project (the project). The addendum proposal is within Lot 53 DP750755, Lot 54 DP750755, and Lot 55 DP750755, Merotherie NSW 2852.

In 2022–2023, OzArk completed the ACHAR and HHAR for the project (OzArk 2022b, OzArk 2023) and the reports were included as part of the project's Environmental Impact Statement (EIS). Following consultation subsequent to the public exhibition of the EIS, the proponent now wishes to include a worker's camp as part of an amendment of SSD-29508870 for the project. The area for the camp and its internal access road was not fully surveyed during the EIS stage of the project (OzArk 2022b, OzArk 2023). As additional survey was required, this addendum ACHAR and HHAR has been prepared to report the results of the assessment. This addendum ACHAR and HHAR should be read in conjunction with OzArk 2022b and OzArk 2023.

The addendum study area originally included portions of Birriwa Bus Route South and Merotherie Road, however, these components do not form part of the project.

Assessment of the addendum study area took place with the assistance of representatives from two Registered Aboriginal Parties (RAPs). The fieldwork component was undertaken from 29–30 June 2023.

The survey resulted in the recording of five Aboriginal sites (Winora OS-2, Winora OS-3, Winora OS-4, Winora IF-1, and Winora IF-2). These sites include three artefact scatters and two isolated finds. No potential archaeological deposits (PADs) were identified.

Only one of these sites, isolated artefact site Winora IF-2, is located within the addendum study area and may be harmed by the proposal.

No items of historic heritage significance were recorded during the addendum survey.

### Aboriginal cultural values

The ACHAR for the project (OzArk 2023) included the following recommendations with regard to Aboriginal cultural values for the project:

1. Following granting of development consent for the project, the proponent will be required to develop an *Aboriginal Cultural Heritage Management Plan* (ACHMP) as per the Conditions of Approval. The ACHMP must be developed in consultation with the RAPs and the Department of Planning and Environment (DPE) (with input from Heritage NSW). The ACHMP would include an unanticipated finds protocol, unanticipated skeletal remains

protocol, requirements for heritage inductions, and long-term management of the Aboriginal sites being impacted. The ACHMP must be approved by the DPE prior to construction activities occurring within the project area that will include the addendum study area.

2. Aboriginal site 36-2-0518 (Mangarlowe IF-2), located within the footprint of the project, if impacted by the final design, should be salvaged via surface collection in accordance with the management strategies set out in Section 9 (OzArk 2023) and the ACHMP.
  - a. The recommended methodology for the salvage will include the measures outlined in Section 9.2.1 (OzArk 2023).
  - b. The salvage works will include the mapping, analysis, and collection of the surface artefact at the affected site. Results will be included in a brief report to preserve the data in a useable form and an Aboriginal Site Impact Recording Form (ASIRF) will be submitted to AHIMS.
3. The proponent has undertaken to avoid harm to the remaining recorded sites through a considered design of the project components. Stone artefact sites (isolated finds, artefact scatters and PADs) should be protected during the construction and operation of the project through permanent fencing. Temporary fencing should be erected around scarred tree 36-2-0516 Barneys Reef Road ST-1 during upgrades to Barneys Reef Road. The location of the sites will be shown on all appropriate plans to ensure that they are not inadvertently harmed.
4. All land-disturbing activities must be confined to within the project's development footprint and access road upgrades. Should the parameters of the proposed work extend beyond this, then further archaeological assessment will be required.

The results of this addendum assessment require that an additional recommendation is added:

5. Winora IF-2, located within the addendum study area, if impacted by the project, should be salvaged via surface collection in accordance with the management strategies set out in **Section 6.1.1** following approval of the ACHMP.
  - a. The recommended methodology for the salvage will include the measures outlined in **Section 6.1.1**.
  - b. The salvage works will include the mapping, analysis, and collection of the surface artefact at the affected site. Results will be included in a brief report to preserve the data in a useable form and an ASIRF will be submitted to AHIMS.

### Historic heritage values

Recommendations concerning the historic values within addendum study area are the same as those in OzArk 2022b and these recommendations also apply to the addendum study area:

1. Following development consent of the project, a *Historic Heritage Management Plan* (HHMP) will be developed and then used during the construction and ongoing use of the project. If items of historic heritage significance are uncovered during the project, then the unanticipated finds protocols in the HHMP will be enacted. An example of an unanticipated finds protocol is provided in **Section 9.4.1**.
2. It is assessed that ground disturbing works associated with the project will not harm significant historical archaeological deposits and no further archaeological investigation is required.
3. All land-disturbing activities must be confined within the project development footprint and access road upgrade corridor. Should project impacts change such that the area to be impacted is outside of the assessed survey area, then additional assessment may be required.

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# 1 INTRODUCTION

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## 1.1 FOREWORD

This document is an addendum Aboriginal Cultural Heritage Assessment Report (ACHAR) and Historic Heritage Assessment Report (HHAR) for the Birriwa Solar and Battery Project (the project).

The Aboriginal cultural heritage sections in this report (**Sections 2 to 1**) should be read in conjunction with the primary ACHAR developed for the project (OzArk 2023).

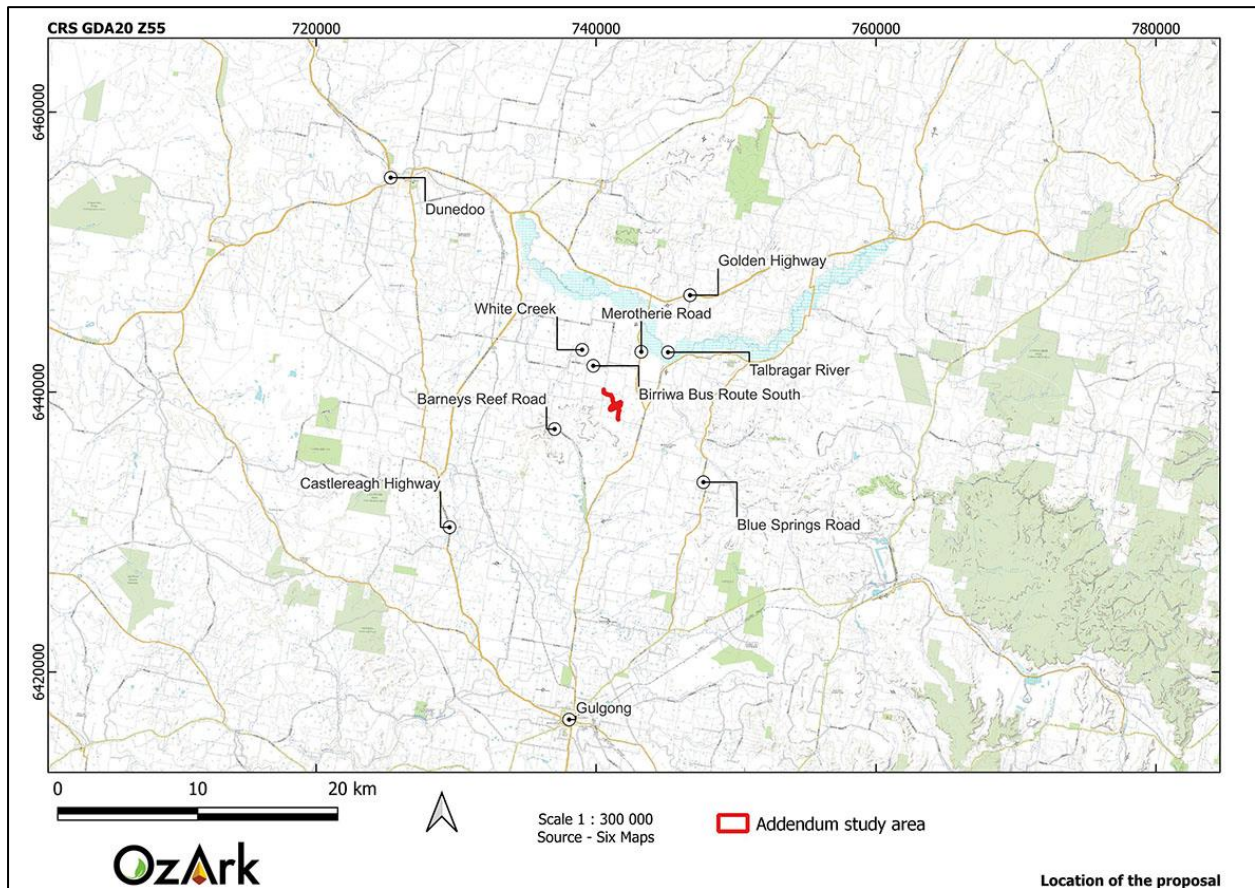
The historic heritage impact assessment in this report (**Sections 7 to 9**) should be read in conjunction with the primary HHAR developed for the project (OzArk 2022b).

As the addendum study area is within and immediately adjacent to the project, both OzArk 2022b and OzArk 2023 provide landscape and archaeological context that is applicable to the addendum study area. This information is not reproduced in this report and the primary reports should be consulted for this environmental and archaeological context.

## 1.2 DESCRIPTION OF THE PROPOSAL

OzArk Environment & Heritage (OzArk) has been engaged by ACEN Australia Pty Ltd (the proponent) to complete an ACHAR and HHAR for a proposed temporary worker's camp and associated access road for Birriwa Solar and Battery Project (the proposal).

The proposal is in the Mid-Western Regional Local Government Area (LGA) within Lot 53 DP750755, Lot 54 DP750755, and Lot 55 DP750755, Merotherie NSW 2852 (**Figure 1-1**).

**Figure 1-1: Map showing the location of the proposal.**

### 1.3 BACKGROUND

OzArk conducted an archaeological assessment for the project development footprint that is mostly to the immediate north of the addendum study area, although a portion of the addendum study area is included in the project development footprint. The project development footprint consisted of approximately 1,298 hectares (ha).

The survey for the project resulted in eight Aboriginal sites being recorded, most of them being avoided by the proposed development footprint. Site types include one scarred tree, two isolated finds, four artefact scatters, and one artefact scatter with potential archaeological deposit (PAD).

The assessment concluded that the survey results were consistent with the predictive model that postulated that artefact scatters, isolated finds, and scarred trees would be the most common site types to be recorded.

In 2022–2023, OzArk completed the ACHAR and HHAR for the project (OzArk 2023, OzArk 2022b) and these reports were included as part of the project's Environmental Impact Statement (EIS). Following consultation subsequent to the public exhibition of the EIS, the proponent seeks to propose an on-site temporary worker's camp for the project. The area for the camp and its internal access road (the addendum study area) was not fully surveyed during the assessment for the main project (OzArk 2022b, OzArk 2023). As additional survey was required, this

addendum ACHAR and HHAR has been prepared to report the results of the assessment. This addendum ACHAR and HHAR should be read in conjunction with OzArk 2022b and OzArk 2023.

The addendum study area originally included portions of Birriwa Bus Route South and Merotherie Road, however, these components do not form part of the project.

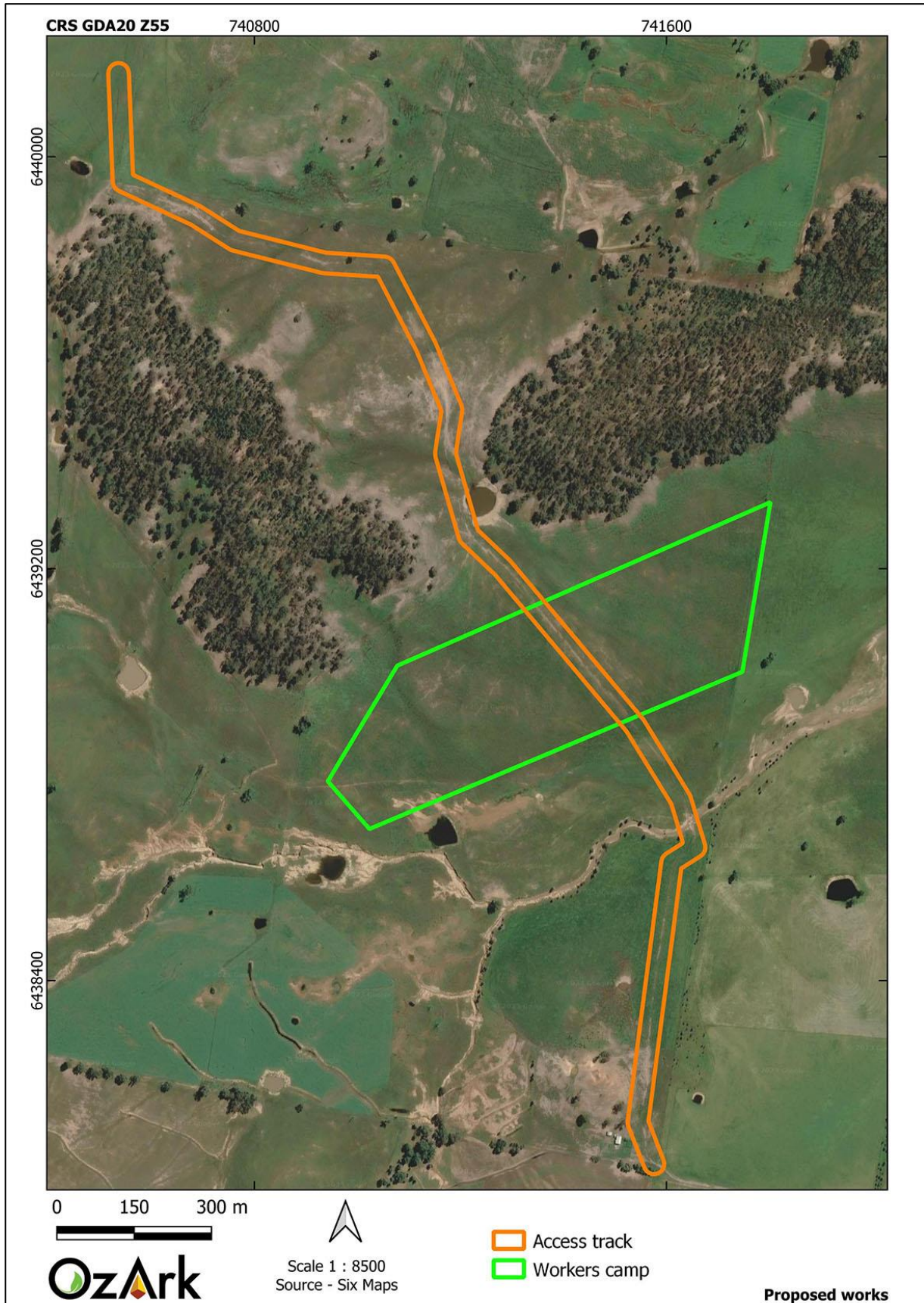
The addendum study area also originally included an area of land that was being considered as a potential location for the temporary worker's camp. However, the current location of the camp was chosen to minimise harm to Aboriginal objects. As such, the survey for the addendum study area covered a larger area than what is now proposed for development.

#### **1.4 PROPOSED WORK**

The proposed works associated with this addendum include the construction of a temporary worker's camp and internal access track to connect the temporary worker's camp to the project (**Figure 1-2**).



Figure 1-2: Proposed work showing impact footprint.

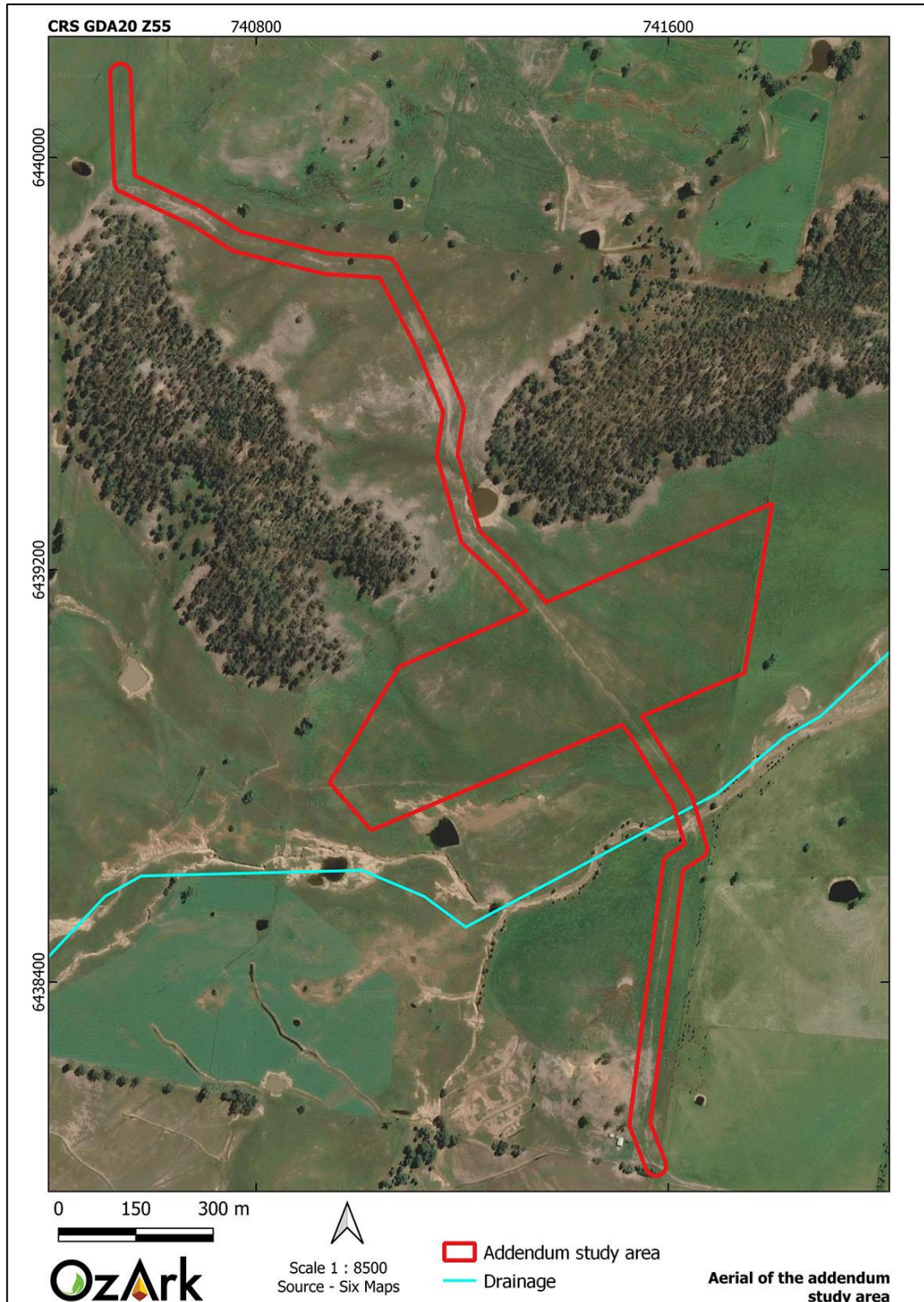




## 1.5 ADDENDUM STUDY AREA

The addendum study area includes the proposed temporary worker's camp, an access track connecting the project's development footprint with the temporary worker's camp and provision for an emergency access track to the south-eastern corner of the property associated with the temporary worker's camp. Most of the addendum study area is comprised of flats or gentle slopes and is intersected by a ephemeral drainage line.

Figure 1-3: Aerial showing the addendum study area.



## **1.6 RELEVANT LEGISLATION**

OzArk 2022b and OzArk 2023 contain details of the legislative requirements pertaining to Aboriginal cultural heritage and historic heritage.

## **1.7 DATE OF ARCHAEOLOGICAL ASSESSMENT**

The field survey was undertaken by OzArk on 29 and 30 June 2023.

## **1.8 OZARK INVOLVEMENT**

### **1.8.1 Field survey**

The fieldwork survey was undertaken by:

- Fieldwork Director: Brendan Fisher (OzArk Archaeologist, BA Archaeology, The University of Sydney)
- Archaeologist: Jordan Henshaw (OzArk Archaeologist, Bachelor of Ancient History Macquarie University).

### **1.8.2 Reporting**

The reporting component of the heritage assessment was undertaken by:

- Report author: Brendan Fisher
- Reviewer: Ben Churcher (OzArk Principal Archaeologist, BA [Hons] University of Queensland, Dip Ed, University of Sydney).



## 2 ABORIGINAL CULTURAL HERITAGE ASSESSMENT

### 2.1 ASSESSMENT APPROACH

The archaeological assessment followed the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010).

The Aboriginal cultural heritage assessment followed the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (the Guide; OEH 2011) and the *Aboriginal cultural heritage consultation requirements for proponents* (ACHCRs) (DECCW 2010b).

### 2.2 PURPOSE AND OBJECTIVES

The purpose of this study is to identify and assess heritage constraints relevant to the proposed works.

The study will apply the Code of Practice, the Guide, and the ACHCRs in the completion of the Aboriginal cultural heritage assessment to meet the following objectives:

**Objective One:** Undertake background research on the addendum study area to formulate a predicative model for site location within the addendum study area

**Objective Two:** Identify and record Aboriginal cultural heritage values within the addendum study area. This includes intangible cultural values, Aboriginal objects, and any landforms likely to contain further archaeological deposits

**Objective Three:** To assess the significance of any recorded Aboriginal cultural values, Aboriginal objects, or sites in consultation with Registered Aboriginal Parties (RAPs)

**Objective Four:** Assess the likely impacts of the proposed work to Aboriginal cultural heritage values and provide management recommendations.

### 2.3 REPORT COMPLIANCE WITH THE CODE OF PRACTICE

The Code of Practice establishes requirements that should be followed by all archaeological investigations where harm to Aboriginal objects may be possible. **Table 2-1** tabulates the compliance of this report with the requirements established by the Code of Practice.

**Table 2-1: Report compliance with the Code of Practice.**

Code of Practice Requirement	Context of the Requirement	Concordance in this report
Requirement 1a	Review previous archaeological work	<b>Section 2.6</b>
Requirement 1b	Review AHIMS searches	<b>Section 2.6.2</b>
Requirement 2	Review the landscape context	<b>Section 2.5</b>
Requirement 3	Summarise and discuss the local and regional character of Aboriginal land use and its material traces	<b>Section 2.6</b>
Requirement 4a	Develop predictive model	<b>Section 2.7</b>

Code of Practice Requirement	Context of the Requirement	Concordance in this report
Requirement 4b	Present predictive model results	<b>Section 2.7.3</b>
Requirement 5a	Archaeological survey sampling strategy	<b>Section 3.1</b>
Requirement 5b	Archaeological survey requirements	This Requirement was fulfilled during the undertaking of the survey
Requirement 5c	Archaeological survey units	<b>Section 3.3</b>
Requirement 6	Site definition	<b>Section 2.7.1</b>
Requirement 7a	Site recording information to be recorded	All sites were recorded in accordance with this requirement
Requirement 7b	Site recording: scales for photography	All artefact photographs employed a centimetre scale bar.
Requirement 8a	Geospatial information	All artefact locations were logged using a non-differential handheld GPS.
Requirement 8b	Datum and grid coordinates	All coordinates are provided in GDA Zone 55.
Requirement 9	Record survey coverage data	<b>Section 3.1</b> and <b>Section 3.7</b>
Requirement 10	Analyse survey coverage	<b>Section 3.3</b>
Requirement 11	Archaeological Report content and format	This report adheres to this Requirement.
Requirement 12	Records	OzArk undertakes to maintain all survey records for at least five years.
Requirement 13a	Notifying Heritage NSW of breaches	Not applicable
Requirement 13b	Providing Heritage NSW with information	Not applicable
Requirement 14	Test excavation which is not excluded from the definition of harm	Not applicable as test excavation did not take place in the addendum study area.
Requirement 15a	Consultation regarding test excavation	Not applicable
Requirement 15b	Developing a test excavation sampling strategy	Not applicable
Requirement 15c	Providing Heritage NSW with notification of the test excavation	Not applicable
Requirement 16a	Test excavation that can be carried out in accordance with the Code of Practice	Not applicable
Requirement 16b	Objects recovered during test excavations	Not applicable
Requirement 17	When to stop test excavations	Not applicable
Requirement 18–20	Artefact recording	The procedures for artefact recording were adhered to during the investigation.

## 2.4 ABORIGINAL COMMUNITY CONSULTATION

The Aboriginal cultural heritage assessment of the proposal has followed the ACHCRs (DECCW 2010b). The ACHCRs were initiated for the project and have been followed for the addendum assessment (**Appendix 1 Figure 1**). Further details on Aboriginal community consultation are found in OzArk 2023.

The following groups or individuals comprise the RAPs for the project and the addendum proposal:

- Paul Brydon
- Woka Aboriginal Corporation

- Mudgee Local Aboriginal Land Council (LALC)
- Murong Gialinga Aboriginal & Torres Strait Islander Corporation
- Warrabinga Native Title Claimants Aboriginal Corporation
- Wellington Valley Wiradjuri Aboriginal Corporation (WVWAC)
- Stakeholder 1 (name withheld on request)
- North-Eastern Wiradjuri
- Gallangabang Aboriginal Corporation.

A log and copies of correspondence with Aboriginal community stakeholders regarding the project and its results is presented in Section 3 and Appendix 1 of the ACHAR (OzArk 2023).

To inform RAPs of the required additional survey, a project update letter was sent to all RAPs on 21 June 2023 (**Appendix 1 Figure 2**). Three RAPs responded to the update letter, the Woka Aboriginal Corporation, Paul Brydon, and the WVWAC. None of the responses noted any concerns with the proposed additional survey. **Table 2-2** summarises the responses received in relation to the update letter.

**Table 2-2: Summary of RAP feedback on the project update.**

RAP	Response
Woka Aboriginal Corporation	Requested to apply for fieldwork
Paul Brydon	Provided thanks for update letter
WVWAC	Provided context on additional Aboriginal sites recorded by EMM near the addendum study area for the Central West Orana REZ transmission project

On 22 June 2023, invitations were sent to Mudgee LALC and Warrabinga Native Title Claimants Aboriginal Corporation to participate in the field survey. On 26 June 2023, OzArk received a response from Warrabinga Native Title Claimants Aboriginal Corporation advising that they were unable to participate in the survey and requested to be kept informed of the report (**Appendix 1 Figure 3**). The position for the survey was subsequently offered to WVWAC.

The draft addendum ACHAR was sent to all RAPs on 11 August 2023 with a closing date of 25 August 2023 (**Appendix 1 Figure 4**). Four RAPs responded to the update letter (**Appendix 1 Figure 5**). **Table 2-3** details the responses received in relation to draft ACHAR.

**Table 2-3: Summary of RAP feedback on the draft ACHAR.**

RAP	Response
Woka Aboriginal Corporation	<i>"We agree with draft"</i>
Paul Brydon	<i>"Alls well with me regarding Birriwa solar Farm – Midnight"</i>
WVWAC	<i>"WVWAC do not have any objections nor additional comments or recommendations relating to the Birriwa Solar Farm - Draft Addendum ACHAR"</i>
Stakeholder 1	<i>"We have read the draft report Aboriginal Cultural Heritage Assessment for the Birriwa Solar &amp;</i>

RAP	Response
	<i>battery project prepared by Ozark and I make the following comments with respect to the contents of the report and the likely impact of the proposal on Aboriginal Objects and values. We do not see any issues with the draft report and have no questions nor information to add at this stage"</i>

#### 2.4.1 ACEN Australia Pty Ltd consultation with the RAPs

During the consultation period the proponent has received two queries from RAPs as a result of the update letter and summaries of the correspondence are provided in **Table 2-4**.

**Table 2-4: ACEN consultation with the RAPs.**

Date	Consultation
Friday 23 June	The proponent received a call from a RAP that wishes to remain anonymous. This RAP advised me they received correspondence from OzArk about ACEN Australia's proposed temporary worker's accommodation. The caller wanted to know when there will be an opportunity to tender for work on the camp. The proponent advised the RAP that the camp was still in a very early stage of planning.
Wednesday 28 June	The proponent received a call from Warrabinga Native Title Claimants Aboriginal Corporation (regarding Stubbo Solar, Narragamba Solar, Birriwa Solar RAPs), wanting to know if there are any cultural heritage activities / EOIs on ACEN Australia's projects they should be aware of. The proponent advised that there are no upcoming construction activities for Narragamba Solar or Birriwa Solar. The proponent suggested they reach out to OzArk directly regarding survey for the Birriwa Solar <sup>1</sup> .

#### 2.4.2 Cultural values identified throughout the ACHCR process

With regards to cultural values associated with the addendum study area and surrounds, the WVVAC noted the following during the consultation for OzArk 2023:

- All Aboriginal objects are culturally significant to Wiradjuri people
- Mapping of Aboriginal objects can allow for greater understanding of social and cultural use of the land i.e. seasonal and / or generational use and provides insight into interactions between surrounding Clan and Nations
- Barney's Reef is a culturally important location and is close by with several other natural features relating to the Dreamtime, only Traditional Owner Clan Descendants hold this knowledge
- Clan and cultural connections, Lore, Song lines and the Dreamtime are all associated with the addendum study area.

### 2.5 LANDSCAPE CONTEXT

An understanding of the environmental context of a study area is requisite in any Aboriginal archaeological investigation (DECCW 2010). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. In addition, natural geomorphic processes of erosion and/or deposition, as well as human-activated landscape processes, influence the degree to which the remains of material culture are retained

<sup>1</sup> OzArk did not receive any correspondence from Warrabinga Native Title Claimants Aboriginal Corporation following their discussion with the proponent. Warrabinga Native Title Claimants Aboriginal Corporation previously advised OzArk on 26 June 2023 that they were able to attend the survey and requested to be informed on the report.

in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings.

### **2.5.1 Topography and hydrology**

The addendum study area is primarily situated on a gentle slope, which is susceptible to water wash erosion.

The eroded headwaters of a tributary to a minor, unnamed waterway are in the south of the addendum study area. The ephemeral tributary flows 2.8 km to the northeast where it joins a larger unnamed waterway. In the region of the addendum study area, it is probable that this ephemeral tributary was not a visible drainage feature prior to land clearing and the resulting water wash erosion that led to soil loss and the channelisation of waterways.

As such, in terms of Aboriginal site distribution, the addendum study area did not provide standing water and would not have been a favourable location for long-term camping.

The moderate gradient landforms elsewhere in the addendum study area would not have impeded movement across the landscape but nor are there any topographic features that would have attracted visitation or use by Aboriginal people.

### **2.5.2 Geology and soils**

Soil analysis has important ramifications for archaeological research through the potential impact of different soils on human activity (such as agricultural exploitation) and the impact of the soils on archaeological evidence (such as post-depositional movement).

The geology of the addendum study area is predominately undulating hills and low hills with granite outcropping as tors and sloping pavements, which features Gulgong Granite, biotite granite, adamellite, and granodiorite (Murphy and Lawrie 1998).

The addendum study area mostly consists of siliceous sands and earthy sands, which tend to be a brown to light brown loamy sand with small quartz and feldspar gravels within the matrix. The subsoil tends to be a bright brown to red-brown loose clayey-sand, with small quartz and feldspar gravels. These types of soil are prone to erosion, especially if no surface cover is present. Furthermore, drainage depressions are highly susceptible to gully erosion due to water runoff (Murphy and Lawrie 1998).

### **2.5.3 Vegetation**

Most of the addendum study area has been cleared of vegetation, except for one tree in the northern portion. The area surrounding the addendum study area where vegetation has not been completely cleared, particularly two clusters of mature native trees to the north of the proposed temporary worker's camp, most likely consist of ironbark species, yellow box, red gum, red stringy

bark, or apple box. These tree species are the dominant species within the Goonoo Slopes and Cope Hill Granites landscape units as outlined by Mitchell (2002), both of which overlap the addendum study area.

#### **2.5.4 Land use history and existing levels of disturbance**

The portion of the addendum study area that includes the proposed temporary worker's camp and internal access track has primarily been used for agricultural grazing. The significant effects of agricultural grazing on the land, particularly on hydrology and soil loss, can be seen on **Figure 2-1**. When comparing the aerial imagery on **Figure 1-3** and **Figure 2-1** (modern and 1964 aerial respectively), the ephemeral drainage line to the south of the temporary worker's camp has experienced significant levels of erosion. This level of soil loss is most likely the result of agricultural runoff, which has likely displaced any remnant artefacts and completely disturbed any potential subsurface deposits.

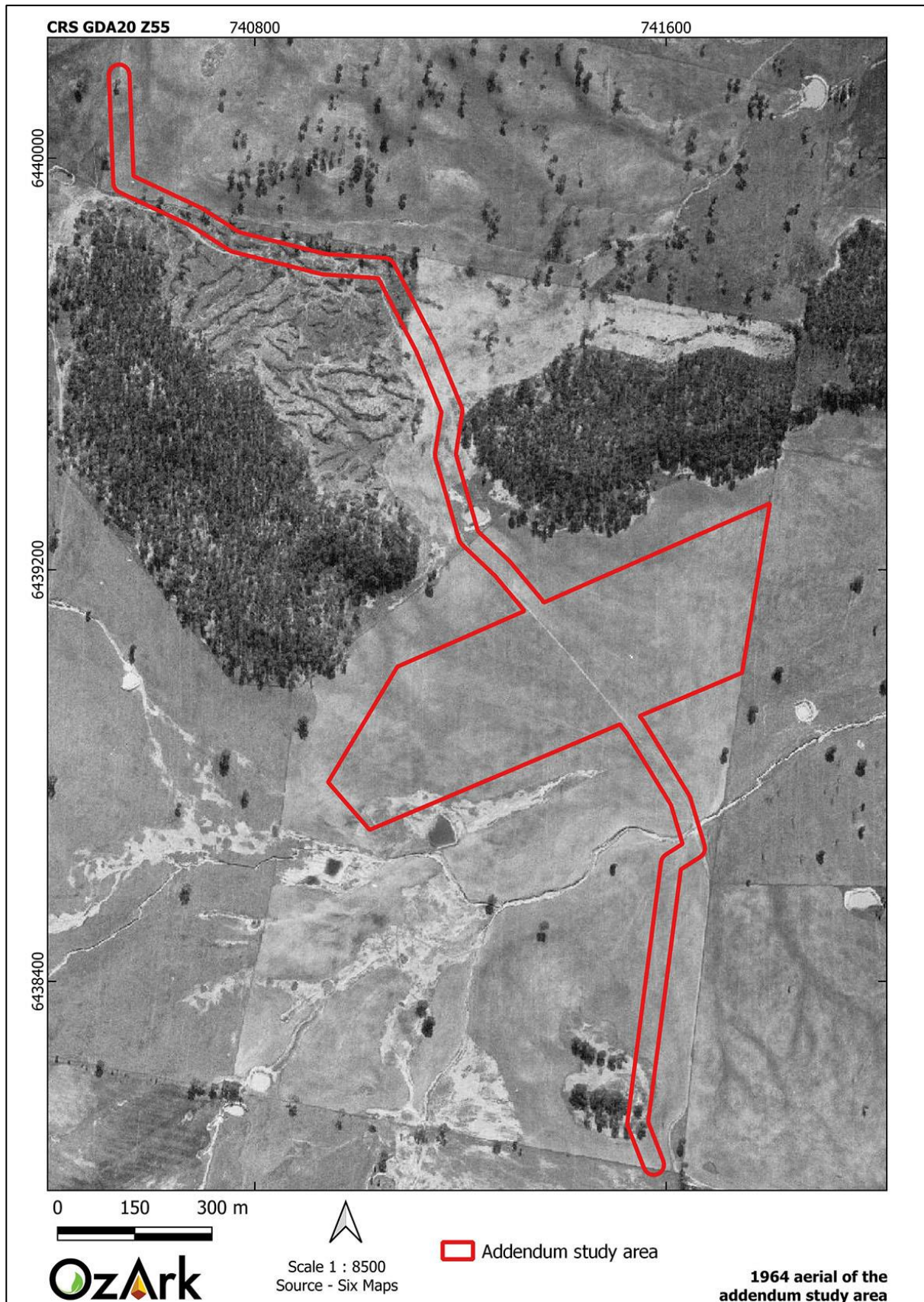
In the north of the addendum study area the ground disturbing impacts of tree clearing can be seen on **Figure 2-1**. It is assumed that the entire addendum study area north of the proposed temporary worker's camp has been similarly impacted by successive tree clearing programs.

#### **2.5.5 Conclusion**

The gentle slopes of the addendum study area would have been hospitable for Aboriginal people in the past. The ephemeral tributary in the south of the addendum study area would not have held water prior to British settlement and therefore would not have attracted Aboriginal people to the area for camping activities. The addendum study area may have been utilised as a travel path towards larger drainage systems, such as the Talbragar River, and would have been used for foraging activities.



Figure 2-1: 1964 aerial of the study area.



## 2.6 ARCHAEOLOGICAL CONTEXT

### 2.6.1 Ethno-historic sources of regional Aboriginal culture

At the time of British settlement, the addendum study area was situated within the territory of people belonging to the *Wiradjuri* tribal and linguistic group (Tindale 1974). The addendum study area is at the north-eastern extent of Wiradjuri territory.

Oral tradition records the presence of over 20 clans within the broader Bathurst–Mudgee region, organised according to matrilineal descent (Navin Officer 2005:48). Clans were made up of several fairly independent groups, of up to 20 members, in friendly contact with each other, moving separately for much of the year over a shared territory (Pearson 1981; Haglund 1985).

### 2.6.2 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any previously recorded heritage within the addendum study area. The results of this search are summarised in **Table 2-5** and presented in detail in **Appendix 1**.

**Table 2-5: Aboriginal cultural heritage: desktop-database search results.**

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	26/6/23	Central West LGA	No places listed on either the National or Commonwealth heritage lists are located within the addendum study area
National Native Title Claims Search	26/6/23	NSW	One Native Title Claim covers the addendum study area: Warrabinga-Wiradjuri #7 (NC2018/002, NSD857/2017).
AHIMS	20/6/23	10 x 10 km centred on the addendum study area	100 sites within the search area.
Local Environmental Plan (LEP)	26/6/23	Mid-Western Regional LEP of 2013	None of the Aboriginal places noted occur near the addendum study area.

A search of the AHIMS database returned 100 records for Aboriginal heritage sites within the designated search area (**Table 2-6**). **Figure 2-2** shows the location of the AHIMS sites that have been recorded near the addendum study area.

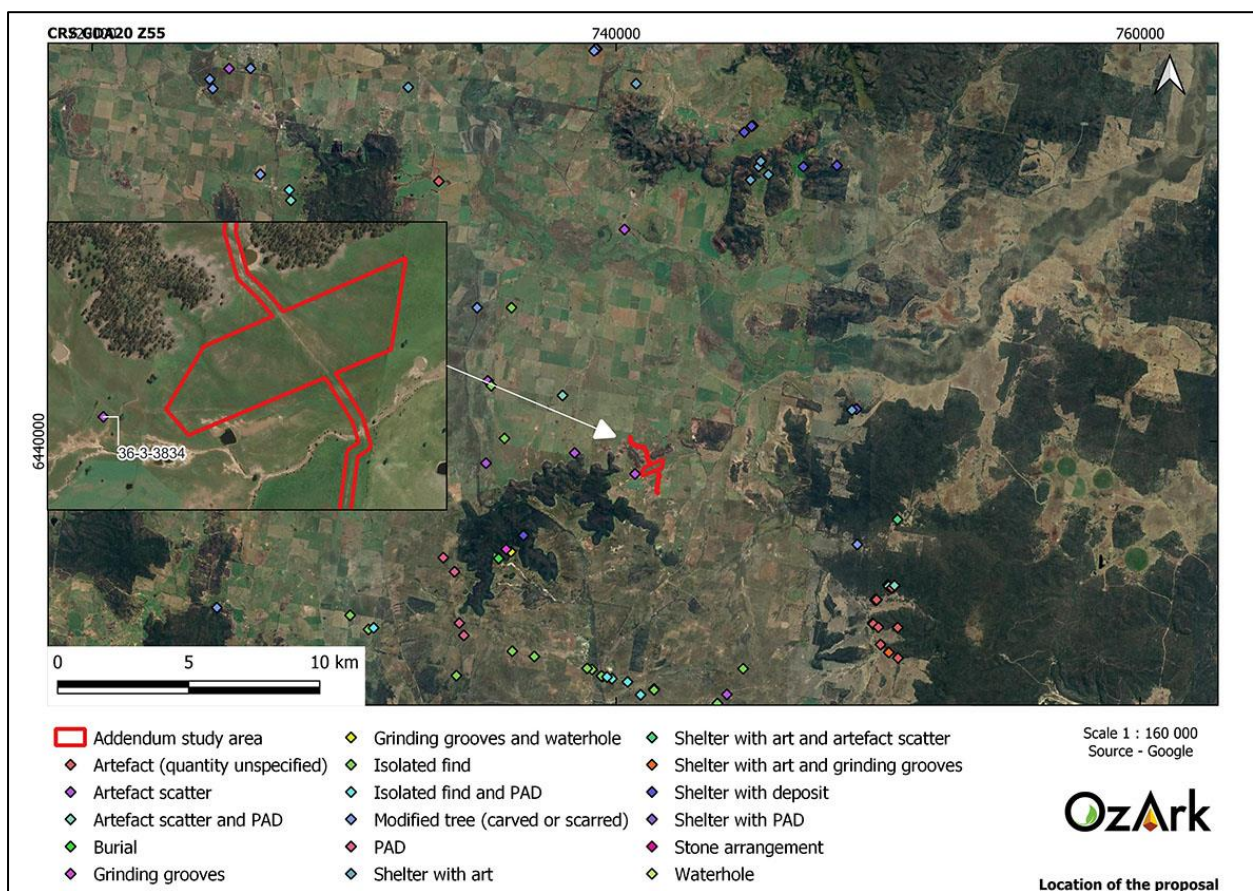
**Table 2-6: Site types and frequencies of AHIMS sites near the addendum study area.**

Site Type	Number	% Frequency
Isolated find	19	19
Artefact scatter	13	13
Artefact (quantity unspecified)	12	12
Modified tree (carved or scarred)	11	11
Artefact scatter and PAD	9	9
Isolated find and PAD	7	7
Shelter with art	7	7
Shelter with deposit	7	7



Site Type	Number	% Frequency
PAD	5	5
Grinding grooves	2	2
Burial	2	2
Grinding grooves and waterhole	1	1
Shelter with art and artefact scatter	1	1
Shelter with art and grinding grooves	1	1
Shelter PAD	1	1
Stone arrangement	1	1
Waterhole	1	1
<b>Total</b>	<b>100</b>	<b>100</b>

Figure 2-2: Location of previously recorded AHIMS sites in relation to the addendum study area.



### 2.6.3 Local archaeological context

OzArk 2023 provides an archaeological context for the project and presents further summaries of archaeological investigations in the area.

#### 2.6.3.1 Birriwa Solar and Battery project

OzArk (2023) conducted an archaeological assessment for the project that partially includes the northern portion of the addendum study area. The project development footprint as assessed in the EIS consisted of approximately 1,298 ha across multiple lots. The survey area includes a

portion of the addendum study area, as well as the portions of Barneys Reef Road and parts of Birriwa Bus Route South. The survey resulted in eight Aboriginal sites being recorded, three of them being located outside of the proposed development footprint for the project. Site types include one scarred tree; two isolated finds; four artefact scatters, and one artefact scatter with PAD.

The assessment concluded that the survey results were consistent with the model predicting artefact scatters, isolated finds and scarred tree would be the most common site types to be recorded. The stone artefact sites recorded during the survey are representative of sites recorded in the region. The dominant raw material within the survey area is quartz, with small quantities of basalt, quartzite, silcrete, mudstone and volcanic materials. The most frequent type of artefact recorded during the survey were flakes, with most flakes being complete but showing no signs of retouch or use wear. Most newly recorded sites in the project study area are within 200 m of ephemeral drainage lines.

### ***2.6.3.2 Previous studies near the addendum study area***

Several recent investigations for renewable energy projects in the area allow the archaeological context of the addendum study area to be understood.

#### **Liverpool Range Wind Farm – Stage 1 (NSW Archaeology 2014)**

In 2014, NSW Archaeology conducted investigations for the Liverpool Range Wind Farm Stage 1, located to the east of Coolah. Seven Aboriginal sites were recorded during the field survey. The results from the wind farm portion of the study area recorded a very low artefact density including isolated artefacts at LU6/L1 and LU30/L1, and a low-density artefact scatter of two stone artefacts at site LU10/L1. Within the overhead transmission line portion of the study area, sites included TL LU1/L1 (three stone artefacts in an undulating crest landform); TL LU2/L1 (ten stone artefacts on the northern side of a crest with a gentle gradient); TL LU2/L2 (small rockshelter with PAD); and TL LU2/L3 (three artefacts adjacent to a creek). It was noted that artefact densities increased in the landforms comprising the overhead transmission line which was generally at a lower elevation than the wind farm location. The dominant materials identified at the recorded sites was quartz. Smaller quantities of chert, tuff, and a volcanic material were recorded.

#### **Beryl Solar Farm (NGH Environmental 2017)**

An Aboriginal cultural heritage assessment for the Beryl Solar Farm was conducted by NGH Environmental in 2017. The Beryl Solar Farm study area consisted of 332 ha of low undulating slopes surrounding two ephemeral drainage channels. Five sites were identified during the survey, three of which were located close to Wialdra Creek near the Castlereagh River.

The assessment concluded that the survey results were consistent with the model predicting site location close to waterways, and that there was negligible potential for intact subsurface deposits

with high densities of objects or cultural materials. The low level of topographic variation across the Beryl study area led to a generic predictive model that has limited applicability to the current study area. However, the survey did record uncommon site types, including an axe blank and a ground-edge axe, despite the small number of identified sites.

#### Stubbo Solar and Battery project (OzArk 2020 and 2021)

OzArk conducted an archaeological assessment for the Stubbo Solar and Battery project located 6 km south of the addendum study area. The assessment resulted in 23 Aboriginal sites being recorded, and two previously recorded AHIMS sites located. The 25 Aboriginal sites inside the study area consist of nine isolated finds, three isolated finds with potential archaeological deposits (PADs), two artefact scatters, nine artefact scatters with PADs, one PAD, and one modified tree.

The assessment concluded:

- In total, 309 stone artefacts were recorded during the survey. The predominate material for stone artefacts was quartz (n=246, 79.6%), followed by chert (n=22, 7.1%), mudstone (n=16, 5.2%), and volcanics (n=13, 4.2%). Also present though in much lower quantities were silcrete, petrified wood, greywacke, and chalcedony
- The most frequent type of stone artefact is flakes (n=240, 79.6%), shatter (n=36, 11.7%), cores (n=12, 3.9%), blades (n=9, 2.9%) and backed blades (n=5, 1.6%). Also present in the overall assemblage are end scrapers (n=2), flaked pieces (n=2), ground edge hatchet heads (n=2), and a microlith (n=1)
- Most sites were recorded in the 'drainage' landforms along Stubbo Creek or the two main tributaries northwest and southwest of Stubbo Creek.
- The larger and higher-density sites are located at the confluence of Stubbo Creek and the two tributaries or further southwest along Stubbo Creek after the confluence
- The artefact sites (scatters and isolated finds) are located predominately in erosion scalds on the edges of elevated terraces, indicating there is potential for subsurface archaeological deposits where the terrace still has topsoil and A-horizon soils present.

The assessment also concluded that the highest areas of archaeological sensitivity remain along the main watercourses (Stubbo Creek and its tributaries), which would have provided at least a semi-permanent source of water in the area. The remainder of the Stubbo Solar and Battery project assessment area, especially the higher to mid slopes have a much lesser degree of archaeological sensitivity. The ridgelines and crests of the low-lying rolling hills were also less sensitive for archaeological sites than the landforms immediately adjacent to the main watercourses.

An addendum assessment for the external access tracks to Stubbo Solar and Battery project was undertaken by OzArk in 2021. The addendum assessment covered two eastern access easements, one western access easement and the extent of the Blue Spring Road between its

intersection with Cope Road to where the eastern access easements intersect with the road. No Aboriginal sites were recorded during the addendum assessment.

#### Valley of the Winds Wind project (OzArk 2022a)

OzArk (2022a) undertook an archaeological assessment for the Valley of the Winds project located 10 km north of the addendum study area. The wind project site encompasses approximately 22,924 ha of land (excluding the overhead transmission line connecting to the Central-West Orana REZ transmission line being developed by EnergyCo). Five previously unrecorded Aboriginal sites were identified during the survey. These sites included one low-density artefact scatter; two low-density artefact scatters with PAD; one quarry site incorporating an artefact scatter and PAD; and one isolated find.

The assessment also concluded that all sites were recorded in lower gradient undulating landforms less than 10 degrees, with only one exception was recorded in the crest/ridgeline landforms. The outcropping quartzite recorded at the recorded quarry site provided a suitable stone resource for procurement and manufacture. However, except the recorded quarry site, artefacts identified at all other sites were mostly manufactured from quartz, chert and silcrete. Therefore, the implication is that most of the raw material for tool manufacture was transported into the area.

#### **2.6.3.3 Conclusion**

These archaeological investigations indicate that:

1. Though shelters are a prevalent site type in the general region, these tend to be located near mountainous areas where the necessary geological formations (i.e. sandstone overhangs) are present
2. Site frequency and density are dependent on their location in the landscape and nearby resources. This theme is consistent throughout NSW and is influenced by a range of factors, the most relevant of which is the existing level of disturbance
3. The highest concentration of stone artefact sites (isolated finds and artefact scatters) is found within 200 m of named watercourses and 30 m of unnamed drainage lines
4. The AHIMS data does not provide an accurate representation of past settlement strategies as most recordings are either ad hoc or because of development driven studies
5. Few scarred trees are recorded, reflecting the high degree of tree clearing in the region
6. Quartz is the predominant material for stone artefacts in the area, although volcanic materials, silcrete, quartzite, mudstone, chert, and chalcedony could also be present
7. Artefact assemblages recorded in the region consist largely of unmodified flakes with few formal tools.

## 2.7 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including plant and animal foods, stone and ochre resources and rock shelters, as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently, sites tend to be found along permanent and ephemeral water sources, along access or trade routes, or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally, it is the more durable materials such as stone artefacts, stone hearths, shells, and some bones that remain preserved in the current landscape. Even these, however, may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport, both over short- and long-time scales, or (b) the historical impacts associated with the introduction of European farming practices including grazing and cropping, land degradation, and farm related infrastructure. Scarred trees, due to their nature, may survive for up to several hundred years but rarely beyond.

### 2.7.1 Site types in the region of the addendum study area

There is a range of site types in the region of the addendum study area as is illustrated in the AHIMS search undertaken. This search returned sites ranging from stone arrangements and shelter sites to modified trees and artefact sites. Given the landscape of the addendum study area, many of these site types will not be present. For example, the lack of rock outcropping removes the potential for shelter sites and the near total clearance of trees largely excludes modified trees. The lack of suitable landforms and the long history of grazing means it is very unlikely that burials or stone arrangements will be present.

The site types listed in **Table 2-7** have potential to be recorded in the addendum study area. **Table 2-7** provides a definition of these site types and **Table 2-9** assesses their likelihood of being present in the addendum study area.

**Table 2-7: Site types recorded in the region of the addendum study area.**

Site type	Site description
Isolated finds	May be indicative of random loss or deliberate discard of a single artefact, the remnant of a now dispersed and disturbed artefact scatter, or an otherwise obscured or subsurface artefact scatter. They may occur anywhere within the landscape but are more likely to occur in topographies where open artefact scatters typically occur.



Site type	Site description
Open artefact scatters	<p>Artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 m away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short- or long-term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools but may also include other artefactual rock types such as hearth and anvil stones. Less commonly, artefact scatters may include archaeological stratigraphic features such as hearths and artefact concentrations which relate to activity areas. Artefact density can vary considerably between and across individual sites. Small ground exposures revealing low density scatters may be indicative of a background scatter rather than a spatially or temporally distinct artefact assemblage. These sites are classed as 'open', that is, occurring on the land surface unprotected by rock overhangs, and are sometimes referred to as 'open camp sites'.</p> <p>Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources.</p> <p>Topographies which afford effective through-access across, and relative to, the surrounding landscape, such as the open basal valley slopes and the valleys of creeks, will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.</p>

### 2.7.2 Landform modelling of archaeological potential

Preliminary landform mapping (**Figure 1-3**) shows that the study area is intersected by an ephemeral drainage line, and that the topography is predominantly composed of gentle slopes, with the highest point in the northern portion of the addendum study area.

In the region, artefact sites are recorded near waterways and along flat or gentle sloping landforms. While gentle sloping landforms are present in the addendum study area, there is no access to water. The ephemeral tributary now present in the addendum study area is unlikely to have been a drainage feature prior to British settlement, or if there was a drainage feature present, it is at the headwaters of the catchment and would not have retained water for long periods. Therefore, this drainage feature is unlikely to have attracted activities such as long-term camping.

Previous findings from archaeological investigations in the region indicate that isolated artefacts or low-density artefact scatters would be the most common site type to be present. However, if these site types are present, they would most likely be in a secondary context, as the artefacts are likely to have been displaced by water wash erosion and other agricultural disturbances.

### 2.7.3 Conclusion

Based on knowledge of the environmental contexts of the addendum study area and a desktop review of the known local and regional archaeological record, the following predictions are made concerning the probability of landforms within the addendum study area to contain Aboriginal objects (**Table 2-8**), and what types of sites may be present within the addendum study area (**Table 2-9**).

**Table 2-8: Likelihood of landforms within the addendum study area to contain Aboriginal objects.**

Survey Unit	Landform type	Likelihood to contain Aboriginal objects
1	Gentle slopes	Slopes are a degrading landform, especially in the addendum study area where vegetation removal has accelerated soil loss. Given the slopes in the addendum study area consist of gentle gradients they are still suitable for occupation and often favoured as they are more elevated, however, when distant to a good supply of water they are less likely to have been occupied. It is not considered that the waterway in the addendum study area would have attracted activities, such as camping, that are likely to leave an archaeological signature.

**Table 2-9: Likelihood of certain site types being present in the addendum study area.**

Site type	Likelihood of being present in the addendum study area
Isolated finds	As isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the addendum study area.
Open artefact scatters	Stone artefact distributions of variable artefact densities are some of the most common Aboriginal object found within the region. A general correlation between landform and the nature of the evidence of past Aboriginal occupation is evident. Higher artefact density sites are located on elevated landforms adjacent to waterways. As the addendum study area intersects a drainage line, although ephemeral, regional studies show that low-density artefact scatters could be recorded along these ephemeral drainage lines.

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## 3 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

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### 3.1 SAMPLING STRATEGY AND FIELD METHODS

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004).

It should be noted that the aim of any archaeological survey is not to locate each artefact in a landscape but to undertake investigations so that the archaeological potential and archaeological characteristics of all landforms within the addendum study area are known. Therefore, the aims of the survey were to:

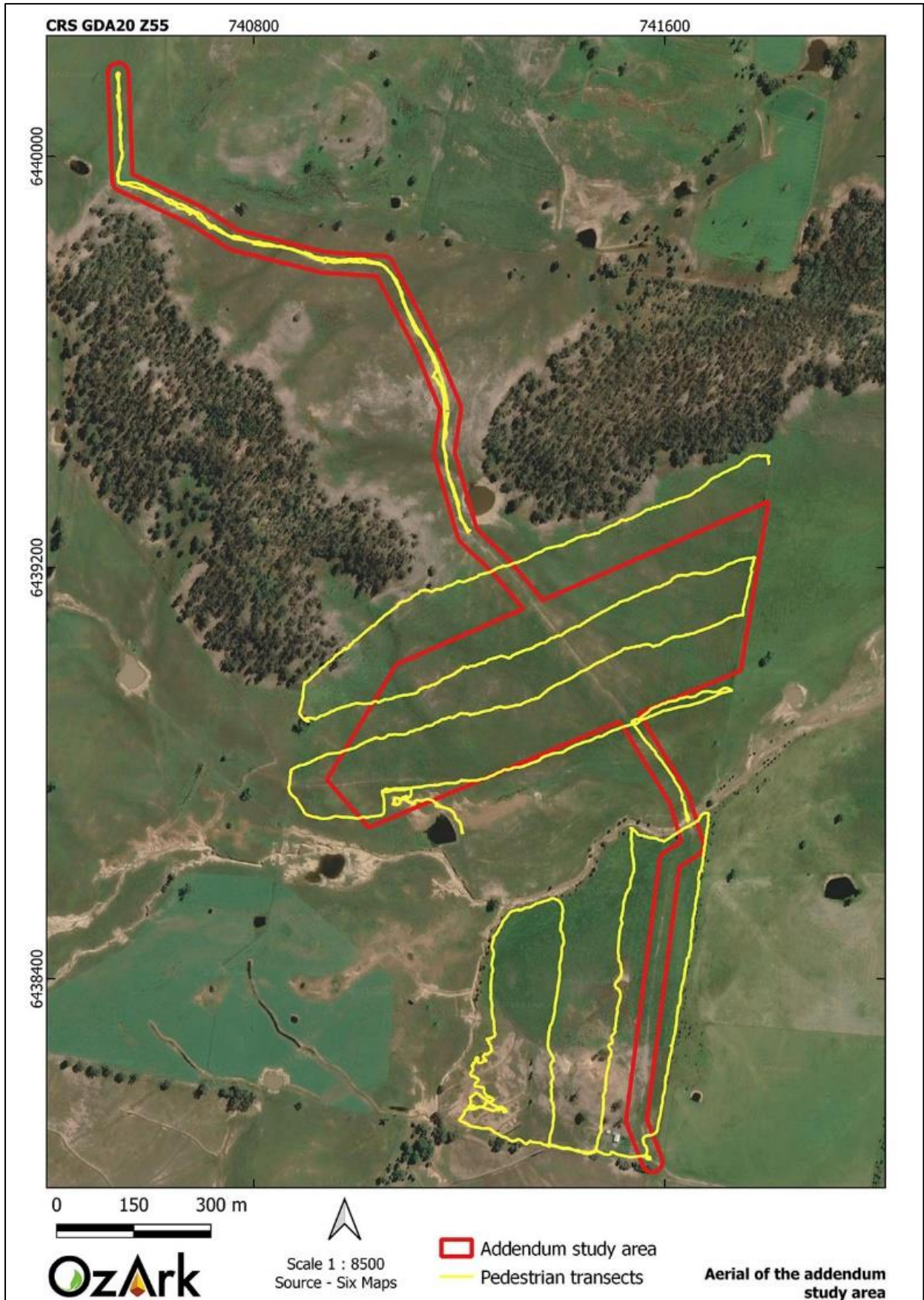
1. Conduct pedestrian transects to sample across all landforms in the addendum study area so that their archaeological potential could be determined.
2. Evaluate whether the predictive model set out in **Section 2.7** is valid.
3. Determine if any portions of the addendum study area require test excavation to understand the archaeological potential at a particular location.

**Figure 3-1** shows the survey tracks of the OzArk archaeologist during the survey. The OzArk archaeologist was accompanied by a second archaeologist and two Aboriginal site officers.

A larger area of land was assessed towards the south of the assessment study area to survey an optional location of a temporary worker's camp that was not decided on over the proposed location of the temporary worker's camp further north.



Figure 3-1: Pedestrian coverage of the addendum study area.





### 3.2 PROJECT CONSTRAINTS

The main constraint during the survey was poor ground surface visibility (GSV) across most of the addendum study area. **Figure 3-2** shows examples of GSV within the addendum study area.

**Figure 3-2: Examples of GSV within the addendum study area.**

	
<p>1. View to the south of the addendum study area showing the thick ground cover.</p>	<p>2. View of the 0% GSV.</p>
	
<p>3. View to the north of the addendum study area showing the thick ground cover.</p>	<p>4. View of the 0% GSV.</p>

### 3.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are GSV and ground surface exposure (GSE). These factors are quantified to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice.

GSV is defined as:

*... the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a*

reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (DECCW 2010:39).

GSE is defined as:

... different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010:37).

**Table 3-1** calculates the effective survey coverage within the addendum study area. Note that these calculations are for the addendum study area not the wider landform that was surveyed.

In general, **Table 3-1** presents an approximation of the amount of ground surface able to be seen at any location within specific landform units. For example, at any one location within the addendum study area, approximately 0.5% of the ground surface could be seen. Exposures within the addendum study area were generally confined to the farm track or edges of the ephemeral drainage line.

**Table 3-1: Effective survey coverage within the addendum study area.**

Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m)	Effective Coverage %
Gentle slopes	330628	10	5	1653	0.5%

**Table 3-2** demonstrates that the survey efficacy may have contributed to the lack of site recordings. However, it is assessed that the landforms having a very low archaeological potential also contributed to the small number of Aboriginal objects in the addendum study area. The addendum study area is also relatively small in area, and this lessens the probability of the survey intersecting with Aboriginal objects and sites.

**Table 3-2: Incidence of site recording within the addendum study area.**

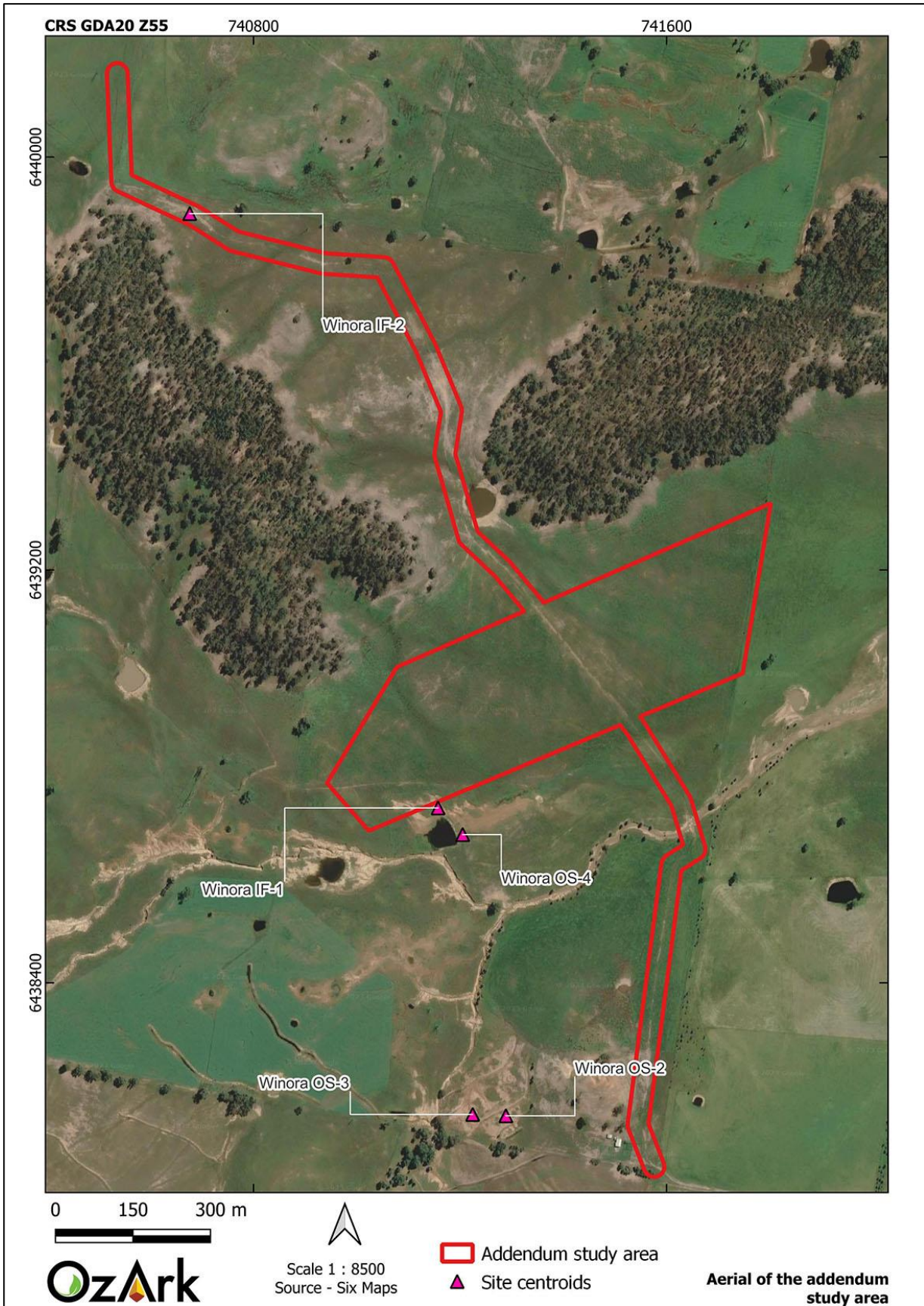
Landform	Landform area (sq m)	Area Effectively Surveyed (sq m)	% of Landform Effectively Surveyed	Number of Sites	Number of Artefacts or Features
Gentle slopes	330628	1653	0.5%	1	1

### 3.4 ABORIGINAL SITES RECORDED

**Table 3-3** summarises the Aboriginal cultural heritage sites recorded during the survey for the addendum study area. As the survey included an area larger than the addendum study area, only one of these sites is within the addendum study area. **Figure 3-3** shows the location of the recorded sites in relation to the addendum study area.



Figure 3-3: Location of recorded sites in relation to the addendum study area.



**Table 3-3: Aboriginal cultural heritage sites recorded during the survey.**

AHIMS ID	Site name	Site type	Coordinates (GDA Zone 55) East	Coordinates (GDA Zone 55) North
36-3-3913	Winora OS-2	Artefact scatter	741289	6438142
36-3-3914	Winora OS-3	Artefact scatter	741224	6438145
36-3-3915	Winora OS-4	Artefact scatter	741205	6438687
39-3-3916	Winora IF-1	Isolated find	741158	6438739
36-3-3917	Winora IF-2	Isolated find	740676	6439890

## Winora OS-2

**Site type:** Artefact scatter

**GPS coordinates:** 741289E / 6438142N

**Location of site:** Located on the Winora property within Lot 55 DP750755 (**Figure 3-3**), approximately 2.2 km south west of the intersection of Merotherie Road and Birkalla Road. The Birriwa Bus Route North and South intersection is 3.9 km north of the site.

**Description of site:** The site is comprised quartz flakes and shatter (**Table 3-4** and **Figure 3-4**) situated within a large erosion scald that has been disturbed by the construction of contour banks and water wash erosion. A sample of 20 artefacts were recorded, however, additional quartz artefacts were noted at the site. The high density of localised flakes at this site could be an isolated knapping event, however, due to the significant disturbances at the site, all artefacts have been displaced and are in secondary contexts.

**Table 3-4: Winora OS-2 artefact attributes.**

Artefact type	Raw material	Artefact integrity	Stage of reduction	Size (LxWxD) mm
Flake	Quartz	Complete	Tertiary	17x10x3
Flake	Quartz	Proximal fragment	Tertiary	12x20x5
Flake	Quartz	Complete	Tertiary	18x15x5
Flake	Quartz	Complete	Tertiary	20x20x5
Flake	Quartz	Complete	Tertiary	30x20x10
Flake	Quartz	Complete	Tertiary	30x20x7
Flake	Quartz	Complete	Tertiary	25x20x10
Flake	Quartz	Proximal fragment	Tertiary	20x12x5
Flake	Quartz	Complete	Tertiary	20x18x5
Flake	Quartz	Proximal fragment	Tertiary	18x18x10
Flake	Quartz	Proximal fragment	Tertiary	35x30x12
Flake	Quartz	Complete	Tertiary	20x20x6
Flake	Quartz	Complete	Tertiary	18x10x3
Flake	Quartz	Distal fragment	Tertiary	21x25x5
Flake	Quartz	Complete	Tertiary	25x25x12
Shatter	Quartz	N/A	Tertiary	15x12x5
Shatter	Quartz	N/A	Tertiary	8x7x3
Shatter	Quartz	N/A	Tertiary	11x14x4



Artefact type	Raw material	Artefact integrity	Stage of reduction	Size (LxWxD) mm
Shatter	Quartz	N/A	Tertiary	6x8x2
Shatter	Quartz	N/A	Tertiary	9x9x2

**Figure 3-4: Winora OS-2. View of site and selection of recorded artefacts.**



### Winora OS-3

**Site type:** Artefact scatter

**GPS coordinates:** 741224E / 6438145N

**Location of site:** Located on the Winora property within Lot 55 DP750755 (**Figure 3-3**), approximately 2.3 km south west of the intersection of Merotherie Road and Birkalla Road. The Birriwa Bus Route North and South intersection is 3.9 km north of the site.

**Description of site:** The site is comprised of four quartz flakes (**Table 3-5** and **Figure 3-5**) situated within a large erosion scald that has been disturbed by the construction of contour banks and water wash erosion. Soils consist of orange sandy loam with many gravel inclusions.



**Table 3-5: Winora OS-3 artefact attributes.**

Artefact type	Raw material	Artefact integrity	Stage of reduction	Size (LxWxD) mm
Flake	Quartz	Complete	Tertiary	30x25x7
Flake	Quartz	Distal fragment	Tertiary	15x10x2
Flake	Quartz	Complete	Tertiary	35x20x10
Flake	Quartz	Complete	Tertiary	25x20x10

**Figure 3-5: Winora OS-3. View of site and recorded artefacts.**

## Winora OS-4

**Site type:** Artefact scatter

**GPS coordinates:** 741205E / 6438687N

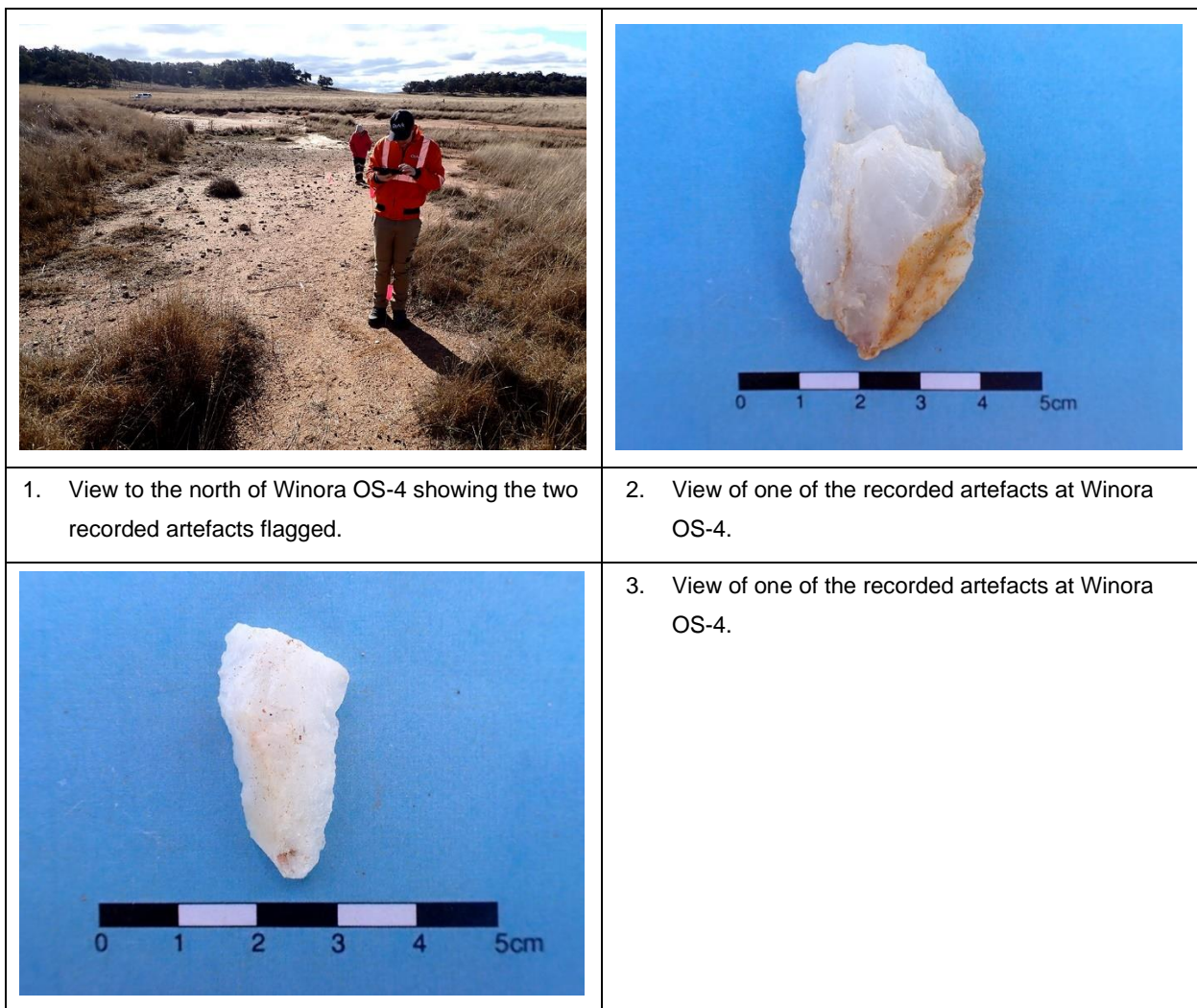
**Location of site:** Located on the Winora property within Lot 55 DP750755 (**Figure 3-3**), approximately 2.2 km west of the intersection of Merotherie Road and Birkalla Road. The Birriwa Bus Route North and South intersection is 3.4 km north of the site.

**Description of site:** The site consists of two quartz flakes (**Table 3-6** and **Figure 3-6**) situated in an erosion scald adjacent to an ephemeral drainage line. Soils consist of orange sand and the surrounding vegetation has been completely cleared historically.

**Table 3-6: Winora OS-4 artefact attributes.**

Artefact type	Raw material	Artefact integrity	Stage of reduction	Size (LxWxD) mm
Flake	Quartz	Complete	Tertiary	50x30x10
Flake	Quartz	Distal fragment	Tertiary	30x15x5

**Figure 3-6: Winora OS-4. View of site and recorded artefacts.**



## Winora IF-1

**Site type:** Isolated find

**GPS coordinates:** 741158E / 6438739N

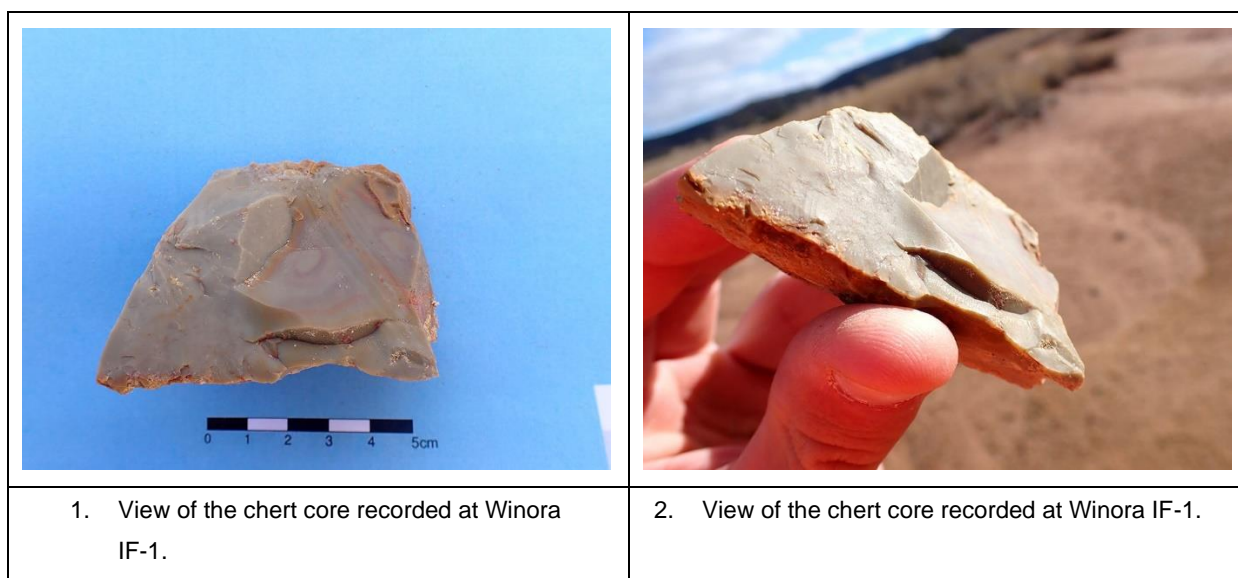
**Location of site:** Located on the Winora property within Lot 55 DP750755 (**Figure 3-3**), approximately 2.3 km west of the intersection of Merotherie Road and Birkalla Road. The Birriwa Bus Route North and South intersection is 3.3 km north of the site.

**Description of site:** The site consists of a secondary chert core (**Table 3-7** and **Figure 3-7**) situated in an erosion scald adjacent to an ephemeral drainage line. Soils consist of orange sand and the surrounding vegetation has been completely cleared historically.

**Table 3-7: Winora IF-1 artefact attributes.**

Artefact type	Raw material	Artefact integrity	Stage of reduction	Maximum size (mm)	Notes
Core	Chert	N/A	Secondary	60	Multidirectional, 4 flake scars, opportunistic

**Figure 3-7: Winora IF-1. View of site and recorded artefact.**





## Winora IF-2

**Site type:** Isolated find

**GPS coordinates:** 740676E / 6439890N

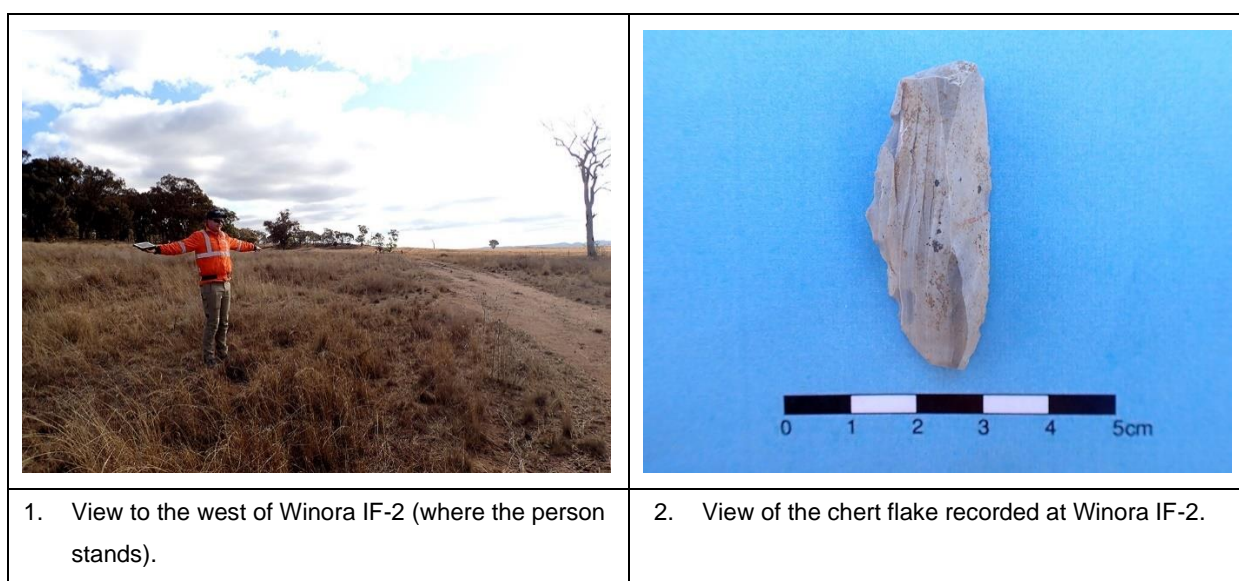
**Location of site:** Located on the Winora property within Lot 53 DP750755 (**Figure 3-3**), approximately 3.1 km north west of the intersection of Merotherie Road and Birkalla Road. The Birriwa Bus Route North and South intersection is 2.2 km north of the site.

**Description of site:** The site consists of a single grey chert flake (**Table 3-8** and **Figure 3-8**) situated approximately 5 m to the south of an existing farm track. The vegetation at the site has been cleared historically, and soils comprised of yellow/grey loamy sand.

**Table 3-8: Winora IF-2 artefact attributes.**

Artefact type	Raw material	Artefact integrity	Stage of reduction	Size (LxWxD) mm
Flake	Chert	Complete	Tertiary	42x17x8

**Figure 3-8: Winora IF-2. View of site and recorded artefact.**



### **3.5 ABORIGINAL COMMUNITY COMMENTS ON THE SURVEY**

No comments were received that altered the survey methodology. As mentioned in **Section 2.4.2**, WVVAC provided cultural values relating to the broader landscape surrounding the addendum study area, as well as the high cultural significance associated with any Aboriginal objects within the addendum study area.

### **3.6 TEST EXCAVATION**

No test excavation was undertaken for this assessment. The lack of surface artefacts, the ephemeral and eroded nature of the only waterway in the addendum study area, and the

undifferentiated landforms with a low archaeological potential indicated that subsurface archaeological deposits would be extremely unlikely.

### 3.7 SUMMARY OF SURVEY RESULTS

The survey of the addendum study area resulted in the recording of five Aboriginal sites (Winora OS-2, Winora OS-3, Winora OS-4, Winora IF-1, and Winora IF-2). Site types include artefact scatters and isolated finds. Only one site (Winora IF-2) is located within the addendum study area.

Results from the current survey indicate that the dominant raw material within the addendum study area is quartz, with a small quantity of chert and that artefacts predominantly consist of unmodified flakes.

#### 3.7.1 Discussion

The predictive model suggested that low-density stone artefact sites would be the most common site type to be recorded and this model is supported by the survey results that recorded five artefact sites. All artefact scatters have a low artefact density with only Winora OS-2 demonstrating a higher density (n=20+).

In **Section 3.2**, it was noted that low GSV was the main constraint to the survey. However, while the low GSV may have obscured surface artefacts, it is considered that a representative sample of the addendum study area was achieved through transects. As such, rather than low GSV hampering the detection of sites, it is considered more likely that most landforms of the addendum study area would have only supported sporadic or short-term visitation due to the lack of available water and the undifferentiated nature of the landforms.

The stone artefact sites recorded during the survey are representative of sites recorded in the region. In terms of site size, artefact density, raw materials, and artefact types these complement the archaeological context highlighted in **Section 2.6**. Regional studies show that most sites will include quartz and that most artefacts recorded will be unmodified flakes which exactly represents the results of the survey. Most flakes are complete and show no signs of retouch or use wear.

In the past, sites such as isolated finds and artefact scatters would have been common, and on a state-wide scale, low-density artefact scatters and isolated finds would remain the most common site type recorded. Although the sites recorded during this assessment are in no way remarkable, their presence alone, in albeit a much-modified landscape, remains a memory of the past in a landscape that is fast changing (or has changed). The results of the survey conclude that the general site integrity is low as the addendum study area has been subject to wide range of past and current land uses including vegetation clearing and grazing that has led to erosion and soil loss. The only hint of integrity is at Winona OS-2 that may represent a knapping event that has been disturbed and dispersed but not removed entirely from its original position.

## 4 SIGNIFICANCE ASSESSMENT

### 4.1 INTRODUCTION TO SIGNIFICANCE ASSESSMENT

The concept of cultural significance is used in Australian heritage practice and legislation to encompass all the cultural values and meanings that might be recognised in a place. The *Burra Charter's* definition of cultural significance is broad and encompasses places that are significant to Indigenous cultures (Burra Charter 2013).

A more detailed discussion of cultural heritage significance is provided in OzArk 2023.

### 4.2 ASSESSED SIGNIFICANCE OF THE RECORDED SITES

**Table 4-1** presents a summary of the significance assessment of Aboriginal cultural heritage sites recorded during this assessment. Further details of each of the assessment criteria are provided below.

#### Social or Cultural Value

The social and cultural value of Aboriginal sites is generally determined through consultation with Aboriginal people. Generally, the Aboriginal community regard all sites as having high cultural significance. This is due to all sites, even displaced artefact sites, being able to provide a connection to their ancestors, as well as being a tangible reminder of the past Aboriginal occupation of the area.

#### Archaeological/Scientific Value

All sites have been assessed as having low archaeological significance. Past land use, principally agricultural grazing and vegetation clearance, has disturbed the integrity of all artefact sites, lowering their potential to add to our knowledge of the area. As most recorded artefacts are in a displaced context, their archaeological significance is reduced.

#### Aesthetic Value

All sites do not manifest themselves obviously in the landscape and are difficult for the layperson to appreciate and they are assessed to have a low aesthetic value.

#### Historic Value

The recorded Aboriginal sites do not have any association with important persons, places, or events. Therefore, the sites have no historic values.

**Table 4-1: Aboriginal cultural heritage: significance assessment.**

Site Name	Social or Cultural Value	Archaeological / Scientific Value	Aesthetic Value	Historic Value
Winora OS-2	High	Low	Low	None
Winora OS-3	High	Low	Low	None
Winora OS-4	High	Low	Low	None



Site Name	Social or Cultural Value	Archaeological / Scientific Value	Aesthetic Value	Historic Value
Winora IF-1	High	Low	Low	None
Winora IF-2	High	Low	Low	None

#### 4.2.1 Statement of significance

The intangible Aboriginal cultural values across the wider district relate to a number of important places and themes associated with non-archaeological cultural values. These places mainly relate to spiritual and ceremonial connections across the broader landscape that may encompass areas of culturally significant geographical features, such as Barneys Reef.

There may be places with intangible cultural significance within the addendum study area, although no specific locations have so far been identified by the Aboriginal community.

The scientific value of the sites within the addendum study area are considered to have a low potential to provide further information on the traditional Aboriginal use of the region.

The addendum study area has very low scientific value as it is confined to landforms distant from optimal occupation locations such as along reliable water sources or landforms which provide shelter. The landforms within the addendum study area have been heavily disturbed by agricultural activities and this lowers the scientific values of the area.

Apart from the general understanding of the aesthetic qualities of the addendum study area, there are no known places with identified aesthetic values.

There are no known historical heritage values associated with the addendum study area.

## 5 ASSESSING HARM

### 5.1 AVOIDING AND MINIMISING HARM

#### 5.1.1 Conserving significant Aboriginal cultural heritage

An object of the NPW Act is the '*conservation of objects places and features... of cultural value within the landscape, including... places, objects and features of significance to Aboriginal people*' (s.2A(1(b)(i)).

#### 5.1.2 Opportunities to conserve Aboriginal cultural heritage values

Based on the outcomes of the field survey, the proponent has designed the impact footprint of the temporary worker's camp and associated access tracks to ensure four of the five recorded sites will be avoided.

The four recorded sites that can be avoided are Winora OS-2, Winora OS-3, Winora OS-4, and Winora IF-1 as they are located outside the addendum study area.

No areas of PAD were identified across the addendum study area, or at any of the recorded sites, despite the presence of an ephemeral drainage line. The significant levels of surface and subsurface disturbance from agricultural grazing has resulted in erosion and soil loss in the landforms adjacent to the ephemeral drainage line (as seen when comparing the modern and historic aerial imagery of this drainage line on **Figure 1-3** and **Figure 2-1**). As a result, the proposal is not harming PADs where intact archaeological deposits may be expected.

### 5.2 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROJECT

**Table 5-1** presents a summary of potential impacts to Aboriginal cultural heritage associated with the proposal.

**Table 5-1: Aboriginal cultural heritage: impact assessment.**

Site Name	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No Loss of Value)
Winora OS-2	None	None	No loss of value
Winora OS-3	None	None	No loss of value
Winora OS-4	None	None	No loss of value
Winora IF-1	None	None	No loss of value
Winora IF-2	Direct	Total	Total

## 5.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPLES

OzArk 2023 introduces and defines the Ecologically Sustainable Development (ESD) principles.

### 5.3.1 Applicability to the proposal

The loss of any Aboriginal cultural values, be they physical sites or intangible values, is to be avoided as much as is possible to ensure that the environmental impacts of the proposal are as sustainable as is possible. The proposal generally achieves this as only one site, Winora IF-2, is expected to be harmed if the final design of the track cannot avoid the site.

The remaining sites will be conserved in the landscape, and the project will adhere to the ESD principles of ensuring that impacts are minimised and that the Aboriginal cultural heritage values within the addendum study area and its immediate surrounds are maintained.

**Table 5-2** examines the application of ESD principles to the proposal.

**Table 5-2: Application of ESD principles to the proposal.**

ESD principle	Response
Avoiding and minimising harm	The project has avoided at least four of the five identified Aboriginal sites. This means that at least 80% of the recorded sites and at least 96% of the recorded artefacts will be conserved and not harmed by the proposal.
The integration principle	The proposal has sought to minimise impacts to Aboriginal cultural heritage wherever possible. Management of unavoidable impacts will ensure that information regarding these sites is maintained.
The precautionary principle	The archaeological assessment has followed the precautionary principle through undertaking a robust impact assessment to ensure that harm to Aboriginal objects is minimised.
The intergenerational equity principle	At least 80% of the recorded sites and at least 96% of the recorded artefacts will be conserved and available for educational and/or cultural purposes into the future. The archaeological measures and management proposed in this report to manage the one artefact that has potential to be harmed are designed to mitigate the loss of inter-generational equity as much as possible by ensuring the object is recorded and moved to a safe location.

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## 6 MANAGEMENT OF ABORIGINAL CULTURAL HERITAGE SITES

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### 6.1 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

#### 6.1.1 Surface collection

As one Aboriginal site (Winora IF-2) has potential to be harmed by the proposal if the final design of the track cannot avoid it, it is recommended that the site be salvaged, if impacted, through the recording and collection of the surface artefact prior to construction works. This recommendation is made due to:

- The cultural value of this site and its importance to the Aboriginal community
- The nature of the impacted site (an isolated find)
- Being in landforms with high previous disturbance from a range of factors including erosion and land use practices
- The low archaeological value assigned to the site preclude more intensive archaeological investigations
- Sites such as these have a limited ability to further inform the community about the history and culture of the area. While any potential research questions are limited, some information can nevertheless be gained.

The recommended methodology for the salvage will be finalised after the approvals process and documented in an Aboriginal Cultural Heritage Management Plan (ACHMP) that will include the entire project area including the addendum study area. As part of the ACHMP, it is recommended that the following methodology be included to govern the salvage of the site:

1. The visible artefact will be flagged in the field
2. The site will be photographed after flagging and before recording
3. The following artefact information will be recorded for the artefact:
  - Location
  - Artefact class
  - Artefact type
  - Size
  - Reduction level
  - Raw material
  - Notes.
4. The artefact will be photographed

5. An Aboriginal Site Impact Recording Form (ASIRF) will be submitted by the archaeologist detailing the salvage process at the site.

### 6.1.2 Long-term management of Aboriginal objects

The ACHMP would include protocols for the long-term management of the Aboriginal site salvaged for the project, as well as any additional artefacts discovered during construction and operation of the project.

Regarding stone artefacts, suitable procedures for the long-term management could include the reburial of artefacts at a location outside of impacts that adheres to Requirement 26 of the Code of Practice, or the removal of artefacts to an agreed place of safe keeping.

Any long-term management of Aboriginal objects will be done in consultation with the RAPs.

## 6.2 UNANTICIPATED FINDS PROTOCOL

Should development consent for the project be gained, an ACHMP would be developed in consultation with RAPs and DPE with input from Heritage NSW. The ACHMP will contain procedures should a new discovery of Aboriginal artefacts be made during construction and/or operation of the project. The procedure in **Section 6.2.1** is an example of an unanticipated finds protocol that could be incorporated into the ACHMP.

### 6.2.1 Unanticipated finds protocol example

An Aboriginal artefact is anything which is the result of past Aboriginal activity. This includes stone (artefacts, rock engravings etc.), plant (culturally scarred trees) and animal (if showing signs of modification; i.e. smoothing, use). Human bone (skeletal) remains may also be uncovered while onsite.

Cultural heritage significance is assessed by the Aboriginal community and is typically based on traditional and contemporary lore, spiritual values, and oral history, and may also consider scientific and educational value.

Protocol to be followed if previously unrecorded or unanticipated Aboriginal object(s) are encountered:

1. If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:
  - a. Not further harm the object
  - b. Immediately cease all work at the particular location
  - c. Secure the area to avoid further harm to the Aboriginal object
  - d. Notify Heritage NSW as soon as practical on (02) 9873 8500 (heritagemailbox@environment.nsw.gov.au), providing any details of the Aboriginal object and its location; and

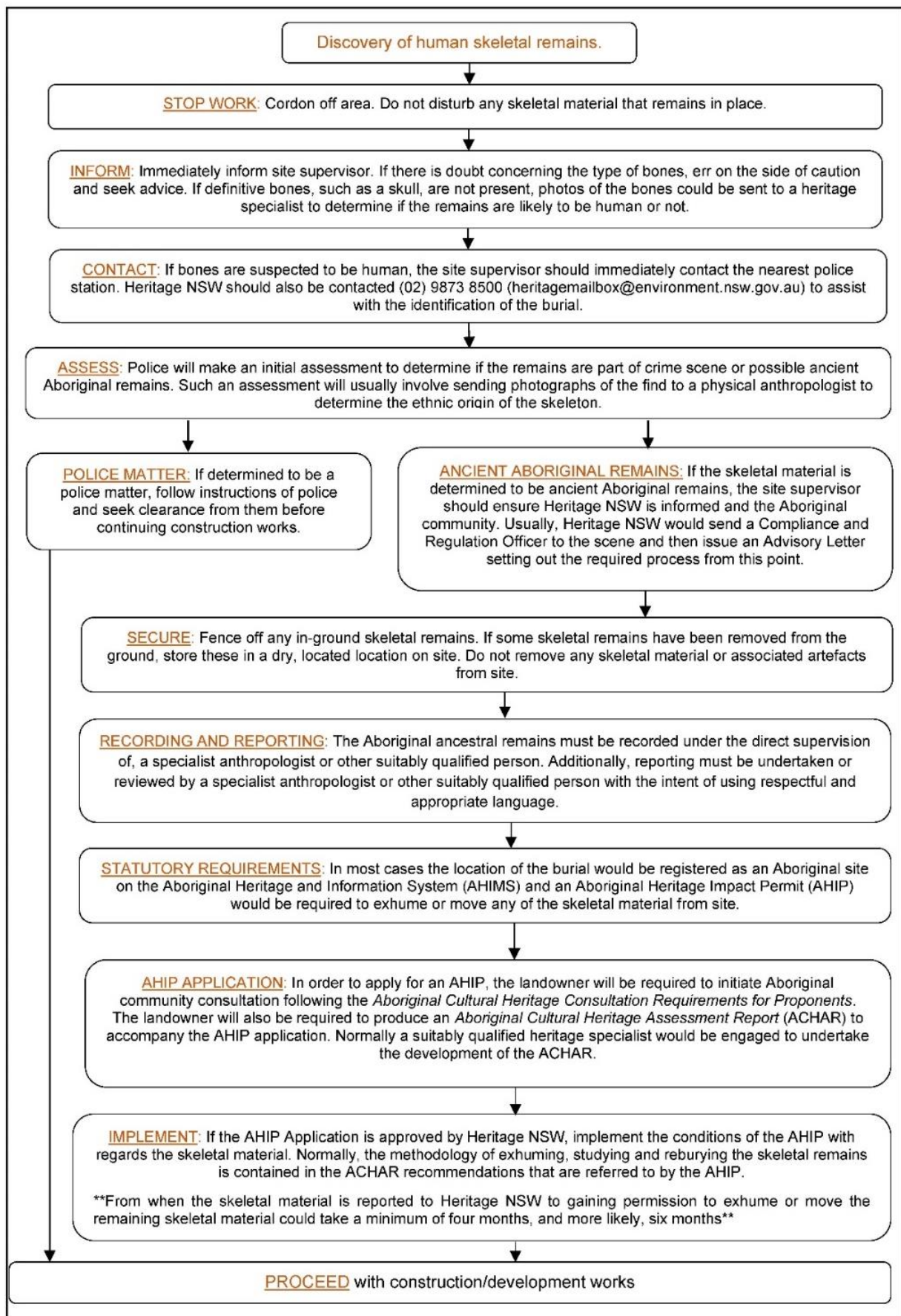
- e. Not recommence any work at the particular location unless authorised in writing by Heritage NSW.
2. If Aboriginal burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and Heritage NSW contacted.
3. Cooperate with the appropriate authorities and relevant Aboriginal community representatives to facilitate:
  - a. The recording and assessment of the find(s)
  - b. The fulfilment of any legal constraints arising from the find(s), including complying with Heritage NSW directions
  - c. The development and implementation of appropriate management strategies, including consultation with stakeholders and the assessment of the significance of the find(s).
4. Where the find(s) are determined to be Aboriginal object(s), recommencement of work in the area of the find(s) can only occur in accordance with any consequential legal requirements and after gaining written approval from Heritage NSW (normally an AHIP or through the procedures of an approved ACHMP).

### **6.3 UNANTICIPATED SKELETAL REMAINS PROTOCOL**

Should development consent for the project be gained, an ACHMP would be developed in consultation with RAPs and DPE. The ACHMP would contain procedures should a new discovery of human skeletal remains be made during construction or operation of the project. A potential flow-chart relating to the discovery of human skeletal remains is shown on **Figure 6-1**.



Figure 6-1: Example of a human skeletal remains procedure.



## **HISTORIC HERITAGE ASSESSMENT**

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## 7 HISTORIC HERITAGE ASSESSMENT: INTRODUCTION

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### 7.1 BRIEF DESCRIPTION OF THE PROPOSAL

Please refer to **Sections 0** and **2.5** for a description of the proposal and the environmental context of the addendum study area.

### 7.2 ASSESSMENT APPROACH

The inspection and assessment of heritage significance follows the:

1. The International Council on Monuments and Sites' The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Burra Charter 2013)
2. Heritage Council's *Historical Archaeology Code of Practice* (Heritage Council 2006).

### 7.3 HISTORIC HERITAGE ASSESSMENT OBJECTIVES

The current assessment will apply the Heritage Council's *Historical Archaeology Code of Practice* (Heritage Council 2006) in the completion of a historical heritage assessment, including field investigations, to meet the following objectives:

- Objective One:** To identify whether historical heritage items or areas are, or are likely to be, present within the addendum study area
- Objective Two:** To assess the significance of any recorded historical heritage items or areas
- Objective Three:** Determine whether the proposal is likely to cause harm to recorded historical heritage items or areas
- Objective Four:** Provide management recommendations and options for mitigating impacts.

### 7.4 DATE OF HISTORIC HERITAGE ASSESSMENT

The historic heritage assessment took place at the same time as the Aboriginal heritage assessment. Please refer to **Section 1.8.1** for the dates of the fieldwork.

### 7.5 OZARK INVOLVEMENT

The fieldwork and reporting of the historic heritage assessment are the same personnel involved with the Aboriginal heritage assessment. Please see **Section 1.8.2** for details.

## 8 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

### 8.1 INTRODUCTION

Refer to Section 3.1 of the HHAR for the project (OzArk 2022b) for further historical context.

### 8.2 LOCAL CONTEXT

#### 8.2.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously recorded heritage within the addendum study area. The results of this search are summarised in **Table 8-1**.

**Table 8-1: Historic heritage: desktop-database search results.**

Name of database searched	Date of search	Type of search	Comment
National and Commonwealth Heritage Listings	26/6/23	World Heritage List Commonwealth Heritage List National Heritage List	No items within the addendum study area
State Heritage Listings	26/6/23	NSW	No items within the addendum study area
Local Environmental Plan (LEP)	26/6/23	Mid-Western LEP of 2012	No items within the addendum study area

A search of the Heritage Council of NSW administered heritage databases and the Mid-Western LEP 2012 returned no records for historical heritage sites within the addendum study area.

The closest item listed on the SHR is the Birriwa Private Cemetery located 9.3 km to the northwest of the addendum study area.

### 8.3 SURVEY METHODOLOGY

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). The historic heritage assessment of the study area was completed concurrently with the Aboriginal cultural heritage assessment (see **Section 1.8.1**).

### 8.4 PROJECT CONSTRAINTS

GSV posed the greatest constraint during field inspection (see **Section 3.2**), however, not to the extent that the efficacy of the survey was unduly diminished.

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## 9 RESULTS OF THE HISTORIC HERITAGE ASSESSMENT

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### 9.1 HISTORIC HERITAGE SITES

No sites with historic heritage significance were recorded within the addendum study area. As such, there will be no harm to significant historic items by the proposal.

### 9.2 DISCUSSION

There was limited potential for historic heritage items to be present within the addendum study area. Any potential heritage values associated with the addendum study area would be associated with the area's use for agricultural grazing; an activity that leaves few material traces. The current physical fabric, such as fencing, has been upgraded throughout the use of the addendum study area and no historic remnants were recorded during the survey.

In addition, no areas of potential historical archaeological deposits were identified during the survey.

### 9.3 LIKELY IMPACTS TO HISTORIC HERITAGE

The proposal will not harm significant historic heritage items.

### 9.4 MANAGEMENT AND MITIGATION OF RECORDED HISTORIC SITES

No items or sites of historic heritage significance were identified in the addendum study area.

As such, if items of historic heritage significance are uncovered during the construction or use of the project, then the *Unanticipated Finds Protocol for Historic Heritage* that will be included in the Historic Heritage Management Plan (HHMP) should be enacted. An example of an appropriate unanticipated finds protocol is presented in **Section 9.4.1**.

#### 9.4.1 Unanticipated finds protocol example

A historic artefact is anything which is the result of past activity not related to the Aboriginal occupation of the area. This includes pottery, wood, glass, and metal objects, as well as the built remains of structures, sometimes heavily ruined.

Heritage significance of historic items is assessed by suitably qualified specialists who place the item or site in context and determine its role in aiding the community's understanding of the local area, or their wider role in being an exemplar of state or even national historic themes.

The following protocol should be followed if previously unrecorded or unanticipated historic objects are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately, then:
  - a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted



- b) The site supervisor will be informed of the find(s).
2. If finds are suspected to be human skeletal remains, then NSW Police must be contacted as a matter of priority.
  3. If there is substantial doubt regarding the historic significance for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be significant. If a quick opinion cannot be gained, or the identification is that the item is likely to be significant, then proceed to the next step.
  4. Notify Heritage NSW as soon as practical on (02) 9873 8500 providing any details of the historic find and its location.
  5. If it is the view of the heritage specialist or Heritage NSW that the finds appear not to be significant, work may recommence without further investigation. Keep a copy of all correspondence for future reference.
  6. If it is the view of the heritage specialist or Heritage NSW that the finds appear to be significant, facilitate the recording and assessment of the finds by a suitably qualified heritage specialist. Such a study should include the development of appropriate management strategies.

If the find(s) are determined to be significant historic items (i.e. of local or state significance), any re-commencement of ground surface disturbance may only resume following compliance with any legal requirements and gaining written approval from Heritage NSW.

## 10 RECOMMENDATIONS

### 10.1 ABORIGINAL CULTURAL HERITAGE

Under Section 89A of the NPW Act it is mandatory that all newly recorded Aboriginal sites be registered with AHIMS. As a professional in the field of cultural heritage management it is the responsibility of OzArk to ensure this process is undertaken.

To this end it is noted that five Aboriginal sites were recorded during the assessment.

The following recommendations are made based on these impacts and with regard to:

- Legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without an approved ACHMP
- The findings of the current investigations undertaken within the addendum study area
- The interests of the Aboriginal community.

The following recommendations concerning Aboriginal cultural values for the Birriwa Solar and Battery project are from the OzArk (2023) ACHAR:

1. Following granting of development consent for the project, the proponent will be required to develop an ACHMP as per the Conditions of Approval. The ACHMP must be developed in consultation with the RAPs and the DPE (with input from Heritage NSW). The ACHMP would include an unanticipated finds protocol, unanticipated skeletal remains protocol, requirements for heritage inductions, and long-term management of the Aboriginal sites being impacted. The ACHMP must be approved by the DPE prior to construction activities occurring within the project area that will include the addendum study area.
2. Aboriginal site 36-2-0518 (Mangarlowe IF-2), located within the development footprint of the project, if impacted by the final design, should be salvaged via surface collection in accordance with the management strategies set out in
3. . Section 9 (OzArk 2023) and the ACHMP.
  - a. The recommended methodology for the salvage will include the measures outlined in Section 9.2.1 (OzArk 2023).
  - b. The salvage works will include the mapping, analysis, and collection of the surface artefact at the affected site. Results will be included in a brief report to preserve the data in a useable form and an Aboriginal Site Impact Recording Form (ASIRF) will be submitted to AHIMS.
4. The proponent has undertaken to avoid harm to the remaining recorded sites through a considered design the project components. Stone artefact sites (isolated finds, artefact scatters and PADs) should be protected during the construction and operation of the

project through permanent fencing. Temporary fencing should be erected around scarred tree 36-2-0516 Barneys Reef Road ST-1 during upgrades to Barneys Reef Road. The location of the sites will be shown on all appropriate plans to ensure that they are not inadvertently harmed.

5. All land-disturbing activities must be confined to within the project's development footprint and access road upgrades. Should the parameters of the proposed work extend beyond this, then further archaeological assessment will be required.

Additional recommendations based off the results of this addendum assessment are listed below:

6. Winora IF-2, located within the addendum study area, if impacted by the final design, should be salvaged via surface collection in accordance with an approved ACHMP following project approval.
  - a. The recommended methodology for the salvage will include the measures outlined in **Section 6.1.1**.
  - b. The salvage works will include the mapping, analysis, and collection of the surface artefact at the affected site. Results will be included in a brief report to preserve the data in a useable form and an ASIRF will be submitted to AHIMS.

## 10.2 HISTORIC HERITAGE

The following recommendations are made based on the impacts associated with the proposal and with regard to:

- Legal requirements under the terms of the Heritage Act and the guidelines presented in the *Burra Charter*
- The findings of the current assessment and the interests of the local community.

Recommendations concerning the historic values within addendum study area are as follows.

1. Following development consent of the project, a *Historic Heritage Management Plan* (HHMP) will be developed and then used during the construction and ongoing use of the project. If items of historic heritage significance are uncovered during the project, then the unanticipated finds protocols in the HHMP will be enacted. An example of an unanticipated finds protocol is provided in **Section 9.4.1**.
2. It is assessed that ground disturbing works associated with the project will not harm significant historical archaeological deposits and no further archaeological investigation is required.
3. All land-disturbing activities must be confined within the project development footprint and access road upgrade corridor. Should project impacts change such that the area to be

impacted is outside of the assessed survey area, then additional assessment may be required.

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## APPENDIX 1: ABORIGINAL COMMUNITY CONSULTATION


### Appendix 1 Figure 1: Aboriginal community consultation log.

Continued from OzArk 2013.

Aboriginal Consultation Log			
1.2.23	Mudgee Local Aboriginal Land Council	Project update letter sent	Email
1.2.23	Paul Brydon	Project update letter sent	Email
1.2.23	Murong Gialinga Aboriginal & Torres Strait Islander Corporation	Project update letter sent	Email
1.2.23	Warrabinga Native Title Claimants Aboriginal Corporation	Project update letter sent	Email
1.2.23	Wellington Valley Wiradjuri Aboriginal Corporation	Project update letter sent	Email
1.2.23	Woka Aboriginal Corporation	Project update letter sent	Email
1.2.23	Stakeholder 1	Project update letter sent	Email
1.2.23	North-Eastern Wiradjuri	Project update letter sent	Email
1.2.23	Gallangabang Aboriginal Corporation	Project update letter sent	Email
21.6.23	Mudgee Local Aboriginal Land Council	Eleanore Martin (EM) project update letter and methodology	Email
21.6.23	Paul Brydon	EM sent project update letter and methodology	Email
21.6.23	Murong Gialinga Aboriginal & Torres Strait Islander Corporation	EM sent project update letter and methodology	Email
21.6.23	Warrabinga Native Title Claimants Aboriginal Corporation	EM sent project update letter and methodology	Email
21.6.23	Wellington Valley Wiradjuri Aboriginal Corporation	EM sent project update letter and methodology	Email
21.6.23	Woka Aboriginal Corporation	EM sent project update letter and methodology	Email
21.6.23	Stakeholder 1	EM sent project update letter and methodology	Email
21.6.23	North-Eastern Wiradjuri	EM sent project update letter and methodology	Email
21.6.23	Gallangabang Aboriginal Corporation	EM sent project update letter and methodology	Email
21.6.23	Woka Aboriginal Corporation	EM received email stating " <i>hi Eleanor We would like to apply for fieldwork</i> "	Email
21.6.23	Woka Aboriginal Corporation	EM responded to email advising that the two field positions had been offered to the LALC and NTH.	Email
22.6.23	Paul Brydon	EM Received email stating " <i>Eleanore, Thank you for the Update, Paul Brydon</i> ".	Email
22.6.23	Wellington Valley Wiradjuri Aboriginal Corporation	EM, Jodie Benton and Stephanie Rusden (SR) received email notifying about EMM additional sites and enquiring about the Fieldwork	Email
22.6.23	Wellington Valley Wiradjuri Aboriginal Corporation	SR discussed sites recorded in REZ survey that are located nearby the additional survey areas.	Phone
26.6.23	Warrabinga Native Title Claimants Aboriginal Corporation	Advised BC that a site officer could not be provided and requested updates on the report.	Email
11.8.23	Mudgee Local Aboriginal Land Council	CB emailed draft addendum ACHAR, closing date 25.8.23	Email

Aboriginal Consultation Log			
11.8.23	Paul Brydon	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Murong Gialinga Aboriginal & Torres Strait Islander Corporation	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Warrabinga Native Title Claimants Aboriginal Corporation	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Wellington Valley Wiradjuri Aboriginal Corporation	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Woka Aboriginal Corporation	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Stakeholder 1	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	North-Eastern Wiradjuri	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Gallangabang Aboriginal Corporation	CB emailed draft addendum ACHAR, closing date 25.8.23	Email
11.8.23	Paul Brydon	CB received email response - <i>Alls well with me regarding Birriwa solar Farm - Midnight</i>	Email
11.8.23	Paul Brydon	CB replied thank you	Email
16.8.23	Stakeholder 1	CB received email response - <i>We do not see any issues with the draft report and have no questions nor information to add at this stage.</i>	Email
16.8.23	Stakeholder 1	CB replied thank you	Email
22.8.23	Wellington Valley Wiradjuri Aboriginal Corporation	CB received email response - <i>WVWAC do not have any objections nor additional comments or recommendations relating to the Birriwa Solar Farm - Draft Addendum ACHAR.</i>	Email
22.8.23	Wellington Valley Wiradjuri Aboriginal Corporation	CB replied with thanks	Email
12.9.23	Woka Aboriginal Corporation	CB received email response - <i>We agree with draft</i>	Email
13.9.23	Woka Aboriginal Corporation	CB replied with thanks	Email

## Appendix 1 Figure 2: Project update letter.



**OzArk Environment & Heritage**

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**ABN 59 104 582 354**

145 Wingewarra St  
PO Box 2069  
DUBBO NSW 2830

20 June 2023

**ABORIGINAL CULTURAL HERITAGE ASSESSMENT UPDATE  
BIRRIWA SOLAR PROJECT – ADDITIONAL SURVEY AREAS.**

---

Dear Members,

We wish to apologise for the delay in correspondence and thank you for your continued interest and participation as a Registered Aboriginal party (RAP) for the proposed Birriwa Solar Project (the Project).

The purpose of this letter is to update you in relation to the progress of this Project. As you are aware, in July 2022, OzArk finalised an *Aboriginal Cultural Heritage Assessment Report (ACHAR)* for the Project. The Environmental Impact Assessment (EIS) prepared by EMM Consulting was then finalised in September 2022 and placed on public exhibition. Following public exhibition of the EIS, ACEN Australia (the Proponent) has been required to address submissions raised by the local councils and other stakeholders in relation to accommodation for workers. After consultation with key stakeholders, further technical, environmental and social assessments, the Proponent has concluded that a worker camp at the 'Merotherie' property is the best way to address the concerns raised.

OzArk has now been engaged to assess the additional components required for the Project (**Project 1-1**). The additional components include:

- A potential northern worker camp located within an area covering approximately 37 hectares (ha);  
or
- A potential southern worker camp located within an area covering approximately 18 ha
- Two kilometres (km) of internal access track (including portions passing through the northern workers' camp)
- Potential for 8.8 km of upgrades to Merotherie Road and Birriwa Bus Route South.

The proposed worker camp and road upgrades will also form part of the scope for the Naragamba Solar project, which is also proposed by the Proponent, located to the southeast of the Project.

A search of the Aboriginal Heritage Information Management System (AHIMS) database conducted on 20 June 2023 returned 100 Aboriginal sites within a 10 kilometre (km) by 10 km search area centred on the Project Area and the additional survey areas (GDA 2020 Zone 55 Eastings: 724281–750769; Northings: 6429390– 6455408). None of the previously recorded Aboriginal sites are located within the additional survey areas. The closest Aboriginal site is an artefact site (AHIMS ID 36-3-3824) situated approximately 172 metres (m) southwest of the southwestern-most border of the northern worker camp (**Figure 1-2**). Site 36-3-3824 was recorded by



OzArk as part of investigations into options for a connecting transmission line. The transmission line options no longer form part of the Project.

The additional survey will be completed in accordance with the assessment methodology prepared for the Project in November 2021 and the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (the Code of Practice; DECCW 2010). The survey will be undertaken by two OzArk archaeologists and two RAPs on 29 and 30 June 2023.

Landform modelling shows the two worker camp options comprise Survey Unit 1 (drainage lines with a 200 m buffer around) and Survey Unit 2 (gentle slopes) (**Figure 1-3**). The northern worker camp option is located to the north of an unmanned drainage line which is a tributary of Cockabutta Creek while the southern worker camp option is south of the tributary. Both areas have been mostly cleared of trees for agricultural purposes (i.e. cropping and grazing). A remnant stand of trees remains in the west of the northern worker camp at the base of a low ridge, and isolated trees remain in the south of the southern worker camp area.

The proposed internal access track to the worker camp options and Birriwa Bus Route South also include both Survey Unit 1 and 2 (**Figure 1-3**). The internal access track begins in the south at the southern worker camp area and then crosses the unnamed drainage line. The track continues north along gentle slopes until it reaches the assessed boundary of the solar farm. Birriwa Bus Route South is located across gentle slopes and intersects two unnamed drainage lines. The eastern drainage line is a tributary of the Talbragar River, while the western drainage line is a tributary of White Creek. The corridors of Birriwa Bus Route South are relatively vegetated.

Merotherie Road is located across Survey Unit 1, 2 and 3 (flats) (**Figure 1-3**). Merotherie Road intersects Cainbil Creek, the Talbragar River and two of its tributaries. The northern portion of Merotherie Road between Cainbil Creek and the Talbragar River is flat and low-lying, forming part of the floodplain of the Talbragar. Moving south, the road is along slightly higher elevations, and gently sloping landforms. The corridors of Merotherie Road contain scattered, mature trees.

Based on the landform modelling, the survey will contain a combination of 'full pedestrian survey' and 'targeted pedestrian survey'. 'Full pedestrian survey' refers to systematic transects walked by surveyors spaced approximately 20 m apart throughout the landform or area being surveyed, however in areas with high ground surface visibility or increased archaeological potential, spacing could be reduced to 5-10 m. 'Targeted pedestrian survey' refers to transects walked by surveyors spaced approximately 20 m apart that will not cover the entire area but instead will focus on understanding the archaeological potential of representative landforms within these areas.

The sampling strategy for the field assessment will include:

- Full pedestrian survey across Survey Unit 1 which generally contains areas within 200 m of the watercourses, elevated landforms, and areas with remnant vegetation
- Targeted pedestrian survey across Survey Units 2 and 3 which typically contains areas more than 200 m from watercourses; areas with poor ground surface visibility; landforms with low archaeological potential; and areas with significant prior disturbance
- All trees deemed to be of sufficient maturity to contain cultural modification will be inspected, as well as any areas with outcropping rock



- Some areas may not be physically surveyed if the RAPs and OzArk staff agree they are too disturbed or possess a very low likelihood of sites.

The results of the survey will be presented in an addendum to the ACHAR for the Project which will be distributed to all RAPs once complete.

In addition, we welcome any Aboriginal cultural heritage knowledge relevant to the additional survey areas that you care to share. This input will help to improve our assessment outcomes and ensure Aboriginal cultural values are considered during the survey.

Should you have any queries in relation to the enclosed information please do not hesitate to contact our office on (02) 6882 0118 or [stephanie@ozarkehm.com.au](mailto:stephanie@ozarkehm.com.au).

Kind regards,



Stephanie Rusden  
Senior Archaeologist  
[stephanie@ozarkehm.com.au](mailto:stephanie@ozarkehm.com.au)

**Figure 1-1: Map of the additional Project components.**

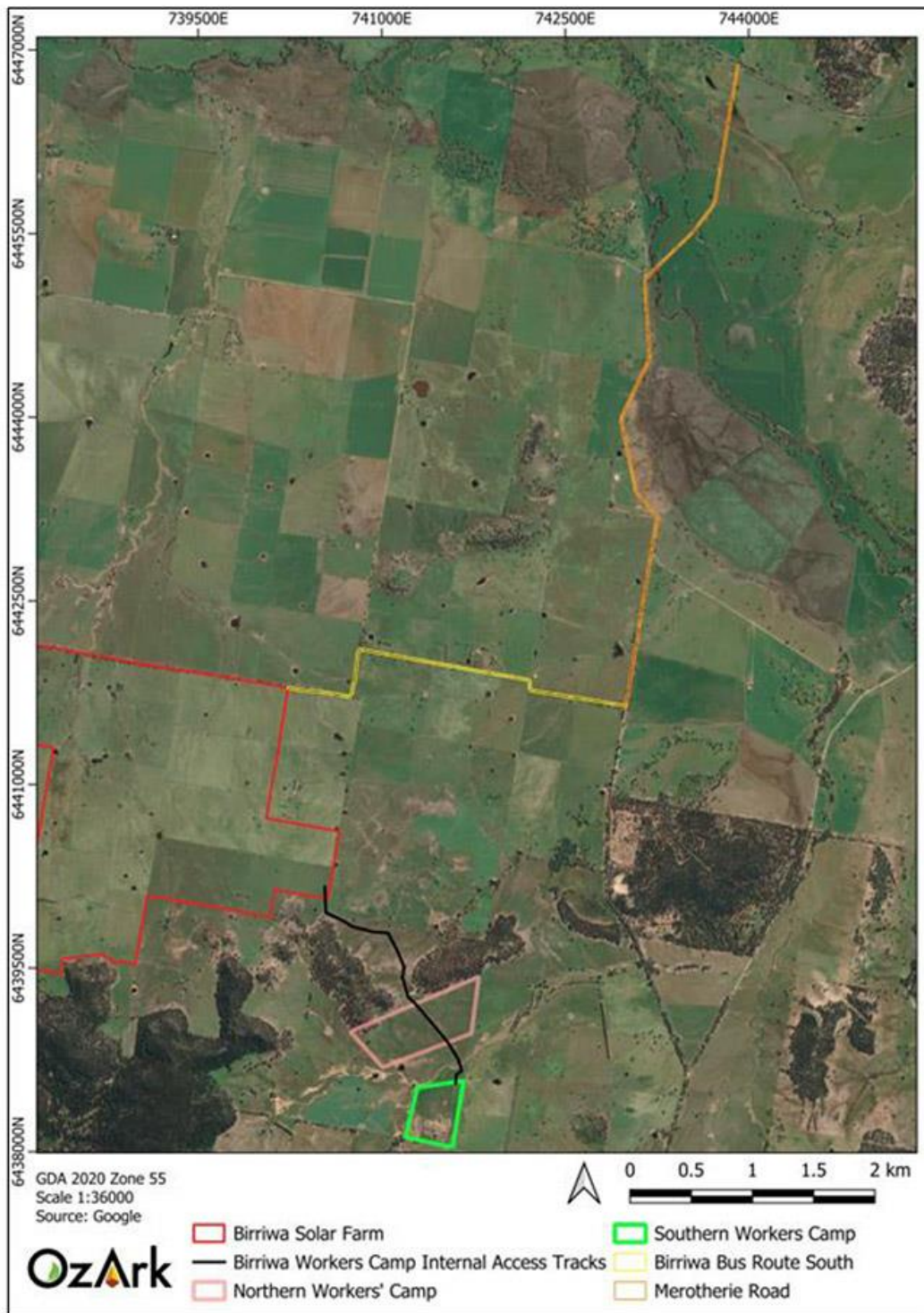




Figure 1-2: AHIMS sites located near the additional Project components.

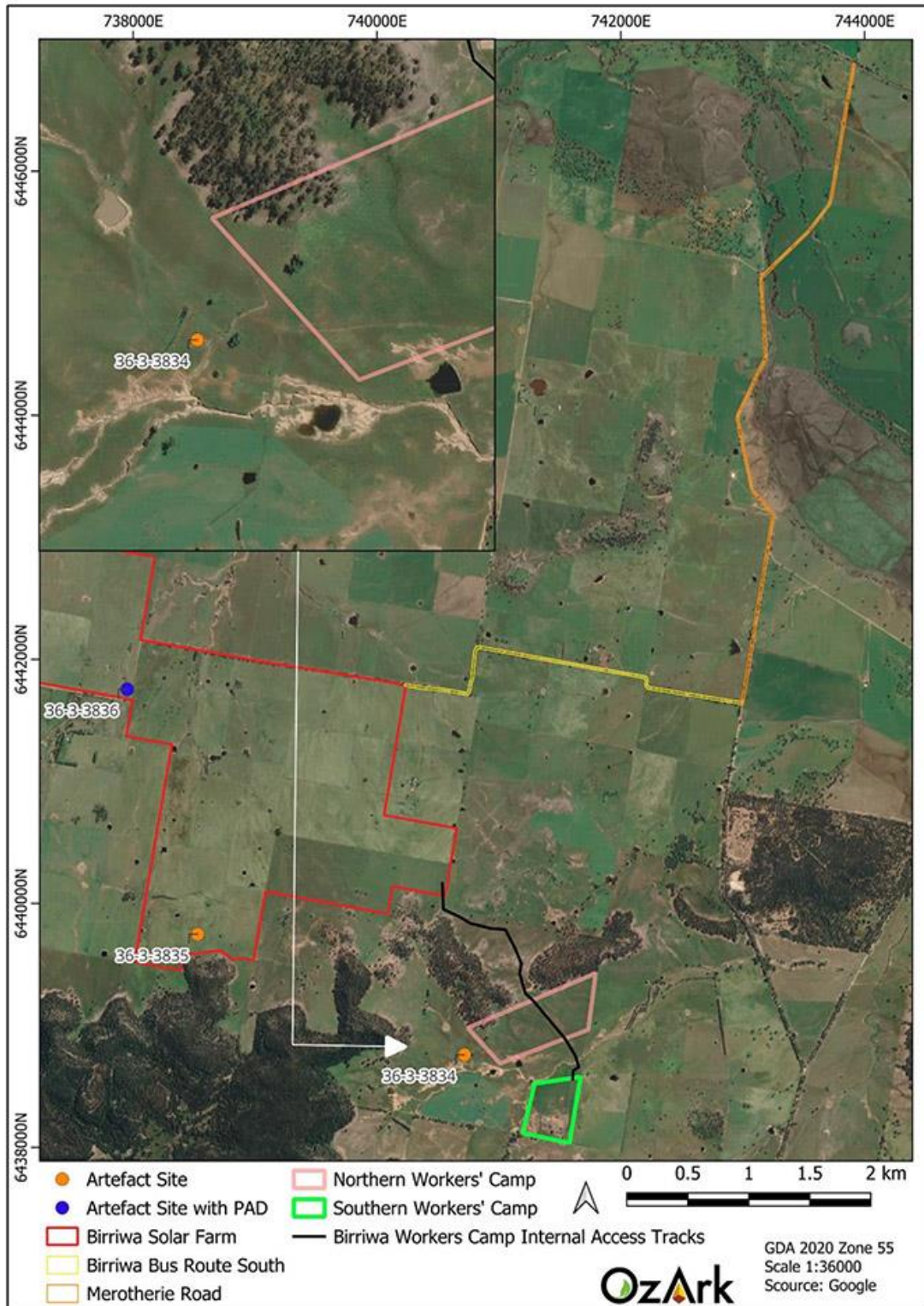
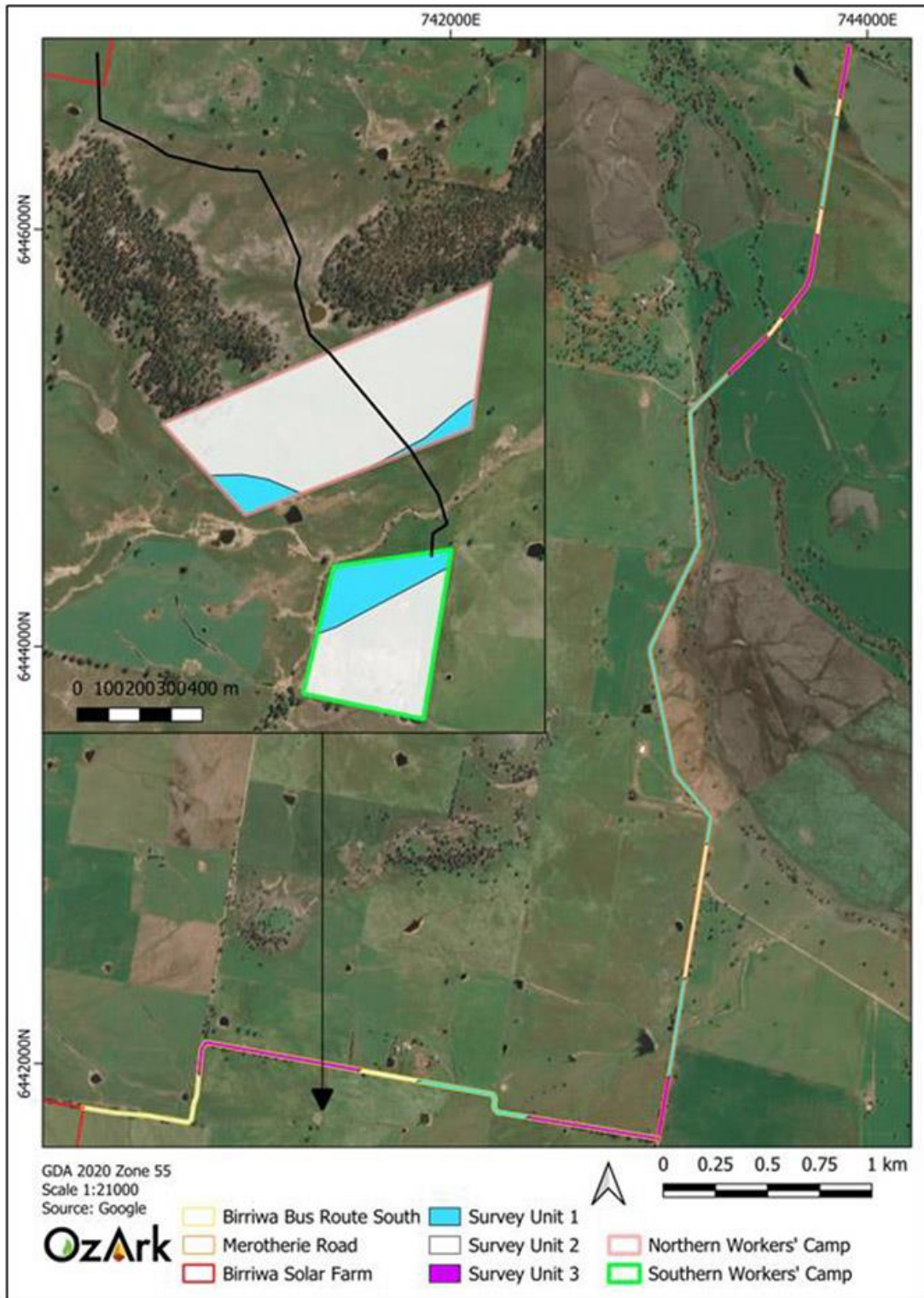
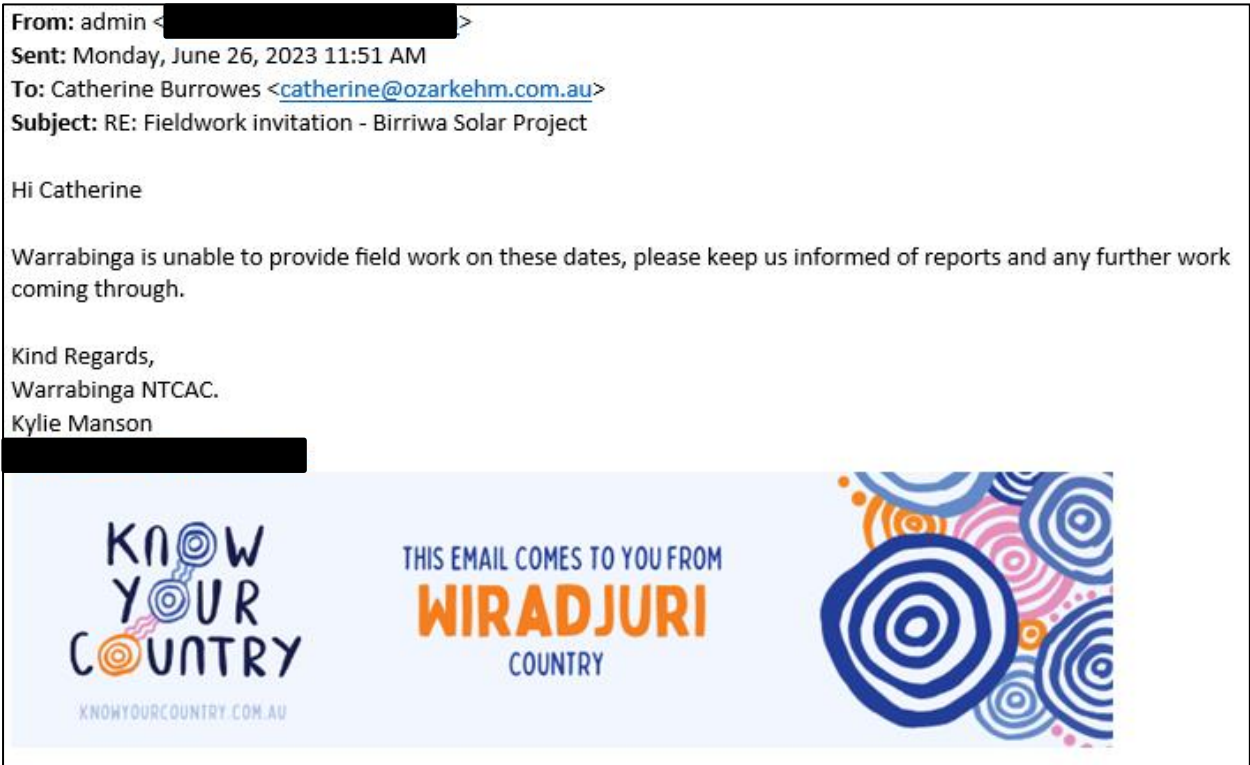


Figure 1-3: Survey Units of the additional Project components.







**Appendix 1 Figure 3: Response received from Warrabinga Native Title Claimants Aboriginal Corporation.**







## Appendix 1 Figure 4: Stage 4 cover letter (sample).

## Mudgee LALC -Birriwa Solar Farm - Draft Addendum ACHAR

 Catherine Burrowes  
To  mudgeelalc@bigpond.com

 11/08/2023

 DRAFT\_Addendum Birriwa ACHAR\_2023.pdf  
.pdf File

Hello Members,

On 29 April 2022 OzArk sent you the draft ACHAR for the Birriwa solar and battery project and provided you with 28 days to review the report with a closing date of 27 May 2022.

Because of submissions during the public exhibition of the EIS for the project, it was determined that the project required a temporary worker's camp. As OzArk informed you in a project update letter sent to you on 1 February 2023, this addition to the project required additional survey and the development of an addendum ACHAR to report on the results of the survey. OzArk is therefore sending you the draft addendum ACHAR for your review. As this is an addendum ACHAR, OzArk is asking that any comments on this document be received in 14 days by **Friday 25 August 2023**.



Please let OzArk know as soon as possible if this 14-day review period causes you any issues and we'll try to arrive at a mutually agreeable time; although the project is now on a very tight timeframe and the client has asked that any comments be received as soon as is possible. OzArk thanks you for your understanding in this matter.

Regards, Catherine


**Catherine Burrowes**  
OzArk Environment & Heritage  
Office Manager  
(02) 6882 0118

**Appendix 1 Figure 5: Stage 4 responses.**Paul Brydon

Re: Paul Brydon - Birriwa Solar Farm - Draft Addendum ACHAR

 Paul Brydon <[redacted]>  
To  Catherine Burrowes

11/08/2023

 You replied to this message on 11/08/2023 3:50 PM.

Catherine  
Alls well with me regarding Birriwa solar Farm  
Midnight

Woka Aboriginal Corporation

Re: Woka Aboriginal Corporation -Birriwa Solar Farm - Draft Addendum ACHAR

 Steven Johnson [redacted]  
To  Catherine Burrowes

12/09/2023



 You replied to this message on 13/09/2023 12:41 PM.  
[Click here to download pictures.](#) To help protect your privacy, Outlook prevented automatic download of some pictures in this message.


Hi Catherine  
Sorry for delay been unwell therefore limited with office tasks. We agree with draft

Sincerely  
Steve Johnson  
Aboriginal Heritage Custodian  
[redacted]

Stakeholder 1

Re: [REDACTED] - Birriwa Solar Farm - Draft Addendum A...

 To  Catherine Burrowes 16/08/2023

 You replied to this message on 17/08/2023 3:57 PM.

Hi Catherine

We have read the draft report Aboriginal Cultural Heritage Assessment for the Birriwa Solar & battery project prepared by Ozark and I make the following comments with respect to the contents of the report and the likely impact of the proposal on Aboriginal Objects and values.

We do not see any issues with the draft report and have no questions nor information to add at this stage.

Kind regards

[REDACTED]

*We respectfully acknowledge the Traditional Owners of the lands upon which we work and pay our deep respect to Elders past, present and emerging.*

WVWAC

RE: Wellington Valley Wiradjuri Aboriginal Corporation - Birriwa Solar Farm - Dr...

 WVWAC Contact Officer <WVWAC@hotmail.com>  
To  Catherine Burrowes 22/08/2023

 You replied to this message on 23/08/2023 12:23 PM.


Hi Catherine,

WVWAC do not have any objections nor additional comments or recommendations relating to the Birriwa Solar Farm - Draft Addendum ACHAR.

Regards


Bradley R Bliss J.P.  
CEO and Contact Officer  
Wellington Valley Wiradjuri Aboriginal Corporation  
M: 0427321916

# AHIMS SEARCH RESULTS

 <b>AHIMS Web Services (AWS)</b> <span style="float: right;">Your Ref/PO Number : Birriwa Client Service ID : 792833</span>										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-1566	Ulan ID#287 (Cockabutta Creek 5)	GDA	55	749783	6433064	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>								
		Ms.Laila Haglund								
36-3-0125	Bald Ridge NO:3;	AGD	55	745100	6451860	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-2-0250	TRE 01	GDA	55	724759	6433662	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Doctor.Tim Owen								
36-2-0430	Beryl-Dunedoo OS1 with PAD	GDA	55	727522	6449591	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Doctor.Jodie Benton								
36-2-0419	CBR - IP - 06B	GDA	55	729844	6433371	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Mr.Neville Baker								
36-2-0205	SAC 02	GDA	55	730545	6432832	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Doctor.Tim Owen								
36-2-0018	Craboon;	AGD	55	731947	6453323	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<b>Contact</b>	<b>Recorders</b>								
		Unknown Author								
36-2-0614	Tallawang PAD 6	GDA	55	734183	6432604	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>	<b>Recorders</b>								
		Umwelt (Australia) Pty Limited - Individual users,Mr.Andrew Crisp								
36-3-0013	Tallawang;	AGD	55	735864	6435608	Open site	Valid	Water Hole : -, Grinding Groove : -	Axe Grinding Groove,Water Hole/Well	1299
	<b>Contact</b>	<b>Recorders</b>								
		ASRSYS								
36-3-0084	Leadville;	AGD	55	739150	6454780	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-3-1420	IP 20	GDA	55	739464	6431029	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Doctor.Tim Owen								
36-3-2509	SAC 53	GDA	55	739835	6430951	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>	<b>Recorders</b>								
		Doctor.Tim Owen								
36-3-0014	Leadville;	AGD	55	740644	6453458	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<b>Contact</b>	<b>Recorders</b>								
		Phil Hughes								

Report generated by AHIMS Web Service on 20/06/2023 for Eleanore Martin for the following area at Datum:GDA, Zone : 55, Eastings : 724281.0 - 750769.0, Northings : 6429390.0 - 6455408.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100  
This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 1 of 8

 <b>AHIMS Web Services (AWS)</b> <span style="float: right;">Your Ref/PO Number : Birriwa Client Service ID : 792833</span>										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-1591	Ulan ID#314 (Walkerville 2)	GDA	55	750403	6431954	Closed site	Valid	Burial : -		102138
	<b>Contact</b>	<b>Recorders</b>								
		Ms.Laila Haglund								
36-3-1592	Ulan ID#315 (Walkerville 3)	GDA	55	750403	6431954	Closed site	Valid	Art (Pigment or Engraved) : -, Grinding Groove : -		
	<b>Contact</b>	<b>Recorders</b>								
		Ms.Laila Haglund								
36-2-0516	Barneys Reef Road ST-1	GDA	55	734691	6445104	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<b>Contact</b>	<b>Recorders</b>								
		OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden								
36-2-0519	Mangarlowe OS-1	GDA	55	735095	6442310	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>								
		OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden								
36-3-0033	Puggoon;Nagundie;	AGD	55	735397	6435351	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1299,2077
	<b>Contact</b>	<b>Recorders</b>								
		T.E Wittingham								
36-2-0518	Mangarlowe IP-2	GDA	55	736001	6445104	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>								
		OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden								
36-3-0088	Gundooee No2;	AGD	55	748307	6450337	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-2-0083	Dunedoo ST3	AGD	55	725930	6454043	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<b>Contact</b>	<b>Recorders</b>								
		Miss.Rebecca Ogden-Brunell								
36-3-0082	Rock Linden No.1;	AGD	55	745010	6449790	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1333
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-3-0083	Rock Linden No 4;	AGD	55	745320	6450300	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-2-0028	Tallawang Ck 2 Gulgong	AGD	55	730070	6430280	Open site	Valid	Artefact : -	Open Camp Site	851,1173
	<b>Contact</b>	<b>Recorders</b>								
		Elizabeth Rich,Laura-Jane Smith								
36-3-0089	GUNDOOEE NO1;	AGD	55	747024	6450293	Closed site	Valid	Artefact : -	Shelter with Deposit	192
	<b>Contact</b>	<b>Recorders</b>								
		Warren Bluff								
36-3-3834	Winora OS-1	GDA	55	740718	6438760	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>								
		OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden								
36-3-1567	Ulan ID#288 (Cockabutta Creek 6)	GDA	55	749883	6433964	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>								
		Ms.Laila Haglund								
36-3-1569	Ulan ID#290 (Cockabutta Creek 8)	GDA	55	749883	6433954	Closed site	Valid	Artefact : -		102138

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Remarks
36-3-1559	Ulan ID#280 (Cockabutta Crk15)	GDA	55	750629	6434497	Closed site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		102138
	<b>Contact</b>	<b>Recorders</b>								
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr. Bar.							
36-3-1562	Ulan ID#283 (Cockabutta Creek 2)	GDA	55	750743	6432904	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund							
36-2-0515	Ulan ID #1675 (MC417)	GDA	55	735735	6440117	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	South East Archaeology, Mr. Corey O'Driscoll							
36-3-1423	IF 23	GDA	55	743912	6429809	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-3-2515	TRE 21	GDA	55	743986	6429861	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-3-1430	SAC 50	GDA	55	739075	6431304	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-3-1429	SAC 49	GDA	55	736874	6431800	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-2-0012	Dunedoo;	AGD	55	725111	6454034	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>	<b>Recorders</b>	R Hawkins, Hawkins							
36-2-0027	Tallawang Ck 1 Gunning	AGD	55	729897	6430477	Open site	Valid	Artefact : -	Open Camp Site	851,102800
	<b>Contact</b>	<b>Recorders</b>	Elizabeth Rich, Laura-Jane Smith							
36-3-3836	White Creek OS-1	GDA	55	737950	6441755	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden							
36-2-0082	Dunedoo ST2	AGD	55	724488	6453274	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<b>Contact</b>	<b>Recorders</b>	Miss. Rebecca Ogden-Brunell							
36-3-0034	Puggoon; Nagundie;	AGD	55	735397	6435351	Open site	Valid	Water Hole : -	Water Hole/Well	2077
	<b>Contact</b>	<b>Recorders</b>	T.E Wittingham							
36-2-0627	Tallawang IF10	GDA	55	733900	6431069	Open site	Valid	Artefact : -		
	<b>Contact</b>	<b>Recorders</b>	Unwelt (Australia) Pty Limited - Individual users, Mr. Andrew Crisp							
36-3-3671	The Pinnacle IF-02	GDA	55	743207	6429405	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		104780
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor. Alyce Cameron							

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Remarks
36-3-3684	The Pinnacle OS-02	GDA	55	743331	6429599	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		104780
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor. Alyce Cameron							
36-3-3670	The Pinnacle IF-01	GDA	55	743861	6430006	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		104780
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor. Alyce Cameron							
36-3-1419	IF 19	GDA	55	738889	6431346	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-3-0162	Cockabutte (site 4);	AGD	55	749050	6441050	Closed site	Valid	Artefact : -	Shelter with Deposit	1333
	<b>Contact</b>	<b>Recorders</b>	Warren Bluff							
36-3-1427	IF 27	GDA	55	736030	6432000	Open site	Valid	Artefact : 1		
	<b>Contact</b>	<b>Recorders</b>	Doctor, Tim Owen							
36-3-1565	Ulan ID#286 (Cockabutta Creek 4)	GDA	55	749813	6433044	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund							
36-3-1570	Ulan ID#291 (Cockabutta Creek 9)	GDA	55	749943	6433954	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund							
36-3-1564	Ulan ID#285 (Cockabutta Creek 3)	GDA	55	750003	6432914	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund							
36-3-1558	Ulan ID#279 (Cockabutta Crk14)	GDA	55	750594	6434464	Closed site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		102138
	<b>Contact</b>	<b>Recorders</b>	Ms Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr. Bar.							
36-3-3674	The Pinnacle IF-05	GDA	55	743383	6429701	Open site	Valid	Artefact : -		104780
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor. Alyce Cameron							
36-3-3683	The Pinnacle OS-01	GDA	55	744221	6430351	Open site	Valid	Artefact : -		104780
	<b>Contact</b>	<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor. Alyce Cameron							
36-3-3428	Wongo Roo Ring 1	GDA	55	749199	6436072	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<b>Contact</b>	<b>Recorders</b>	Mr. Mark Sadtler							
36-3-0126	Bald Ridge No:2;	AGD	55	745050	6451840	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<b>Contact</b>	<b>Recorders</b>	Warren Bluff							
36-3-0032	Puggoon; Nagundie;	AGD	55	736344	6436231	Open site	Valid	Stone Arrangement : -	Stone Arrangement	1299,2077
	<b>Contact</b>	<b>Recorders</b>	T.E Wittingham							

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-0085	Leadville;	AGD	55	739100	6454790	Open site	Valid	Modified Tree (Carved or Scarred) :-	Scarred Tree	
	<b>Contact</b>									
	<b>Recorders</b>			Warren Bluff						<b>Permits</b>
36-3-2511	SAC 55	GDA	55	740929	6430339	Open site	Valid	Artefact: 1, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Doctor, Tim Owen						<b>Permits</b>
36-3-1422	IF 22	GDA	55	741443	6430554	Open site	Valid	Artefact: 1		
	<b>Contact</b>									
	<b>Recorders</b>			Doctor, Tim Owen						<b>Permits</b>
36-3-1557	Ulan ID#278 (Cockabutta Crk13)	GDA	55	750513	6434408	Closed site	Valid	Artefact: -, Potential Archaeological Deposit (PAD) :-		102138
	<b>Contact</b>									
	<b>Recorders</b>			Ms.Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr. Bar						<b>Permits</b>
36-2-0517	Mangarlowe IF.1	GDA	55	735227	6442124	Open site	Valid	Artefact: -		
	<b>Contact</b>									
	<b>Recorders</b>			OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden						<b>Permits</b>
36-3-0035	Puggoon; Nagundie;	AGD	55	735397	6435351	Closed site	Valid	Artefact: -	Shelter with Deposit	2077
	<b>Contact</b>									
	<b>Recorders</b>			T.E Wittingham						<b>Permits</b>
36-3-0029	Nagundie, Dubbo	AGD	55	735684	6435706	Open site	Valid	Grinding Groove: -	Axe Grinding Groove	
	<b>Contact</b>									
	<b>Recorders</b>			Michael Pearson						<b>Permits</b>
36-2-0500	Craboon-1	GDA	55	733226	6449921	Open site	Valid	Artefact: -		
	<b>Contact</b>									
	<b>Recorders</b>			RPSAAP Consulting Pty Ltd - Hamilton, Mr. Ben Slack						<b>Permits</b>
36-2-0616	Tallawang PAD 8 with AS	GDA	55	733828	6435033	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Umwelt (Australia) Pty Limited - Individual users, Mr. Andrew Crisp						<b>Permits</b>
36-3-0031	Puggoon; Nagundie;	AGD	55	736344	6436231	Closed site	Valid	Artefact: -	Shelter with Deposit	
	<b>Contact</b>									
	<b>Recorders</b>			T.E Wittingham						<b>Permits</b>
36-3-2510	SAC 54	GDA	55	740431	6430830	Open site	Valid	Artefact: 1, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Doctor, Tim Owen						<b>Permits</b>
36-3-1554	Ulan ID#275 (Cockabutta Crk10)	GDA	55	750365	6434530	Closed site	Valid	Artefact: -, Potential Archaeological Deposit (PAD) :-		102138
	<b>Contact</b>									
	<b>Recorders</b>			Ms.Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr. Bar						<b>Permits</b>

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-1556	Ulan ID#277 (Cockabutta Crk12)	GDA	55	750393	6434480	Closed site	Valid	Artefact: -, Potential Archaeological Deposit (PAD) :-		102138
	<b>Contact</b>									
	<b>Recorders</b>			Ms.Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr. Bar						<b>Permits</b>
36-3-1555	Ulan ID#276 (Cockabutta Creek 11)	GDA	55	750523	6434424	Closed site	Valid	Artefact: -		102138
	<b>Contact</b>									
	<b>Recorders</b>			Ms.Laila Haglund						<b>Permits</b>
36-3-1593	Ulan ID#316 (Walkerville 4)	GDA	55	750753	6431744	Closed site	Valid	Artefact: -		102138
	<b>Contact</b>									
	<b>Recorders</b>			Ms.Laila Haglund						<b>Permits</b>
36-2-0520	Mangarlowe OS-2	GDA	55	735028	6439173	Open site	Valid	Artefact: -		
	<b>Contact</b>									
	<b>Recorders</b>			OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden						<b>Permits</b>
36-2-0204	SAC 01	GDA	55	730739	6432890	Open site	Valid	Artefact: 1, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Doctor, Tim Owen						<b>Permits</b>
36-2-0617	Tallawang PAD 9 with AS	GDA	55	733400	6435570	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Umwelt (Australia) Pty Limited - Individual users, Mr. Andrew Crisp						<b>Permits</b>
36-2-0615	Tallawang PAD 7 with IF	GDA	55	734011	6433075	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Umwelt (Australia) Pty Limited - Individual users, Mr. Andrew Crisp						<b>Permits</b>
36-3-0081	Old Castle;	AGD	55	744800	6455220	Open site	Valid	Artefact: -	Open Camp Site	
	<b>Contact</b>									
	<b>Recorders</b>			Warren Bluff						<b>Permits</b>
36-3-0078	Rock Linden;	AGD	55	745400	6450500	Closed site	Valid	Art (Pigment or Engraved) :-	Shelter with Art	
	<b>Contact</b>									
	<b>Recorders</b>			Warren Bluff						<b>Permits</b>
36-3-0080	Rock Linden No 3;	AGD	55	745690	6449990	Closed site	Valid	Art (Pigment or Engraved) :-	Shelter with Art	
	<b>Contact</b>									
	<b>Recorders</b>			Warren Bluff						<b>Permits</b>
36-2-0089	Dunedoo ST	AGD	55	726301	6450000	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<b>Contact</b>									
	<b>Recorders</b>			April Blair						<b>Permits</b>
36-2-0429	Beryl-Dunedoo OS2 with PAD	GDA	55	727582	6449194	Open site	Valid	Artefact: 1, Potential Archaeological Deposit (PAD) :-		
	<b>Contact</b>									
	<b>Recorders</b>			Doctor, Jodie Benton						<b>Permits</b>
36-3-3835	Roxanna OS-1	GDA	55	738413	6439561	Open site	Valid	Artefact: -		
	<b>Contact</b>									
	<b>Recorders</b>			OzArk Environmental and Heritage Management - Dubbo, Miss. Stephanie Rusden						<b>Permits</b>

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-0079	Leadville;	AGD	55	739040	6454710	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<b>Contact</b>		<b>Recorders</b>	Warren Bluff				<b>Permits</b>		
36-3-0114	Waringle;	AGD	55	740200	6447900	Open site	Valid	Artefact : -	Open Camp Site	
	<b>Contact</b>		<b>Recorders</b>	Warren Bluff				<b>Permits</b>		
36-3-1590	Ulan ID#313 (Walkerville 1)	GDA	55	750083	6432254	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>		<b>Recorders</b>	Ms Laila Haglund				<b>Permits</b>		
36-3-1560	Ulan ID#281 (Cockabutta Crk16)	GDA	55	750618	6434508	Closed site	Valid	Artefact : - Potential Archaeological Deposit (PAD) : -		102138
	<b>Contact</b>		<b>Recorders</b>	Ms Laila Haglund, OzArk Environmental and Heritage Management - Dubbo, Mr Bar				<b>Permits</b>		
36-3-1552	Ulan ID#273 (Brokenback 13)	GDA	55	750733	6437024	Closed site	Valid	Art (Pigment or Engraved) : - Artefact : -		102138
	<b>Contact</b>		<b>Recorders</b>	Ms Laila Haglund				<b>Permits</b>		
36-2-0081	Dunedoo ST1	AGD	55	724373	6453630	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<b>Contact</b>		<b>Recorders</b>	Miss.Rebecca Ogden-Brunell				<b>Permits</b>		
36-3-0036	Puggoon;Nagundie;	AGD	55	735397	6435351	Open site	Valid	Burial : -	Burial/s	1299,2077
	<b>Contact</b>		<b>Recorders</b>	T.B Whittingham				<b>Permits</b>		
36-2-0613	Tallawang PAD 5	GDA	55	733757	6429415	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>		<b>Recorders</b>	Unwelt (Australia) Pty Limited - Individual users, Mr Andrew Crisp				<b>Permits</b>		
36-3-0161	Cockabutte (site 3);	AGD	55	748880	6441010	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1333
	<b>Contact</b>		<b>Recorders</b>	Warren Bluff				<b>Permits</b>		
36-3-3691	Rosevale IP-01	GDA	55	744841	6431333	Open site	Valid	Artefact : -		104780
	<b>Contact</b>		<b>Recorders</b>	OzArk Environmental and Heritage Management - Dubbo, Doctor Alyce Cameron				<b>Permits</b>		
36-2-0029	Tallawang Ck 3 Gulgong	AGD	55	730010	6430050	Open site	Valid	Artefact : -	Open Camp Site	851,1173
	<b>Contact</b>		<b>Recorders</b>	Elizabeth Rich, Laura Jane Smith				<b>Permits</b>		192
36-2-0030	Tallawang Ck 4 Gulgong	AGD	55	730082	6429871	Open site	Valid	Artefact : -	Open Camp Site	851,102800
	<b>Contact</b>		<b>Recorders</b>	Elizabeth Rich, Laura Jane Smith				<b>Permits</b>		192
36-2-0033	Tallawang Ck 7 Gulgong Nungarrin "Nungarrin"	AGD	55	730296	6429535	Open site	Valid	Artefact : -	Open Camp Site	851,1173,102800
	<b>Contact</b>		<b>Recorders</b>	Elizabeth Rich, Laura Jane Smith				<b>Permits</b>		192

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Birriwa  
Client Service ID : 792833

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
36-3-0220	DTG/ST23 - Narangarie	AGD	55	736930	6455200	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<b>Contact</b>		<b>Recorders</b>	Mr.Mark Rawson				<b>Permits</b>		
36-3-1431	SAC 51	GDA	55	739436	6431056	Open site	Valid	Artefact : 1		
	<b>Contact</b>		<b>Recorders</b>	Doctor, Tim Owen				<b>Permits</b>		
36-3-2508	SAC 52	GDA	55	739649	6431018	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		
	<b>Contact</b>		<b>Recorders</b>	Doctor, Tim Owen				<b>Permits</b>		
36-3-1421	IP 21	GDA	55	741443	6430523	Open site	Valid	Artefact : 1		
	<b>Contact</b>		<b>Recorders</b>	Doctor, Tim Owen				<b>Permits</b>		
36-3-1568	Ulan ID#289 (Cockabutta Creek 7)	GDA	55	749933	6433964	Closed site	Valid	Artefact : -		102138
	<b>Contact</b>		<b>Recorders</b>	Ms Laila Haglund				<b>Permits</b>		
36-3-0127	Bald Ridge Nor1;	AGD	55	744770	6451610	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<b>Contact</b>		<b>Recorders</b>	Warren Bluff				<b>Permits</b>		

#### \*\* 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

Report generated by AHIMS Web Service on 20/06/2023 for Eleanore Martin for the following area at Datum:GDA, Zone : 55, Eastings : 724281.0 - 750769.0, Northings : 6429390.0 - 6455408.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 100

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

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