APPENDIX H ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

PREPARED FOR

Acciona Energy Australia Global Pty Ltd

Keri Keri Wind Farm

Aboriginal Cultural Heritage Assessment Report

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SIGNATURE PAGE

Keri Keri Wind Farm

Aboriginal Cultural Heritage Assessment Report

0617753

Erin Finnegan
Technical Consulting Director - Heritage

Michael Guy
Project Manager

Mark Davey
Partner

Environmental Resources Management
Australia Pty Ltd
Level 14, 207 Kent Street
Sydney NSW 2000
T +61 2 8584 8888

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CONTENTS

EXECUTIVE SUMMARY 1

1. INTRODUCTION 4
1.1 SITE CONTEXT 4
1.2 PROJECT DESCRIPTION 4
1.3 AIMS AND OBJECTIVES 10
1.4 METHODOLOGY 10
1.5 SEARS 11
1.6 AUTHORSHIP 11
1.7 LIMITATIONS 12
1.8 DISCLAIMER – ABORIGINAL ANCESTRAL REMAINS 12
1.9 ACKNOWLEDGEMENTS 13

2. LEGISLATION AND GUIDELINES 14
2.1 COMMONWEALTH LEGISLATION 14
2.1.1 Environmental Protection and Biodiversity Conservation Act 1999 14
2.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 14
2.2 STATE LEGISLATION 14
2.2.1 NSW Environmental Planning and Assessment Act 1979 14
2.2.2 NSW National Parks and Wildlife Act 1974 15
2.2.3 NSW Heritage Act 1977 15
2.2.4 Native Title Act 1994 16
2.2.5 Aboriginal Land Right Act 1983 16
2.3 NON-STATUTORY CONSIDERATIONS 17
2.3.1 Leading Practice Principles: First Nations and Renewable Energy Projects (Clean Energy Council 2024) 17

3. ASSESSMENT METHODOLOGY 18
3.1 DESKTOP INVESTIGATION 18
3.2 ABORIGINAL COMMUNITY CONSULTATION 18
3.3 ABORIGINAL HERITAGE SURVEY 18
3.4 RECORDING AND ASSESSMENT METHODOLOGY 19
3.4.1 Previously recorded Aboriginal sites 19
3.4.2 Newly identified sites 19
3.4.3 Assessment of archaeological potential 19
3.4.4 Cultural heritage values assessment 19
3.5 IMPACT ASSESSMENT 20

4. ABORIGINAL COMMUNITY CONSULTATION 21
4.1 STAGE 1: NOTIFICATION OF PROJECT PROPOSAL AND REGISTRATION OF INTEREST 21
4.2 STAGE 2: PRESENTATION OF INFORMATION ABOUT THE PROPOSED PROJECT 22
4.3 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE 22
4.4 STAGE 4: REVIEW OF DRAFT HERITAGE REPORT 22

5.	ENVIRONMENTAL BACKGROUND	23
5.1	BIOREGION	23
5.2	GEOLOGY AND GEOMORPHOLOGY	24
5.3	LANDFORM	26
5.4	SOILS	29
5.5	HYDROLOGY	32
5.6	FLORA AND FAUNA	35
6.	ABORIGINAL ARCHAEOLOGICAL BACKGROUND	37
6.1	ETHNOGRAPHIC HISTORY	37
6.2	ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM	39
6.3	COLONIAL FRONTIER MASSACRE MAPPING	40
6.4	REGIONAL ARCHAEOLOGICAL BACKGROUND	41
6.4.1	Hay Plain Burial Landscape	41
6.4.2	Existing Regional Predictive Models	42
6.4.3	Local Archaeological Context	44
6.4.4	Preliminary Predictive Model	47
7.	HISTORICAL CONTEXT	48
7.1	HISTORICAL OVERVIEW	48
7.2	HISTORICAL HERITAGE DATABASE SEARCHES	52
7.2.1	Statutory Heritage Register Searches	53
7.2.2	Non-Statutory Considerations	53
8.	ARCHAEOLOGICAL SURVEY	54
8.1	AIMS	54
8.2	METHODOLOGY AND COVERAGE	54
8.3	PARTICIPANTS	55
8.4	SURVEY COVERAGE	57
8.5	SURVEY UNITS	64
9.	ABORIGINAL HERITAGE VALUES	137
9.1	REGISTERED ABORIGINAL HERITAGE SITES	137
9.2	NEWLY IDENTIFIED ABORIGINAL HERITAGE SITES	137
9.3	AREAS OF POTENTIAL ARCHAEOLOGICAL DEPOSIT	139
9.4	DISCUSSION	141
10.	HISTORIC HERITAGE VALUES	148
10.1	REGISTERED HISTORIC HERITAGE SITES	148
10.2	NEWLY IDENTIFIED HISTORIC HERITAGE SITES	148
10.3	HISTORICAL ARCHAEOLOGICAL POTENTIAL	149
11.	SIGNIFICANCE ASSESSMENT – ABORIGINAL HERITAGE	151

11.1 ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE ASSESSMENT FRAMEWORK 151

11.2 IDENTIFYING CULTURAL VALUES 152

11.2.1 Social or Cultural Significance 153
11.2.2 Historic Significance 153
11.2.3 Scientific Significance 154
11.2.4 Aesthetic Significance 156
11.2.5 Aboriginal Heritage Statement of Significance 156

12. IMPACT ASSESSMENT 157

12.1 POTENTIAL IMPACTS 157

12.2 ECOLOGICAL SUSTAINABLE DEVELOPMENT PRINCIPLES 163

12.2.1 The Precautionary Principle 163
12.2.2 The Principle of Intergenerational Equity 164

12.3 CUMULATIVE IMPACTS 164

13. SUMMARY AND RECOMMENDATIONS 165

13.1 ABORIGINAL HERITAGE 165

13.1.1 Aboriginal Heritage Sensitivity Mapping 165
13.1.2 Aboriginal Heritage Recommendations 167

13.2 HISTORIC HERITAGE 171

14. REFERENCES 172

APPENDIX A ABORIGINAL HERITAGE SITE DETAILS

APPENDIX B AHIMS SEARCH RESULTS

APPENDIX C ABORIGINAL CONSULTATION LOG

APPENDIX D PUBLIC ADVERTISEMENT

APPENDIX E EXAMPLE AGENCY LETTER

APPENDIX F AGENCY RESPONSES

APPENDIX G EXAMPLE INVITATION TO REGISTER

APPENDIX H RESPONSES TO INVITATION TO REGISTER

APPENDIX I PROPOSED SURVEY AND ASSESSMENT METHODOLOGY

APPENDIX J EXAMPLE PROJECT UPDATES

LIST OF TABLES

TABLE 1-1 DETAILED PROJECT COMPONENTS 6

TABLE 1-2 SEARS REQUIREMENTS FOR ABORIGINAL CULTURAL HERITAGE 11

TABLE 1-3 SUMMARY OF AUTHORS AND REVIEWERS' QUALIFICATION 11

TABLE 4-1 REGISTERED ABORIGINAL PARTIES 21

TABLE 5-1 SUMMARY OF KEY LANDFORMS WITHIN THE RIVERINE PLAIN 26

TABLE 5-2 MITCHELL LANDSCAPES WITHIN THE PROJECT AREA 27

TABLE 5-3 SOIL LANDSCAPES 29

TABLE 6-1 AHIMS DATABASE SEARCH DETAILS 39

TABLE 6-2	AHIMS REGISTERED SITE TYPES	39
TABLE 8-1	SURVEY ATTENDANCE	55
TABLE 8-2	SURVEY COVERAGE SUMMARY – SUS	58
TABLE 8-3	SURVEY COVERAGE SUMMARY – LANDFORMS (AS DESCRIBED BY ABORIGINAL HERITAGE SENSITIVITY)	64
TABLE 8-4	SURVEY UNIT DESCRIPTIONS	66
TABLE 9-1	AHIMS REGISTERED SITES	137
TABLE 9-2	NEWLY IDENTIFIED SITES	137
TABLE 9-3	SUMMARY OF ABORIGINAL ANCESTRAL REMAINS	138
TABLE 10-1	GRADING OF ARCHAEOLOGICAL POTENTIAL	149
TABLE 11-1	CULTURAL HERITAGE VALUES IDENTIFIED FOR THE PROJECT AREA AND SURROUNDS	152
TABLE 11-2	SCIENTIFIC SIGNIFICANCE ASSESSMENT OF ABORIGINAL SITES PRESENT	154
TABLE 12-1	POTENTIAL IMPACTS TO ABORIGINAL CULTURAL HERITAGE SITES ASSOCIATED WITH PROPOSED PROJECT LAYOUT	157

LIST OF FIGURES

FIGURE 1-1	PROJECT LOCALITY	8
FIGURE 1-2	PROJECT LAYOUT OVERVIEW	9
FIGURE 5-1	UNDERLYING GEOLOGY OF THE PROJECT AREA	25
FIGURE 5-2	MITCHELL LANDSCAPES ACROSS THE PROJECT AREA	28
FIGURE 5-3	ILLUSTRATION OF SOIL DEVELOPMENT WITH INCREASING DISTANCE FROM PALAEOCHANNEL LANDFORMS (SOIL CONSERVATION SERVICES OF NSW 1990: 64)	30
FIGURE 5-4	SOILS ACROSS THE PROJECT AREA	31
FIGURE 5-5	PHASES OF PALAEOCHANNELS ACROSS THE RIVERINA REGION, WITH APPROXIMATE LOCATION OF KERI KERI SHOWN BY ARROW (PAGE ET AL 2009: 22)	32
FIGURE 5-6	HYDROLOGICAL LANDSCAPE ACROSS THE PROJECT AREA	34
FIGURE 5-7	DISTRIBUTION OF SELECTED CULTURALLY IMPORTANT WETLAND SPECIES, WITH APPROXIMATE LOCATION OF KERI KERI SHOWN BY ARROW (CREATED BY D. DUFFY IN CONROY 2016)	36
FIGURE 7-1	HISTORICAL MAP OF THE REGION SHOWING THE PROJECT AREA - MOULMEIN A AND B (ARROWED; C.1860) (SLNSW, HTTPS://NLA.GOV.AU/NLA.OBJ-230694679/VIEW)	49
FIGURE 7-2	MURRUMBIDGEE RIVER DISTRICT SHOWING KERI KERI PASTORAL HOLDING (OUTLINED RED) IN RELATION TO BALRANALD TO WEST (ARROWED; 1901) (SLNSW, Z/M3 814/1901/1)	50
FIGURE 7-3	KERI KERI PASTORAL HOLDING, WITH PROJECT AREA IN RED (ND) (AUSTRALIAN NATIONAL UNIVERSITY, OPEN RESEARCH LIBRARY: E0058.PDF (ANU.EDU.AU))	51
FIGURE 7-4	KERI KERI HOMESTEAD LOCATED TO THE SOUTH OF THE PROJECT AREA, (HLRV MAP 572526)	52
FIGURE 8-1	SURVEY UNITS	65

FIGURE 9-1	ABORIGINAL HERITAGE SITES WITHIN THE PROJECT AREA	140
FIGURE 9-2	ABORIGINAL HERITAGE SITES BY LANDFORM	142
FIGURE 9-3	ABORIGINAL ANCESTRAL REMAINS WITHIN THE PROJECT AREA	144
FIGURE 10-1	HISTORIC FEATURES WITHIN SITE BOUNDARY OF KK-161	150
FIGURE 13-1	ABORIGINAL HERITAGE SENSITIVITY MAPPING	166

ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AAR	Aboriginal Ancestral Remains
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AMSL	Above Mean Sea Level
ATSIHP Act	Aboriginal and Torres Strait Islander Heritage Protection Act
BESS	Battery Energy Storage System
CMT	Culturally Modified Trees
DC	Direct Current
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	NSW Environmental Planning and Assessment Regulation 2000
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERM	Environmental Resources Management Australia Pty Ltd
ESD	Ecologically Sustainable Development
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GWh	Gigawatt hours
ha	Hectare
ICOMOS	International Council on Monuments and Sites
IHO	Interim Heritage Order
km	Kilometre
ka	One thousand years ago (kilo annum)
kV	kilovolt
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan

Acronyms	Description
LGA	Local Government Area
m	Metre
MW	Megawatt
MWh	Megawatt-hours
NPW Act	National Parks and Wildlife Act
NSW	New South Wales
PAD	Potential Archaeological Deposit
PCU	Power conversion unit
PSB	Prior Stream Variant B
PZC	Plain Zone C
RAP	Registered Aboriginal Party
RNE	Register of National Estate
SEARs	Secretary’s Environmental Assessment Requirements
SHR	State Heritage Register
SSD	State Significant Development
SU	Survey Unit
WTG	Wind Turbine Generator

TERMINOLOGIES

Terminology	Updated Description
Applicant	Acciona Energy Australia Global Pty Ltd
Application	Application for Development Consent under Part 4, Division 4.7 of EP&A Act and Sections 18 and 18A of EPBC Act.
Project	The development to which the Application applies generally.
Project Area	Red boundary to which the Application applies as shown in Figure 1-1 and Figure 1-2**.**
Disturbance Footprint	The area of land that is directly impacted by the Project including: all temporary and permanent disturbance areas; and all areas where vegetation may be removed during project construction and operation.
Temporary Disturbance	The area of land that will be temporarily disturbed during construction of the Project, and later rehabilitated.
Permanent Disturbance	The area of land that will be subject to permanent alteration as a result of construction and operation of the Project's infrastructure until decommissioning.
Study Area	The area which applies to specific technical studies and includes Disturbance Footprint (within which all Project disturbance will occur unless otherwise stipulated in the Project Description).
Assessment Area	Ecology only – as Guidelines require some specific terms. Includes all land within a 1,500 m buffer of the Project Area, as appropriate for non-linear developments under the BAM, for which landscape features such as native vegetation cover, bioregions, waterways and other features are described.
Subject Land	Ecology only – as Guidelines require some specific terms. The Subject land is the area in which Stage 1 of the BAM has been applied to assess the biodiversity values of the land where direct and indirect impacts may occur.
Host Landholder	Landholder where physical project elements are to be located on their land.
Associated	Affected residence where an agreement is in place between an applicant and a landholder/s, as per Large-Scale Solar Energy Guideline (DPE, 2022a).
Non-associated	Affected residence where an agreement is not in place between an applicant and a landholder/s, as per Large-Scale Solar Energy Guideline (DPE, 2022a).

ERM would like to acknowledge the Traditional Owners of the Balranald and Keri Keri region and pay respects to their Elders past, present, and emerging. We acknowledge and respect their Indigenous knowledge systems and recognise continuing connection to lands, waters, culture, and community.

EXECUTIVE SUMMARY

Environmental Resources Management Australia Pty Ltd was commissioned by Acciona Energy Australia Global Pty Ltd (the Applicant) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the site of the proposed Keri Keri Wind Farm (the Project). For the purposes of this ACHAR, the proposed windfarm is referred to as the Project Area.

The Project Area is located within the locality of Keri Keri, New South Wales, about 30 km southeast of Balranald. The Project Area encompasses approximately 18,012 hectares (ha), and the Project is proposed to include up to 155 wind turbine generators and associated infrastructure, including a battery energy storage system (BESS) facility, three electrical substations, transmission lines, access tracks, and weather monitoring masts. The expected operational life of the Project is 30 years.

This ACHAR examines Aboriginal cultural heritage values within the Project Area. This report has been prepared in accordance with the following guidelines:

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010a);*
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010b);*
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011); and*
- *The Australia International Council on Monuments and Sites, Charter for Places of Cultural Significance (also known as the Burra Charter, Australia ICOMOS 2013).*

This report also describes historic material that was recorded during the surveys for the ACHAR. Due to the limited nature of this material, ERM has determined that a separate report addressing historic heritage values was unnecessary and has assessed the potential impacts to historic heritage in this report, having regard to the NSW Heritage Manual.

Preparation of this report included:

- Desktop research and archaeological/cultural heritage site database searches;
- Review of previous assessment reports for the Project Area, and within the local area;
- Consultation with the local Aboriginal community;
- Field survey of multiple iterations of the Development Footprint (consisting of a 100 m buffer either side of any proposed project infrastructure);
- Assessment of cultural heritage significance;
- Impact assessment; and
- Preparation of management and mitigation recommendations.

The Project Area has been subject to one previous Aboriginal cultural heritage assessment, undertaken in 2017. That assessment identified seven archaeological sites, three of which were open campsites.

Field surveys undertaken for the current assessment included a preliminary survey of the Project Area that was used to refine predictive modelling for the project. Two supplementary surveys were undertaken, the final of which was done in conjunction with a forensic survey of the recorded Aboriginal Ancestral Remains (AAR).

The field survey identified 209 new sites within the Project Area. At these sites a total of 61 burials at 23 locations were recorded, in addition to seven burials recorded from an earlier survey and registered on the Aboriginal Heritage Information Management System.

The conclusions of this report can be summarised as:

- Aboriginal cultural heritage sites have been recorded across the Project Area, including a total of 209 newly recorded sites, of which 13 sites have been assessed to be subject to direct impact associated with the clearing corridor and infrastructure. A further 74 sites have been assessed to be subject to potential impact associated with the proposed works within the micro-siting corridor.
- Preservation and management of Aboriginal sites and cultural heritage values should form a key objective of development controls for the Project. ERM recommends further changes to the Project disturbance footprint at detailed design phase to avoid impacting sites.
- Micro-siting of project elements should be used as a mitigation measure to avoid disturbing Aboriginal cultural heritage sites. Micro-siting should occur within the boundary of the area previously surveyed. If micro-siting was to occur within any areas that have not been previously surveyed, additional archaeological survey should be undertaken.
- PADS, burials, earth mounds and hearths sites that are within the current proposed disturbance footprint will be subject to varying levels of impact. As they have unknown heritage significance, test/ and or salvage excavation is recommended to assess the potential deposit under the authorisation of the Minister's Conditions of Approval, to avoid unnecessary impact to sites. This approach aligns with *Leading Practice Principles: First Nations and Renewable Energy Projects*, namely Principles 1 and 3, which focus on respectful engagement and the preservation and protection of cultural heritage. Should test excavation determine that sites are significant, micro-siting of project elements should occur to avoid impact to these sites.
- An Aboriginal Cultural Heritage Management Plan (ACHMP) should be developed to describe the processes and procedures required to be implemented during the construction and operational phases of the Project. This should be developed in partnership with the Traditional Owners and should at a minimum include:
    - Areas of the earth mounds, hearths, burials or PADs which may be subject to harm as part of disturbance within the clearing and /or micro-siting corridor should be subject to archaeological test or salvage excavation if harm is unavoidable. This assessment has found that there are 39 sites, and their extents, (containing features such as hearths, burials, earth mounds or PADs) within or immediately adjacent to the current proposed disturbance footprint that will be subject to varying levels of impact.
    - There are 56 isolated artefact sites and artefact scatters that may be subject to harm as part of disturbance within the clearing and /or micro-siting corridor. Mitigation measures of surface collection, due to potential impacts, are recommended for these sites.

- The Applicant should liaise with landholders and Traditional Owners to develop appropriate stock management strategies to limit the further disturbance and damage to Aboriginal cultural heritage sites;
- The Applicant should consider the appointment and training of a Traditional Owner liaison/s to coordinate appropriately informed access for staff and contractors to culturally sensitive areas and provide cultural awareness training: and
- The Applicant should consider working with the Traditional Owners to develop and implement an additional research project that would extend the understanding of the Aboriginal cultural heritage values within the Project Area beyond the development footprint and place them in context of the broader cultural landscape of the region, and the internationally significant story of this area and its connection to the Willandra Lakes and Lake Mungo.

1. INTRODUCTION

This Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared for the Keri Keri Wind Farm (the Project) for Acciona Energy Australia Global Pty Ltd (the Applicant). The Applicant is seeking State Significant Development (SSD) consent for the Project under Part 4, Division 4.7 of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

This ACHAR supplements the Environmental Impact Statement (EIS) prepared by Environmental Resources Management Pty Ltd (ERM) for the Project and is required to be prepared as part of the SSD consent process.

1.1 SITE CONTEXT

The Project is situated about 30 kilometres (km) southeast of Balranald, and 75 km southwest of Hay in the Murray River Local Government Area (LGA) (refer Figure 1-1). The Project is located within the South West Renewable Energy Zone (REZ) and is directly south of the Sturt Highway on land that is predominately used for sheep grazing and cropping. The Project extends over an area of approximately 18,012 hectares (ha) across 66 freehold land parcels (Project Area).

The under-construction Project EnergyConnect intersects the Project Area. Project EnergyConnect is a new 900 km TL (interconnector) that will connect power grids across three (3) Australian states between Wagga Wagga in NSW and Robertstown in SA, with a connection to Red Cliffs in VIC. The Applicant intends to bid for Access Rights to this interconnector. The 330 kV overhead TL will connect the Project to Project EnergyConnect.

1.2 PROJECT DESCRIPTION

The Project involves the construction, operation, maintenance, and decommissioning of a wind farm, with up to 155 wind turbine generators (WTGs), together with associated and ancillary infrastructure.

The Project consists of the following key components:

- Up to 155 WTGs, each comprising:
  - Three blades mounted to a rotor hub (hub height of 200 m) on a nacelle above a tubular steel tower, with a blade tip height (blade length plus hub height) of up to 291.5 m AGL;
  - A gearbox and generator assembly housed in the nacelle; and
  - Adjacent hardstands for use as crane pads, assembly and laydown areas;
- Electrical infrastructure comprising:
  - A battery energy storage system (BESS) of up to 200 MW/800 MWh (approximately four hours of storage);
  - Three 33/330 kV electrical substations, including control room, communications tower, transformers, circuit breakers, switches, lighting protection and other ancillary equipment;
  - 64.5 km of overhead 33 kV and 175.3 km of underground 33 kV electrical reticulation connecting the WTGs to the onsite substations (where practicable, these are generally following site access tracks);

  - 20.0 km of 330 kV overhead transmission line connecting the three substations to a new electrical switchyard (including circuit breakers, switches and other ancillary equipment) to provide connection to the planned NSW-SA interconnector, Project EnergyConnect currently under construction;
- Ancillary infrastructure:
  - Four site access points with one along Sturt Highway and three along Keri Keri Road;
  - Three operations and maintenance (O&M) facilities and four security huts;
  - Four biosecurity wash bays;
  - Internal access tracks connecting the WTGs and associated Project infrastructure with the public road network;
  - Decommissioning of four temporary meteorological monitoring masts and installation of up to four permanent meteorological monitoring masts for power testing. The permanent monitoring masts will be located close to a WTG location and will have a maximum height of approximately 159 m AGL; and
- Upgrades to public roads and intersections required for the delivery of oversize and overmass (OSOM) WTG components, transformers and associated construction-phase materials and vehicular movements.

The following temporary elements will be required during the construction phase of the Project:

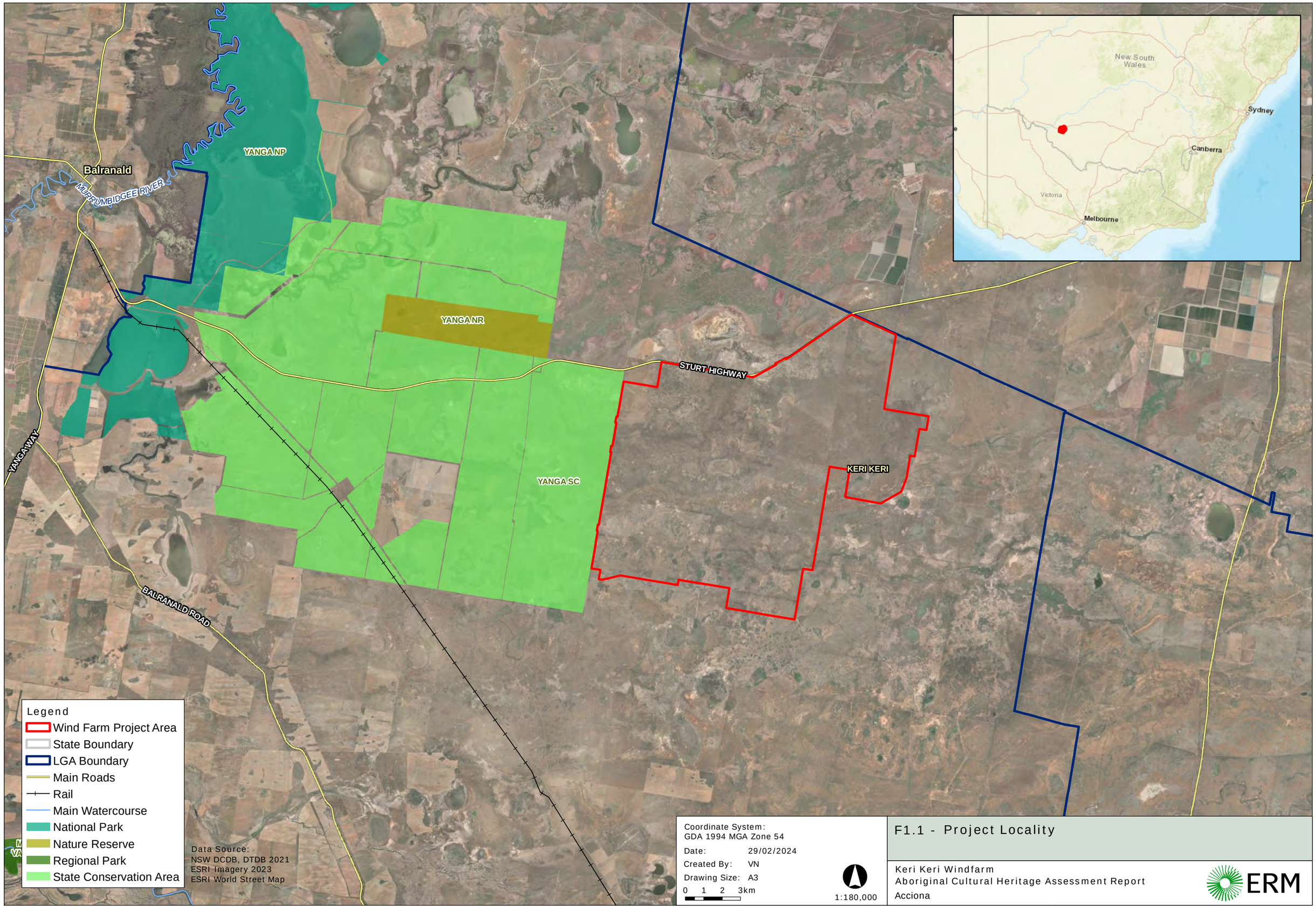
  - Two temporary construction site compounds, comprising site buildings and facilities for construction contractors / equipment, site offices, car parking and amenities for the construction workforce;
  - Mobile concrete batching plants to supply concrete for WTG footings and substation construction works;
  - Earthworks for access tracks, WTG platforms and foundations;
  - Borrow pit and rock crushing facilities for the generation of suitable aggregate for concrete batching and/or for access track and hardstand construction;
  - One workers' accommodation compound and carpark;
  - Hardstand laydown areas for the storage of construction materials, plant, and equipment;
  - Up to four temporary meteorological monitoring masts. The temporary monitoring masts will be located close to a WTG location with a maximum height of approximately 159 m AGL;
  - External water supply and storage for concrete batching and construction activities;
  - The transport, storage and handling of fuels, oils and other hazardous materials for construction and operation of wind farm infrastructure; and
  - Beneficial reuse of materials won from within the Disturbance Footprint during cut and fill and WTG foundation excavation works for use in access track, hardstands and foundation material.

Ultimately the project will be decommissioned and the Project Area will be rehabilitated.

TABLE 1-1 DETAILED PROJECT COMPONENTS

Project Component	Description	Quantity
Project Footprint		
Project Area	Total area to which the Application applies	18,012 ha
Disturbance Footprint	The area of land that is directly impacted by the Project including: all temporary and permanent disturbance areas; and all areas where vegetation may be removed during project construction and operation. This is also referred to as the 'clearing corridor' for which the conceptual area of proposed ground disturbance is assessed in this EIS. The clearing corridor is buffered by a 100 m 'micro-siting corridor' which is regarded in technical assessments but is not considered as the total disturbance area.	Up to 1,137 ha
Permanent Disturbance Footprint	The area of land that will be subject to permanent alteration as a result of the Project's infrastructure until decommissioning. This is generally associated with areas for the WTG hardstands, met masts, BESS, O&M facilities, substations, switchyard, biosecurity wash bays, security huts, and internal roads. These areas will not be suitable for agricultural use.	Up to 574 ha
WTGs		
Rotor diameter	183 m	155 WTGs
Blade length	91.5 m	
Uppermost blade tip	291.5 m	
Tower (hub) height	200 m	
WTG hardstand	Approx. 2.83 ha per WTG required for construction. Approx. 0.67 ha per WTG during operation after rehabilitation.	
Ancillary Infrastructure		
New 330 kV transmission line	Towers up to 70 m high, spaced approx. 500 m (subject to terrain), with 60 m easement	20.0 km
Underground 33 kV lines	Trenching for underground electrical lines will be approx. 0.6 m wide per circuit by 1.0 m deep.	175.3 km
Overhead 33 kV lines	Where ground conditions are not suitable for open cut trench installation, overhead single circuit electricity lines will be installed using concrete poles, with 30 m easement	64.5 km
33/330 kV Substation	200 m x 300 m + 35 m APZ all sides	3
Switchyard	200 m x 300 m + 35 m APZ all sides	1
200 MW/800 MWh BESS	400 m x 300 m + 35 m APZ all sides	1
O&M Facility including carpark	100 m x 100 m + 35 m APZ all aides	3
Security hut	20 m x 20 m near each site access point	4

Project Component	Description	Quantity
Biosecurity wash bays	70 m x 110 m near each site access point	4
New internal access tracks and drainage	Approximately 15 m wide formation including 5.5 m roadway plus shoulders and drainage as required.	148.3 km
Transport route and site access	Site access off Keri Keri Road and Sturt Highway. Upgrades will be required at several locations along the route.	N/A
Permanent meteorological masts (with concrete footings for mast and guy wires)	Sensor height at 159 m on approximately 3 m x 3 m concrete foundation.	4
Temporary Facilities		
Concrete batching plants	150 m x 100 m + 15 m batters	2
Laydown Areas	200 m x 150 m + 15 m batters	3
Borrow pit	200 m x 200 m + 15 m batters	1
Construction compound (site office, car parking and storage areas)	100 m x 100 m + 15 m batters	2
Temporary meteorological masts (with concrete footings for mast and guy wires)	Sensor height at 159 m on approximately 3 m x 3 m concrete foundation.	4
APZ requirements	Min. 20 m per meteorological mast Min. 20 m all sides of buildings	N/A
Other Project elements		
Duration and start of construction phase	Commencing late 2027 for approximately 24 months Peak construction activities to occur over approximately 12 months Mechanical completion: Late 2029 Testing/commissioning completion: Late 2029	
Construction hours	Monday to Friday: 7.00 am to 6.00 pm; Saturday: 8.00 am to 6.00 pm; and No works on Sunday or public holidays.	
Construction workforce	Up to 650 FTE	
Duration of operation phase	30 years	
Operational workforce	Approximately 12 long-term service and maintenance jobs will be created during Project operation.	
Decommissioning	2055 or later subject to approval	
Capital investment	$2.8 billion AUD	
Net reduction in greenhouse gas emissions	2.6 million tonnes CO^2 equivalent per annum	



F1.1 - Project Locality

Keri Keri Windfarm
Aboriginal Cultural Heritage Assessment Report
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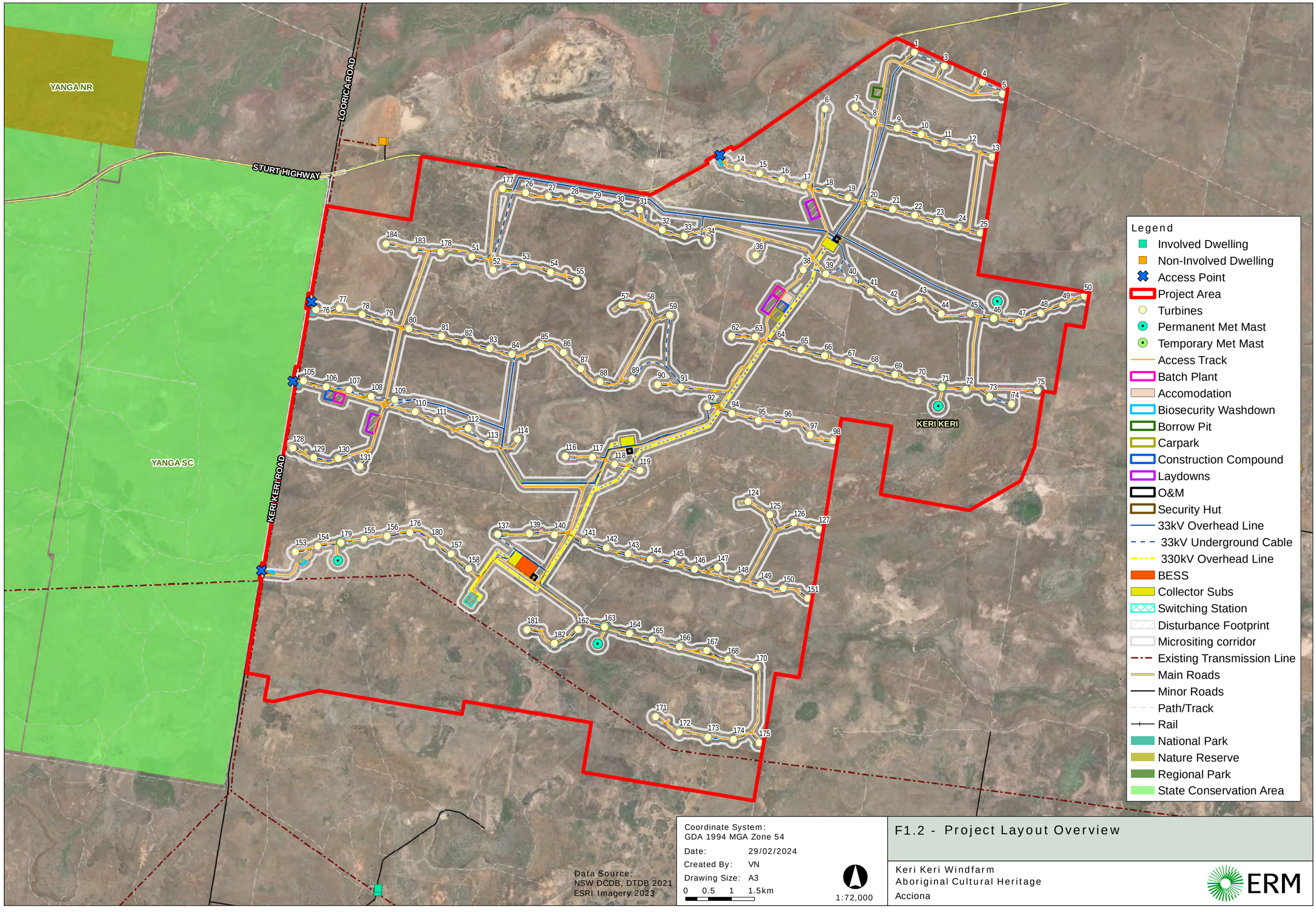

F1.2 - Project Layout Overview

Keri Keri Windfarm
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1.3 AIMS AND OBJECTIVES

This report aims to:

- Identify Aboriginal cultural heritage resources within the Project Area, including archaeological and intangible cultural heritage values;
- Present the results of Aboriginal community consultation undertaken during the preparation of this report;
- Review relevant historic and Aboriginal cultural heritage databases;
- Review historical and environmental contextual data;
- Utilise background information to develop predictive models for the presence of Aboriginal sites within the Project Area;
- Document the results of an Aboriginal cultural heritage survey;
- Assess the significance of identified Aboriginal cultural heritage values;
- Evaluate the impact of the proposed works on any identified Aboriginal cultural heritage resources; and
- Provide recommendations for the mitigation of impacts and management of identified Aboriginal cultural heritage resources.

1.4 METHODOLOGY

This report has been prepared in accordance with the following guidelines:

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a) (Consultation Requirements);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b) (Code of Practice);
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) (ACHAR Guide); and
- *The Australia International Council on Monuments and Sites, Charter for Places of Cultural Significance* (also known as the Burra Charter, Australia ICOMOS 2013).

This ACHAR also describes historic material that was recorded during the surveys. Due to the limited nature of this material, ERM has determined that a separate report addressing historic heritage values is unnecessary and has assessed the potential impacts to historic heritage in this report and having regard to the NSW Heritage Manual.

Preparation of this ACHAR included:

- Desktop research and archaeological site database interrogation;
- Review of previous assessments for the Project Area, and within the local area;
- Consultation with the local Aboriginal community;
- Field survey of the Project Area;
- Assessment of heritage significance;
- Impact assessment; and
- Development of Project-specific management and mitigation measures.

1.5 SEARS

The SEARs (SSD-38358962) for the Project were issued on 14 April 2022. The requirements for the Aboriginal heritage assessment and where they have been addressed is summarised in Table 1-2.

TABLE 1-2 SEARS REQUIREMENTS FOR ABORIGINAL CULTURAL HERITAGE

SEARs (SSD-38358962) Requirement	Where addressed
An assessment of the impact to Aboriginal cultural heritage items (archaeological and cultural) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), including results of archaeological test excavations (if required);	Whole report
Provide evidence of consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures), having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010); and	Section 4
An assessment of the impacts to historic heritage having regard to the NSW	Section 10 and Section 13.2

1.6 AUTHORSHIP

A summary of the ERM staff involved in the preparation of this report and their relevant qualifications if provided in Table 1-3 below.

TABLE 1-3 SUMMARY OF AUTHORS AND REVIEWERS' QUALIFICATION

Name	Title	Role	Relevant Qualifications and years of experience in cultural heritage management
Brent Koppel	Environment Consultant	Fieldwork, Author	• Bachelor of Science (Geosciences) (Honours), University of Wollongong, 2010 • Doctor of Philosophy (Archaeology), University of Wollongong • One year professional experience
Maggie Cronin	Heritage Consultant	Fieldwork	• Bachelor of Arts (Hons), Archaeology and Anthropology, University of Queensland 2016 • Four years' professional experience
Annabelle Davis	Principal Heritage Consultant	Fieldwork	• Bachelor of Arts (Hons) Archaeology, University of Western Australia, 2000 • 21 years' professional experience
Damian Wall	Heritage Sub-consultant	Fieldwork, Predictive Modelling	• Bachelor of Applied Science, Parks, Recreation and Heritage 1996 • Master of Environmental Management, Environmental Engineering Technology/ Environmental Technology 2003 • Graduate Certificate in Cultural Heritage Management, Aboriginal Cultural Heritage 2011 • 17 years' professional experience

Name	Title	Role	Relevant Qualifications and years of experience in cultural heritage management
Alyce Haast	Senior Heritage Consultant	Fieldwork Lead, Author	• Bachelor of Science (Archaeology), University of Western Australia, 2012 • Master of Professional Archaeology, University of Western Australia, 2014 • Eight years' professional experience
Elspeth Mackenzie	Principal Heritage Consultant	Author, Data Manager	• Bachelor of Arts (Hons) Anthropology & Archaeology, University of Queensland, 2002 • Post Graduate Diploma of Museum Studies, Deakin University, 2003 • Master of Cultural Heritage, Deakin University, 2005 • 20 years' professional experience
Erin Finnegan	Technical Consulting Director, Heritage	Technical Review	• Bachelor of Arts (Cultural Anthropology), Macalester, 1998 • Post Graduate Diploma – Museum and Heritage Studies, University of Cape Town 2003 • Master of Philosophy (Archaeology), University of Cape Town, 2006 • 19 years' professional experience
Mark Davey	Partner	QA Review	• 30 years of professional experience • PhD, University of Queensland • Masters of Marine Science, University of Queensland • Bachelor of Applied Science

1.7 LIMITATIONS

The initial survey approach was designed to survey 100% of the potential development footprint of the Project (that being a 100 m either side of any project infrastructure). However, after the first field survey the approach was adjusted to cover 100% of landscapes with high/very high archaeological potential (as per the predictive model), and 50% of landscapes with low to moderate archaeological potential. High/very high potential archaeological landscapes were associated with palaeochannel environments as delineated by gently raised red sandy landforms. These landscapes were a focus of the survey.

The total area surveyed to inform the ACHAR was 94% of high/very high archaeological potential landscapes, 44% of moderate archaeological potential landscapes, and 39% of low archaeological potential landscapes within the development footprint. Based on the number and type of sites recorded in each of these landscapes, ERM believes this survey coverage to be sufficient to provide a clear understanding of the cultural landscape, and to determine appropriate management recommendations for the Project.

1.8 DISCLAIMER – ABORIGINAL ANCESTRAL REMAINS

Photographs of human remains have been included in this ACHAR based on advice received from the Registered Aboriginal Parties (RAPs). All detailed site information including such photographs will be removed from any version of the report that is put on public display.

1.9 ACKNOWLEDGEMENTS

ERM gratefully acknowledges the support and input of all the RAPs and their representatives who participated in the fieldwork, forensic survey, and consultation workshops.

ERM also acknowledges the involvement and input of Damian Wall of Red-gum Environmental Consulting regarding detailed knowledge of the local area and development of the predictive model, and Colin Pardoe's role in the forensic survey of AAR and his insights into the cultural landscape of the region.

2. LEGISLATION AND GUIDELINES

The following section provides an overview of the relevant legislation and guidelines under which this assessment has been prepared.

2.1 COMMONWEALTH LEGISLATION

2.1.1 ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; as amended 2004) provides the framework for the Commonwealth Government's environmental legislation. The EPBC Act outlines a legal framework for the protection and management of nationally and internationally important flora, fauna, ecological communities, and heritage places. Several heritage listings were established under the EPBC Act including the Commonwealth Heritage List, National Heritage List, and Register of National Estate (RNE; now repealed).

There are no sites protected under the EPBC Act within, or in proximity to the Project Area.

2.1.2 ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) assists in the protection of places, areas and objects that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'.

The ATSIHP Act is designed to deal with Aboriginal cultural property (intangible heritage). These values are not currently protected under the *NSW National Parks and Wildlife Act 1974* (NPW Act).

The Commonwealth Minister can make declarations to protect these areas and objects from specific threats of injury or desecration. The responsible Minister may make a declaration under Section 10 of the ATSIHP Act in situations where state or territory laws do not provide adequate protection of intangible heritage.

While no formal database of Section 10 applications or declarations is publicly available this information is registered in gazettal notices within the Federal Register of Legislation. A search of this register did not identify any Section 10 applications or declarations relevant to the Project Area.

2.2 STATE LEGISLATION

2.2.1 NSW ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts, including those on cultural heritage, must be considered when making decisions about the future of a place.

2.2.1.1 LOCAL ENVIRONMENTAL PLANS

The EP&A Act allows for the preparation of planning instruments to direct development within NSW.

This includes Local Environmental Plans (LEPs), which are administered by local government, and principally determine land use and the process for development applications. LEPs usually include a schedule of identified heritage items.

The Project Area is within the Murray River LGA, which is an amalgamation of the Wakool Shire Council and Murray Shire Council. The Draft Murray River LEP 2021 states that the provisions of the former LEPs still apply to the LGA. As such the Project Area is governed by the Wakool LEP 2013.

2.2.2 NSW NATIONAL PARKS AND WILDLIFE ACT 1974

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to destroy, deface, damage, or move them from the land. All Aboriginal objects within NSW are protected under Part 6, and particularly Section 90, of the NPW Act. Under Section 5 of the Act, "Aboriginal Object" means any deposit, object, or material evidence (not being a handicraft made for sale) relating to the Indigenous habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.

Under Section 86 of the NPW Act, a person who, without first obtaining the consent of the Director-General, knowingly harms or desecrates an Aboriginal object or Aboriginal place is guilty of an offence. In most circumstances, it is required that an Aboriginal Heritage Impact Permit (AHIP) be obtained for any impact to an Aboriginal object or place. Heritage NSW is the responsible authority, with the Director General of that department the consent authority. However, as the Project is assessed as a SSD, an AHIP is not required under Part 4.7 clause 4.41 (1)(d) of the Environmental Planning and Assessment Act 1979 (EP&A Act). Instead, Aboriginal cultural heritage will be managed by an Aboriginal Cultural Heritage Management Plan (ACHMP) that will be developed following Project approval. The ACHMP will contain the recommendations of this ACHAR, as well as an unexpected finds protocol, results of artefact salvage or archaeological excavations, procedures to manage unexpected discoveries or human remains, and any other policies agreed with the Aboriginal community.

Sites of traditional significance that do not necessarily contain archaeological materials may be gazetted as 'Aboriginal places' and are protected under Section 84 of the Act. This protection applies to all sites, regardless of their significance or land tenure.

Aboriginal object and places are recorded on the Aboriginal Heritage Information Management System (AHIMS) database. The results of a search of the AHIMS database for registered Aboriginal objects and places is detailed in Section 6.2 and Appendix B.

2.2.3 NSW HERITAGE ACT 1977

The *Heritage Act 1977* (Heritage Act) protects the cultural and natural history of NSW with emphasis on historic (non-Aboriginal) heritage items, including places, buildings, works, relics, moveable objects, precincts, historic shipwrecks and archaeological sites of State or local significance. Protection is provided through protection provisions and the establishment of a Heritage Council and State Heritage Register (SHR).

Section 136 of the Heritage Act allows for the Minister or Chair of the Heritage Council to place a 'Stop Work' Order on a building, work, relic or place, that is not subject to an Interim Heritage Order (IHO) or listed on the SHR and that is being or about to be harmed. Work can be stopped for 40 days, whilst the imposition of an IHO is considered.

Note that *The Heritage Act 1977* is 'turned off' during the assessment of SSD projects. Instead, the project-specific SEARs identify what historic heritage information needs to be included in the EIS.

2.2.3.1 STATE HERITAGE REGISTER

The SHR was established under Section 22 of the Heritage Act and is a list of places and objects of particular importance to the people of NSW, including archaeological sites. The SHR is maintained by Heritage NSW and includes a diverse range of over 1500 items, in both private and public ownership. To be listed, an item must be deemed to be of heritage significance for the whole of NSW. Listing on the SHR controls activities such as alteration, damage, demolition, and development.

2.2.3.2 SECTION 170 HERITAGE AND CONSERVATION REGISTER (S170 REGISTER)

Under Section 170 of the Heritage Act, NSW government agencies are required to maintain a register of the heritage assets it owns or controls. Under S170A of the Heritage Act 1977, government agencies are required to notify the Heritage Council about decisions affecting assets on the s170 register including removing the item from the register, transferring ownership of a listed item, or vacating and/or demolishing part or all of the item.

Government agencies are also required to maintain properties on the S170 and SHR with due diligence in accordance with State Owned Heritage Management Principles approved by the Minister on the advice of the Heritage Council.

2.2.4 NATIVE TITLE ACT 1994

The *Native Title Act 1994* was introduced to work in conjunction with the *Commonwealth Native Title Act 1993*. The Native Title Act recognises and protects the traditional and continuing rights and interests of Aboriginal and Torres Strait Island people. This may include the right to protect places and areas that area important under traditional law where Native Title has been determined.

The Project Area is not located within the boundaries of a native title claim or determination.

2.2.5 ABORIGINAL LAND RIGHT ACT 1983

The *Aboriginal Land Rights Act 1983* established Aboriginal Land Councils (at a State and Local Level). In relation to Aboriginal culture and heritage these bodies have a statutory obligation under Section 52 of the *Aboriginal Land Rights Act 1983* to:

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

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

The Project Area is within the boundary of Balranald Local Aboriginal Land Council (LALC).

2.3 NON-STATUTORY CONSIDERATIONS

2.3.1 LEADING PRACTICE PRINCIPLES: FIRST NATIONS AND RENEWABLE ENERGY PROJECTS (CLEAN ENERGY COUNCIL 2024)

The Clean Energy Council's *Leading Practice Principles: First Nations and Renewable Energy Projects* is the first comprehensive national Guide on First Nations engagement, participation and benefit sharing for renewable energy projects. The Guide was co-designed with First Nations peoples and is an important link between community and industry. The Guide established ten principles that are practical and culturally appropriate:

1. Engage respectfully;
2. Prioritise clear, accessible and accurate information;
3. Ensure cultural heritage is preserved and protected;
4. Protect Country and environment;
5. Be a good neighbour;
6. Ensure economic benefits are shared;
7. Provide social benefits for community;
8. Embed land stewardship;
9. Ensure cultural competency; and
10. Implement, monitor and report back.

The purpose of the Guide is to facilitate the adoption and implementation of these principles by industry, through the identification of minimum and leading practice standards, as well as practical information and guidance on how to appropriately and effectively engage with First Nations peoples and communities. This will support the industry to deliver better engagement and outcomes for First Nations peoples.

A copy of the guidelines can be accessed at: https://assets.cleanenergycouncil.org.au/documents/resources/reports/Leading-Practice-Principles-First-Nations-and-Renewable-Energy-Projects.pdf

This ACHAR has been prepared in accordance with the relevant principles of this guidance and to the standard it describes.

3. ASSESSMENT METHODOLOGY

3.1 DESKTOP INVESTIGATION

Desktop investigation included a comprehensive review of existing background information to gain a contextual understanding of the cultural landscape associated with the Project Area. Review of background information included assessment of environmental information (Section 5), historic land use, available ethnographic information, as well as existing registered Aboriginal heritage sites, existing AHIPs and reports.

3.2 ABORIGINAL COMMUNITY CONSULTATION

Aboriginal community consultation was undertaken in accordance with the consultation requirements as is detailed in Section 4.

In accordance with the Consultation Requirements, consultation with Aboriginal people formed an essential part of the heritage assessment process to:

- Determine potential harm on Aboriginal cultural heritage from proposed activities; and
- Inform management and mitigation measures where it is determined that harm cannot be avoided.

3.3 ABORIGINAL HERITAGE SURVEY

A preliminary Aboriginal heritage survey was undertaken from 19-29 April 2022 by ERM Principal Heritage Consultant Annabelle Davis, ERM Heritage Consultants Maggie Cronin and Brent Koppel, Damian Wall of Red-gum Environmental Consulting, and RAP representatives.

While the initial intent of the survey was to undertake full coverage of the Project disturbance footprint, poor survey conditions including waterlogging limited the ability of the team to complete long survey transects. The survey methodology was therefore adjusted to target representative samples of each landform type within the Project Area focusing on areas of highest archaeological potential. Aerial photographs and topographic maps were carried by the survey team. A photographic record was kept, documenting the existing environment and landform context of each survey unit.

Results of the preliminary Aboriginal cultural heritage survey were utilised to refine early predictive modelling of the Project Area. The refined predictive modelling and mapping in turn informed design refinements. Following the design refinements, two supplementary survey programs were undertaken across landforms which had previously not been subject to survey. The first supplementary field survey was undertaken from 19 September-1 October 2022 by ERM Senior Heritage Consultant Alyce Haast, ERM Heritage Consultants Maggie Cronin and Brent Koppel; Damian Wall, and RAP representatives.

The second supplementary field survey was undertaken from 20-24 February 2023 by ERM Principal Heritage Consultant Elspeth Mackenzie, ERM Heritage Consultants Maggie Cronin and Brent Koppel, and representatives of the RAPs. This final survey occurred in conjunction with a forensic survey of the recorded AAR undertaken by Damian Wall, Forensic Anthropologist Colin Pardoe, and representatives of the RAPs.

3.4 RECORDING AND ASSESSMENT METHODOLOGY

3.4.1 PREVIOUSLY RECORDED ABORIGINAL SITES

Where accessible, previously recorded Aboriginal cultural heritage sites within or in proximity to the Project footprint were visited during the site survey to assess current condition and confirm their spatial extent.

3.4.2 NEWLY IDENTIFIED SITES

Newly identified sites were recorded in accordance with the Requirement 6-8 of the Code of Practice and the Guide to Completing the *AHIMS Site Recording Form* (OEH 2012).

Recorded details for each newly identified site included:

- The spatial extent of the site as delineated by either:
  - The spatial extent of the visible objects;
  - Obvious physical boundaries where present; or
  - Identification by the Aboriginal community based on cultural information.
- A photographic record with scale at an appropriate context to record both the site feature and its context;
- Geospatial information of the site recorded using GPS receivers; and
- Sufficient detail to enable registration of the site on AHIMS.

3.4.3 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

Areas identified with potential to contain subsurface deposits of Aboriginal objects, or the potential for Aboriginal objects to otherwise be obscured by surface conditions, were recorded as areas of Potential Archaeological Deposit (PAD).

The assessment of areas of PAD was based primarily on assessment of:

- Whether Aboriginal objects were likely to have been deposited within a location because of Aboriginal occupation or through post depositional processes; and
- Whether historic land use or disturbances was likely to resulted in impact or removal of any Aboriginal objects that may have been present within the assessment area.

3.4.4 CULTURAL HERITAGE VALUES ASSESSMENT

Aboriginal cultural heritage sites, objects and places hold value for communities in many ways. The nature of those values is an important consideration when deciding how to manage a cultural heritage site, object or place and balance competing land use options.

Assessment of the Aboriginal cultural heritage significance of the Project Area has been completed in accordance with the requirements of the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (ACHAR Guide) (OEH 2011).

Cultural heritage values for the Project Area were identified through a combination of desktop assessment and consultation undertaken during the preparation of the ACHAR. This information was collected by the ERM heritage team and presented in Section 11.

3.5 IMPACT ASSESSMENT

Following the identification of Aboriginal cultural values, an impact assessment would be completed to identify whether any Aboriginal objects, places, or cultural values have the potential to be harmed through development of the preferred scenario.

The impact assessment for identified Aboriginal cultural values is guided by the definition of harm under the NPW Act, which is limited to impact which '*…destroys, defaces, damages an object or place or in relation to an object – moves the object from land on which is has been situated'*.

'Direct harm' may occur because of activities which disturb the ground surface or identified cultural values including site preparation activities, and the installation of services and infrastructure.

'Indirect harm' for Aboriginal cultural heritage refers to impacts that may affect sites or features located immediately beyond or within the area of the proposed work. Indirect harm may include impacts from vibration, increased visitation, increased erosion, or changing access to wild resources. The impact assessment evaluates the potential archaeological impacts for the proposal. It assessed the type of harm, the degree of harm, and the consequence of harm for any known Aboriginal sites or areas of potential.

The direct and indirect impact associated with the Project is assessed in Section 12.

4. ABORIGINAL COMMUNITY CONSULTATION

This chapter contains details of the Aboriginal community consultation undertaken regarding the Aboriginal cultural heritage of the Project Area. Fulfilment of these requirements for this project is outlined below. All correspondence is recorded in the Aboriginal Heritage Consultation Log, included as *Appendix C*.

4.1 STAGE 1: NOTIFICATION OF PROJECT PROPOSAL AND REGISTRATION OF INTEREST

The aim of Stage 1 of the consultation process is to *identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.*

On behalf of the Proponent, ERM actively sought to fulfil this aim and identify stakeholder groups or people who wished to be consulted about the Project and invite them to register their interest. It was determined that there was no approved determination of Native Title over the Project Area (per 4.1.1 of the guidelines).

To identify people with a potential interest in the project (as per 4.1.2 of the Consultation Requirements), a Public Advert stating the location and nature of the Project, and seeking registration of interested Aboriginal parties was run in the Guardian Swan Hill on 18 January 2022 (Appendix D).

In addition, a letter containing these details (dated 12 January 2022, example provided in Appendix E) was sent to the following agencies:

- Balranald LALC;
- Murray Local Land Services;
- National Native Title Tribunal;
- Native Title Services Corporation;
- Heritage NSW;
- Office of the Registrar, *Aboriginal Land Rights Act 1983*; and
- Murray River Council.

Responses received from these agencies indicated a total of eight [8] Aboriginal individuals or organisations may have an interest in the Project (Appendix F). An invitation to register letter was sent to each of these identified parties on 1 February 2022 and a period of 14 days was provided for the parties to respond. An example copy of this letter is provided as Appendix G. On the 16 February 2022 the Nari Nari Tribal Corporation (who manage the adjacent Gayini Nimmie-Caira were contacted to identify whether they would be interested in the Project.

A full list of the RAPs can be found in Table 4-1 below, and any registrations provided in writing can be found at Appendix H.

TABLE 4-1 REGISTERED ABORIGINAL PARTIES

Individual/Organisation
[redacted] – Individual
[redacted] – Nari Nari Tribal Council Ltd

Individual/Organisation
[redacted] – Hay LALC
[redacted] – Banggerang Aboriginal Corporation
[redacted] – Pappin Family Aboriginal Corporation
[redacted] – Balranald LALC
[redacted] – Yarkuwa LALC

4.2 STAGE 2: PRESENTATION OF INFORMATION ABOUT THE PROPOSED PROJECT

The aim of Stage 2 of the consultation process was to *provide registered Aboriginal parties with information about the scope of the proposed project and the proposed cultural heritage assessment process.*

The proposed survey and assessment methodology was sent to each of the RAPs (dated 25 February 2022) (Appendix I). The letter included:

- An outline of the proposed works;
- The proposed assessment and survey methodology including the procedure should AAR be identified; and
- A request for RAPs to identify any areas of cultural significance or interest within the Project Area.

Interest in participating in the survey program was received from several RAPs. No specific comment on the methodology or cultural values were received during the review period of the methodology.

Project updates to all RAPs were provided before each of the supplementary heritage surveys, on 5 September 2022 and 15 February 2023 (an example of each provided in Appendix J).

4.3 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

Stage 3 of the consultation process involved discussion of cultural values and intangible elements of significance. Feedback on the cultural heritage significance of the Project Area was requested as part of the survey and assessment methodology. Cultural values were also discussed during the heritage survey, at a focus group field meeting held on 21 September 2022, and during a consultation workshop held with the Applicant on 23 February 2023. The theory behind *Leading Practice Principles: First Nations and Renewable Energy Projects*, namely Principles 1 and 3 which focus on respectful engagement and the preservation and protection of cultural heritage was used throughout the consualtion process.

4.4 STAGE 4: REVIEW OF DRAFT HERITAGE REPORT

The draft ACHAR was provided to RAPs on 12 February 2024, via email. Each of the RAPs was provided 28 days to provide comments on the report and any recommended management and mitigation measures, prior to finalisation. One comment was received on the 16 February 2024 from Banggerang Aboriginal Corporation who agreed with the report and had no further comments.

5. ENVIRONMENTAL BACKGROUND

The nature and distribution of Aboriginal cultural values and materials in a landscape are strongly influenced by environmental factors such as topography, geology, landforms, climate, geomorphology, hydrology and the associated soils and vegetation (Hughes & Sullivan 1984). These factors influence the availability of plants, animals, water, raw materials; the location of suitable camping places, ceremonial grounds, burials; and suitable surfaces for the application of rock art. As site locations may differ between landforms due to differing environmental constraints that result in the physical manifestation of different spatial distributions and forms of archaeological evidence, these environmental factors are used in constructing predictive models for Aboriginal site locations.

Environmental factors also effect the degree to which cultural materials have survived in the face of both natural and human influences and affect the likelihood of sites being detected during ground surface survey. Site detection is dependent on several environmental factors including surface visibility (which is determined by the nature and extent of ground cover including grass and leaf litter etc.) and the survival of the original land surface and associated cultural materials. It is also dependent on the exposure of the original landscape and associated cultural materials (by water, sheet, and gully erosion, ploughing, vehicle tracks etc.) (Hughes & Sullivan 1984). Combined, these processes and activities are used in determining the likelihood of both surface and subsurface cultural materials being deposited, surviving, and being detected during archaeological surveys.

5.1 BIOREGION

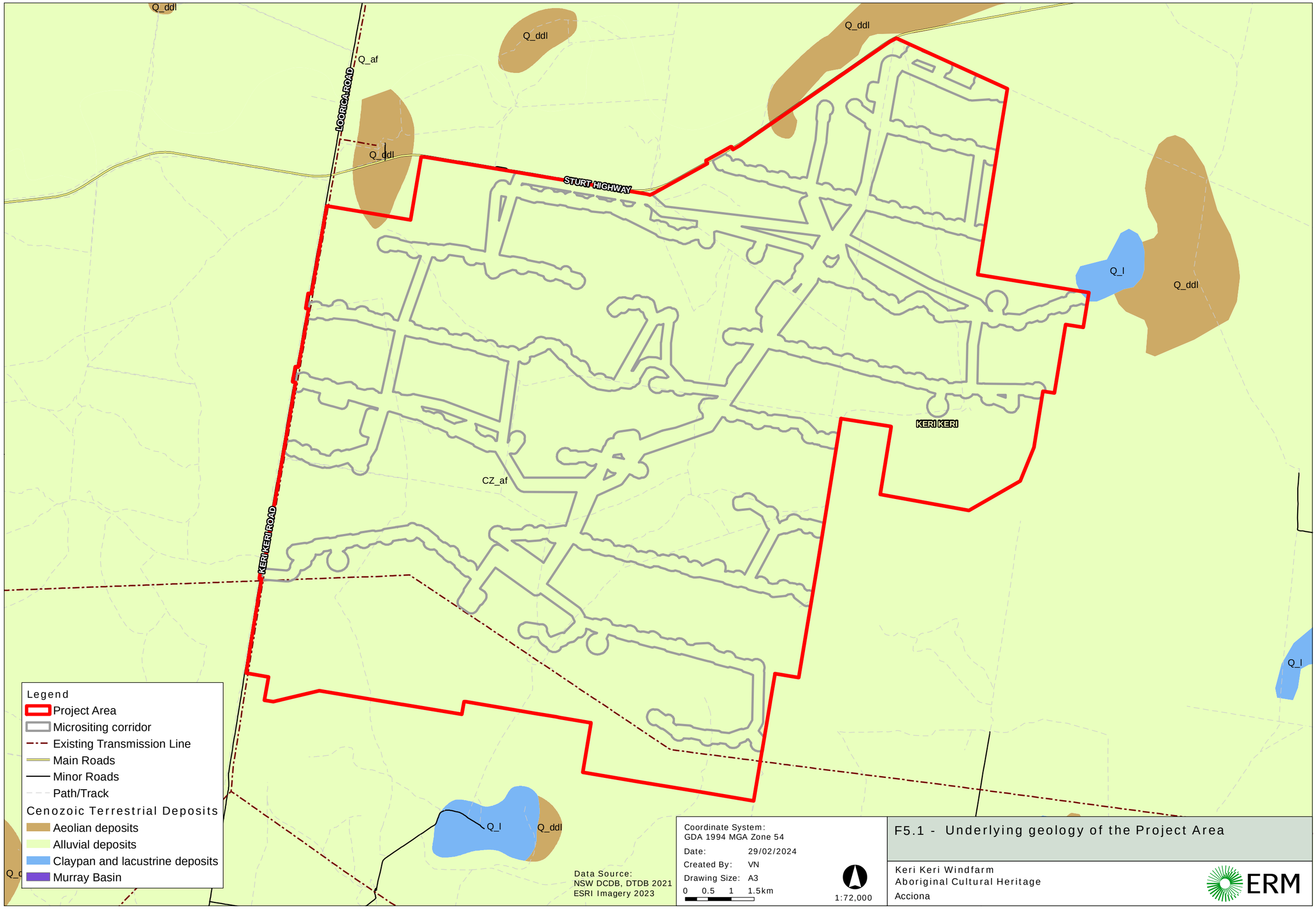
The Project Area is located within the Murrumbidgee Province of the Riverina bioregion. The Murrumbidgee Province is generally comprised of a naturally flat landscape largely consisting of clays, silts and sands which historically have been subject to a consistent cycle of annual flooding. The Murrumbidgee Province is characterised by extensive coarse deposits, low lying source bordering dunes and occasional sand dunes created by ancient rivers (Pardoe & Martin 2001: 14).

Overall, the Riverina bioregion has a semi-arid climate, with low, winter-dominated rainfall, relatively hot summers. The spatially averaged median rainfall from 1890–2005, is 272 mm per annum.

5.2 GEOLOGY AND GEOMORPHOLOGY

Geologically, the Project Area is part of an extensive alluvial plain which developed following a period of land subsidence in the tertiary period. Following the period of subsidence, sediments were deposited across the alluvial plain through a series of prior stream systems (palaeochannels). The alluvial deposit, referred to as the Shepparton Formation varies in depth between 50-125 m, and covers a series of significantly older alluvial and marine sediments. The Shepparton Formation has a variable presentation which includes areas of unconsolidated to poorly consolidated mottled clays, silty clays, coarse to fine sand and gravels, as well as intercalated red-brown paleosols. Carbon dating of the Shepparton Formation indicates that the upper and most recent deposits of the formation date to between 20-30 kilo annum (thousand years; ka) (Australian Stratigraphic Units Database 2019).

Following the deposition associated with the Shepparton Formation, a period of stream incision occurred. These incised areas were filled with coarser sediments which form the late quaternary Coonambidgal Formation. This formation does not extend across the Project Area.



F5.1 - Underlying geology of the Project Area

Keri Keri Windfarm
Aboriginal Cultural Heritage
Acciona

ERM

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5.3 LANDFORM

The Project Area is located within the Riverine Plain which is one of the world's flattest places. Landforms in the region are identifiable on a micro level only with landform development associated directly with former and current distributary channels and the effect of flooding.

Key landforms across the Riverine Plain include the Murrumbidgee River floodplain, palaeochannels, alluvial plains and lakes. These landform types are described in Table 5-1 below.

TABLE 5-1 SUMMARY OF KEY LANDFORMS WITHIN THE RIVERINE PLAIN

Landform	Description
Murrumbidgee River floodplain	The modern Murrumbidgee River is characterised by its narrow and incised nature. Water within the river is notable for its suspended load of clay and silt. The modern stream channel is located within a belt of alluvium which extends between 1 and 5 km wide. The alluvium is located slightly below the height of the surrounding plain. In proximity to the study area there is a general lack of source bordering dunes surrounding the Murrumbidgee River with sand in this region limited to palaeochannels.
Palaeochannels	Palaeochannels are former streams which carried water during the last glacial period. In the present they are delineated by wide channels of sand which are often slightly raised above the average level of the plain. Palaeochannels are associated with source bordering dunes and shallow channels which carry modern floodwaters. Several palaeochannels in the Murrumbidgee have been dated with their development extending as far back as 105 kya. Palaeochannels within the Project Area have been associated with the Yanco system which formed between 20-13 ka.
Alluvial plains	The majority of the Murrumbidgee province is comprised of broad alluvial plains that developed as palaeo-floodplains.
Lakes	Lakes develop in areas where surface water accumulates on existing flood plains. Surface water accumulations are pushed by wind scour the underlying surface resulting in deeper water basin. Lakes are associated with lunette landforms which form as a result of wind action across the lake surface.

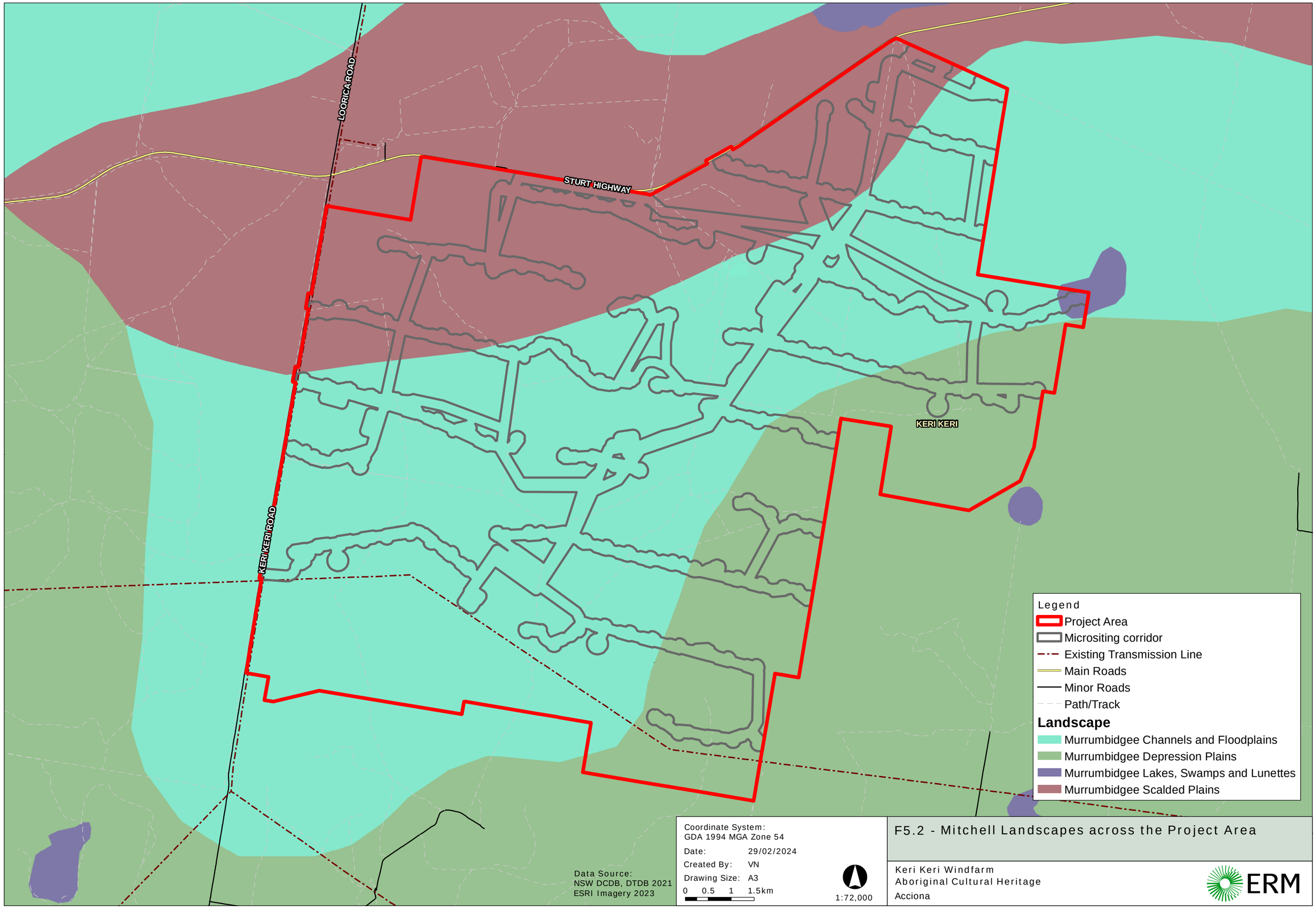
Palaeochannel landforms are identified as demonstrating archaeological sensitivity based on a number of factors including:

- Their raised nature is more suitable for occupation particularly during flood events;
- Modern ephemeral lakes and water sources are often located in associated with palaeochannel landforms; and
- The coarser nature of the soil deposits supports a wider variety of land uses and the conservation of a wider range of archaeological deposits including sites including AAR, hearths, and PADs.

State level landscape mapping completed by Peter Mitchell in 2002 (DECC 2022) delineated the Project Area into four broad landscapes. The Mitchell landscapes were based on geological, geomorphic, and pedologic criteria to describe spatially distinct ecosystems. A summary of the Mitchell Landscapes within the Project Area is summarised in Table 5-2.

TABLE 5-2 MITCHELL LANDSCAPES WITHIN THE PROJECT AREA

Landscape	Description
Murrumbidgee Channels and Floodplains (Muc)	Murrumbidgee Channels and Floodplains (Muc) consists of quaternary alluvium on seasonally inundated floodplains, active and inactive channels, billabongs, levees and swamps of the Murrumbidgee River and its effluent streams. Relief in this province ranges to 10 m. The province includes scalded alluvial flats, broad elevated floodplains and associated relict channels with isolated sandy rises, with relief generally to 5 m (DECC 2002:104).
The Murrumbidgee Depression Plains (Mud)	The Murrumbidgee Depression Plains present as numerous circular depressions interpreted as high floodplains or low terraces beyond the reach of average floodwaters. Elsewhere sandy rises and levees trace ancestral streams standing above the general plain, with relief ranging 1 to 3 m (DECC 2002:104).
The Murrumbidgee Lakes Swamps and Lunettes (Mbl)	The Murrumbidgee Lakes Swamps and Lunettes largely consists active freshwater lakes and swamps which are frequently flooded by the river. The lakes and billabongs are sometimes near permanent, generally round or kidney shaped. They are often nested within larger relic Quaternary lake features. They are sometimes adjacent areas of saline plains. Beaches, sand and clay pellet lunettes and sand hills exist on the eastern margins. Relief of lakes and channels is to 8 m, with lunettes to 15 m (DECC 2002:105).
The Murrumbidgee Scalded Plains (Mbd)	The Murrumbidgee Scalded Plains are quaternary alluvial plains with extensive scalding interpreted as relic floodplains or terraces with little relief, often generally <1 m and up to 5 m on associated pans, swamps and lunettes (DECC 2002:105).



F5.2 - Mitchell Landscapes across the Project Area

Keri Keri Windfarm
Aboriginal Cultural Heritage
Acciona

ERM

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5.4 SOILS

State level soil mapping of the region (DECC 2002: 104-105) shows that the Project Area is largely made up of grey, brown, and red clays; siliceous sands; and red and brown earths. Soils are closely related to the current and previous hydrological regimes, with areas of lower relief typically comprised of grey cracking clays associated with flood environments. Most of the Project Area is comprised of level plains of Quaternary alluvium of sands and clays.

Broad soil mapping for the region completed at a scale of 1:500 000 is available from the Department of Natural Resources which identifies four broad soil landscapes across the Project Area.

These soils with their associated landscape are described in Table 5-3 below.

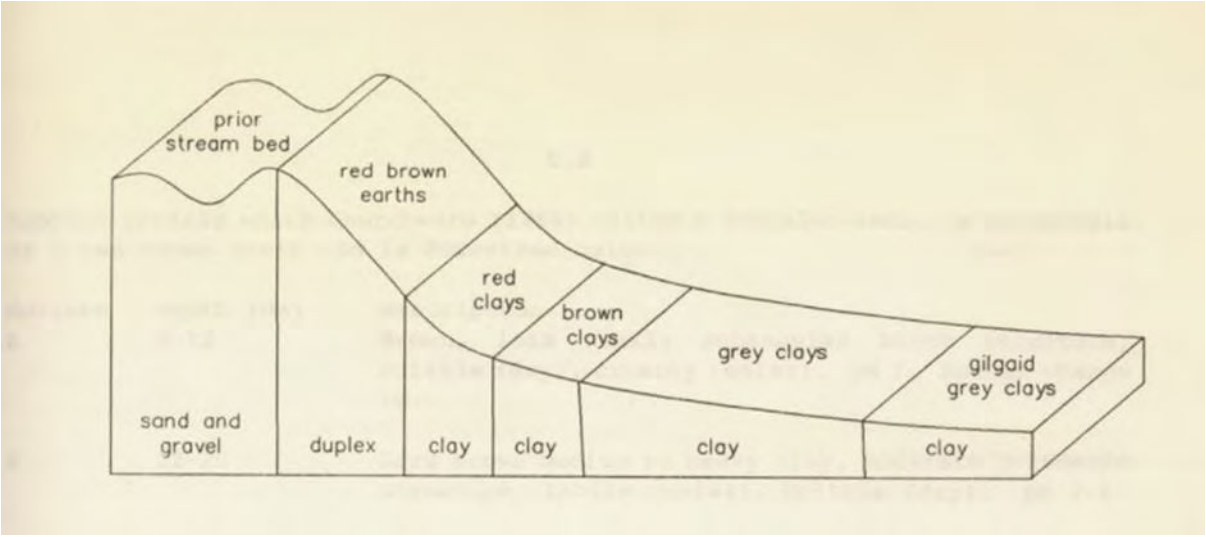
TABLE 5-3 SOIL LANDSCAPES

Profile	Landform	
Plain Zone C (PZC)	Level plains of Cainozoic/ Quaternary alluvium of the Riverine Plains	Soils related to the prior stream network. In general levee landscapes and localised high points are comprised of red and brown earths. Further into the plain landscape soils are comprised of red brown earths and brown podzolic soils. Soils developed from parent material of clays, silts and sands from past flow regimes. Moderate to severe scalding occurs on Red Sodic soils, which usually occur near the levees of prior streams. Topsoils are fragile and overgrazing often damages the surface crust
Prior Stream Variant B (PSB)	Landform is comprised of prior stream sand ridges. In general, the sand ridges exhibit fairly narrow and sinuous characteristics. Landscape is characterised by shrublands and low rainfall.	Siliceous Sands on higher sandy ridges–60%; Red Earths on some less distinct rises–20%; Red Brown Earths with sandy topsoils on levees–20%. Soils are dominated by non-cohesive sands, so wind and sheet erosion are potential problems especially on crest and upper slopes.
Western Edge Complex (WX) *Mostly Solar Farm area*	Level to gently undulating plains.	Higher undulating rises are dominated by red earths which grade into red/brown earths which are often scalded. Lower lying plains are often comprised of grey cracking clay deposits.
Sandy Prior Stream Ridge (PS)	Linear prior stream sand ridges blown out of coarse sand deposits of relic palaeochannels. Mostly cleared but previously dominated by pine forest and sand-hill shrub species.	Unit is dominated by siliceous sands which occasionally grade to red earths. Adjacent levees/ lower slopes commonly support scalded red earths.

The Majority of the Project Area is mapped within the PZC soil profile. The central portion of the Project Area includes an east to west trending band of the PSB soil profile.

In general soil development is largely reported to be associated with former stream landforms with soils comprised of a finer substrate with increasing distance from the prior stream deposits (see Figure 5-3). This transition is significant archaeologically with clay-based soils in conjunction with floods deposits demonstrating limited potential to support the development of archaeological deposits. It is noted that the effect of flooding may either preserve or disturb archaeological deposits depending on the velocity of flood and the underlying soil types. Clay based soils are considered less likely to support artefact deposition and archaeological site development due to the general impermeable nature of clay soils. Red earth and sandy soils by comparison are considered more likely to support the development of in-situ archaeological deposits. It is however noted that both the PZC and PSB soil profile are reported to be fragile and subject to impact through grazing, wind and sheet erosion.

FIGURE 5-3 ILLUSTRATION OF SOIL DEVELOPMENT WITH INCREASING DISTANCE FROM PALAEOCHANNEL LANDFORMS (SOIL CONSERVATION SERVICES OF NSW 1990: 64)



LOORICA ROAD

STURT HIGHWAY

KERI KERI

KERI KERI ROAD

Legend

- Project Area
- Micrositing corridor
- Existing Transmission Line
- Main Roads
- Minor Roads
- Path/Track

Dominant Australian Soil Classification (ASC) - Order

- Chromosols
- Rudosols
- Vertosols

Data Source:
NSW DCDB, DTDB 2021
ESRI Imagery 2023

Coordinate System:
GDA 1994 MGA Zone 54

Date: 29/02/2024

Created By: VN

Drawing Size: A3

0 0.5 1 1.5km

1:72,000

F5.4 - Soils across the Project Area

Keri Keri Windfarm
Aboriginal Cultural Heritage
Acciona

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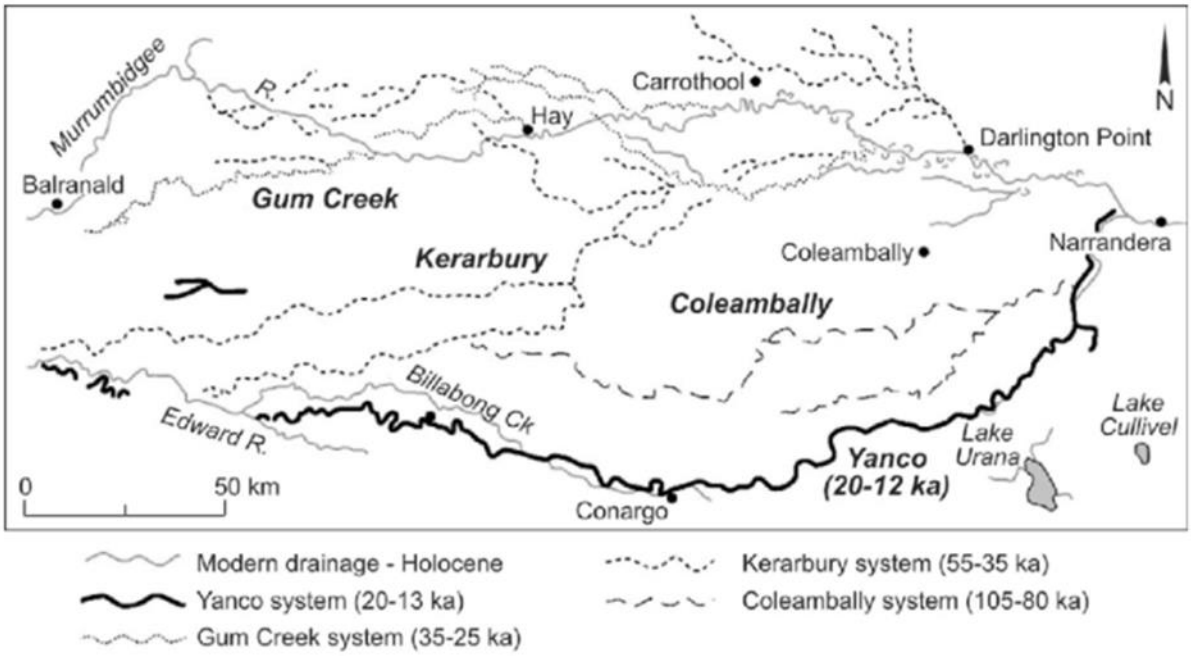
5.5 HYDROLOGY

Broadly the Project Area is located within part of the vast Murray-Darling Basin which extends across 14% of Australia's land mass (MDBA 2022). The Basin is crossed by a network of rivers which form Australia's largest river system.

The Southern Murray Darling Basin is generally associated with two large geomorphic forms, being the Mallee Plains in the West and the Riverine Plain in the east (including the Project Area). The Riverine Plain is comprised of a complex network of river channels and floodplains which overlie ancient river systems. The streams in the Riverina are characterised by low gradients with significant variability in river flow (Williams 2011: 9).

The oldest of the ancient river systems are currently comprised of deeply buried channels which have been filled by sand and gravels and date to 15-30 ka. These 'prior streams' are identified by their slightly raised nature above the existing floodplain (Williams 2011: 9). More recent 'ancestral rivers' are more closely associated with current drainage networks which are found as winding depressions across the landscape.

FIGURE 5-5 PHASES OF PALAEOCHANNELS ACROSS THE RIVERINA REGION, WITH APPROXIMATE LOCATION OF KERI KERI SHOWN BY ARROW (PAGE ET AL 2009: 22)



Periods which coincided with a period of increased aridity. This increased aridity restricted the flow of palaeochannels with the modern drainage regime for the Riverine Plain estimated to have developed between 15,000 to 10,000 years ago.

Past Aboriginal occupation is likely to have focused upon resources associated with these earlier stream features suggesting evidence of occupation would surround these landscapes. This indicates that archaeological evidence is likely to be based in the areas surrounding these palaeochannel resources. Impacts of recent flooding and stream activity area noted to impede the potential to identify earlier phases of Aboriginal occupation through cycles of erosion, sedimentation and accretion (Klaver 1998: 71). It is noted that the high level of clay soils within the Project Area limit drainage across the landscape resulting in large areas of standing water following rain events.

Current waterbodies within the Project Area are largely comprised of Abercrombie Creek and its tributaries which area part of the Murrumbidgee River Catchment. At its closest point the Murrumbidgee River is located approximately 33 km north of the Project Area. The Murrumbidgee has a catchment of approximately 84 000 km². Rising in the Snowy Mountains the river flows generally westwards to its confluence with the Murray River, 1600 km from the river source. The catchment includes 14 dams plus eight large weirs, with its downstream irrigation areas containing over 10 000 km of irrigation canals (Watts 2010: 199).

Water flow along the river has been regulated by major structures predominantly constructed from 1912 through to 1968. The river changes form along its path with the area downstream (west) of Hay, described as the Lower Murrumbidgee floodplain, exhibiting the most extensive wetland area of the catchment.

The natural flow regime of the Murrumbidgee River prior to regulation, was characterised by low average flows in summer and autumn, and higher average flows in winter and spring (Page et al. 2005 in Watts 2010: 200). Flows would have naturally been variable, with rainfall events in the upper and mid catchment creating flow pulses that would have travelled down the river, potentially as far as the downstream reaches of the river. River regulation has substantially altered these characteristics because of upstream off-takes for irrigation purposes.

River regulation has significantly reduced the magnitude of relatively frequent flooding events in the Murrumbidgee floodplains, with impacts to vegetation and fauna diversity and development.

LOORICA ROAD

ABERCROMBIE CHANNEL

TEATREE LAKE

STURT HIGHWAY

KERI KERI

KERI KERI ROAD

FIVE TREE DAM

ABERCROMBIE CREEK

Legend

- Project Area
- Micrositing corridor
- Existing Transmission Line
- Main Watercourse
- Minor Watercourse
- Waterbody
- Main Roads
- Minor Roads
- Path/Track

Coordinate System:
GDA 1994 MGA Zone 54

Date: 29/02/2024

Created By: VN

Drawing Size: A3

0 0.5 1 1.5km

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F5.6 - Hydrological landscape across the Project Area

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ERM

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5.6 FLORA AND FAUNA

The availability of flora and fauna resources are primary factors influencing patterns of past Aboriginal land use and occupation. Flora resources have been utilised by Aboriginal people for several purposes including food, medicine, ceremony, as well as in the construction of tools, shelter and fire. While the Project Area has been heavily influenced by clearing related to historic farming uses, the Project Area is reported to contain a number of flora species which demonstrate Aboriginal cultural values.

Regionally, River Red Gum (*Eucalyptus camaldulensis*) and River Cooba (*Acacia stenophylla*) communities can be found along the river channels in sandy soils. Herbaceous perennial, annual and post-flooding ephemeral species make up the understory in these areas. River Cooba was utilised by Aboriginal people for both food, the seeds ground for bread, and utilitarian uses, the bark as a poison for fishing and the hard wood, Yumang, for boomerangs (Williams & Sides 2008:18). These communities, also including Cooba (*Acacia salicina*), Lignum (*Muehlenbeckia cunninghamii*), Nitre Goosefoot (*Chenopodium nitrariaceum*) are typical of the Murrumbidgee Channels and Floodplains (Muc) subregion which predominates in both the north and southern portions of the Project Area. Wood and resin from Cooba were utilised by Aboriginal people to make and repair tools, whilst the tree was also considered medicinal with known uses being a mouth wash and body cleansing (Williams & Sides 2008:10).

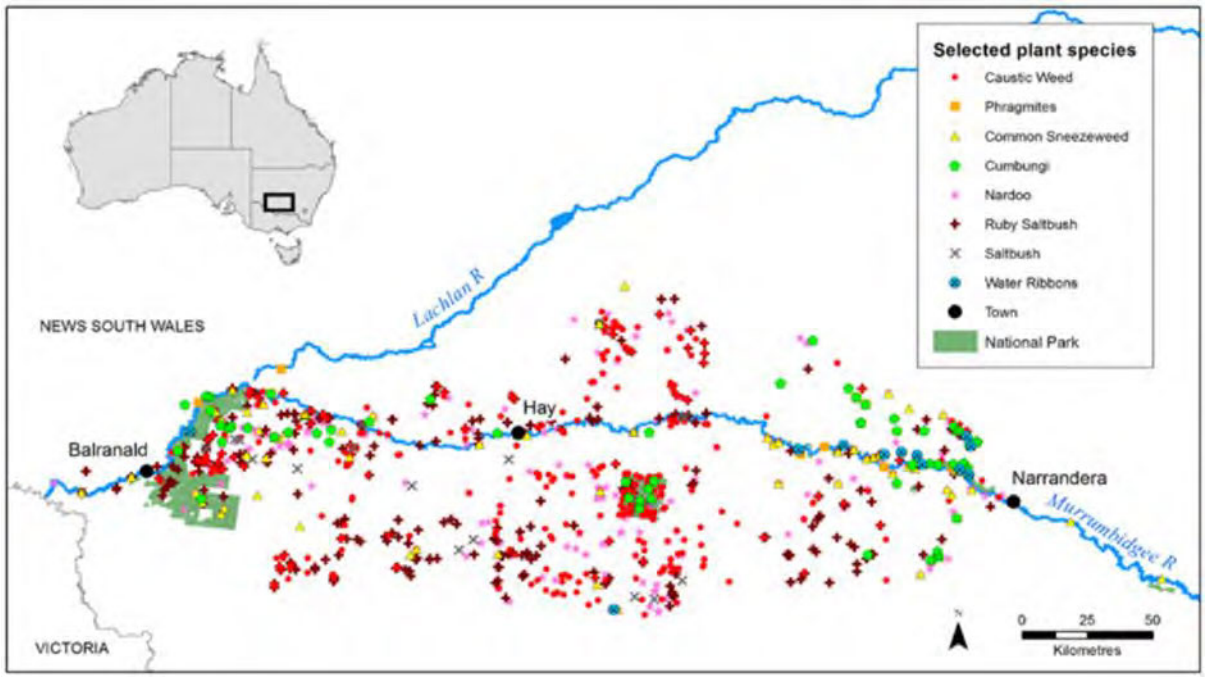
The riverine forest communities of the Riverina bioregion provide habitat for significant fauna including the superb parrot (*Polytelis swainsoni*i), sugar glider (*Petaurus breviceps*), feathertail glider (Acrobates pygmaeus), squirrel glider (*Petaurus norfolcensis*), brush-tailed phascogale (*Phascogale tapoatafa*), koala (Phascolarctos cinereus), carpet python (*Morelia spilota)*, freckled duck (*Stictonetta naevosa*) and peregrine falcon (Falco peregrinus) (Eardley 1999).

Black Box (*Eucalyptus largiflorens*) dominated woodlands with an accompanying understorey consisting of salt-tolerant grasses, saltbushes and daisies can be found in the grey and black clays clays on higher land. On land even higher, above the flood level, Yellow Box (*Eucalyptus melliodora*) communities can be found with both Cypress Pine and Grey Box (*Eucalyptus microcarpa*) in evidence. Black Box, or Pulty, was used by Aboriginal people utilising the bark for coolamons and canoes, whilst hollowed branches were fashioned into didgeridoos. Other parts of the tree were used for toolmaking, including the suckers which were used for spear making. Leaves and flowers were commonly used as adornments, especially during ceremonies (Williams & Sides 2008:30).

Stands of Black Box offer habitat to a diversity of bird species including the bush thickknee (*Burhinus magnirostris*) and the superb parrot (P*olytelis swainsonii*), which rely on box woodland and selected nest trees typically river red gum. The shrublands and grasslands provide habitat to species such as the plains-wanderer (*Pedionomus torquatus*), bush thicknee, striped legless-lizard (Delmar Impar) and fat-tailed dunnart (*Sminthopsis crassicaudata*).

Moving away from the rivers and streams the plain country is relatively treeless, supporting saltbush scrubland with old man saltbush (*Atriplex nummularia*), bladder saltbush (*Atriplex vesicaria*), cotton bush (*Maireana aphylla*) interspersed among the native grasslands (*Danthonia spp and Stipa spp*) (Figure 5-7). Old man saltbush is utilized for medicinal uses and is a noted respite location for native vegetation. In areas lacking wood supplies, old man saltbush can also be used as a source of wood for fires (Williams & Sides 2008: 57).

FIGURE 5-7 DISTRIBUTION OF SELECTED CULTURALLY IMPORTANT WETLAND SPECIES, WITH APPROXIMATE LOCATION OF KERI KERI SHOWN BY ARROW (CREATED BY D. DUFFY IN CONROY 2016)



6. ABORIGINAL ARCHAEOLOGICAL BACKGROUND

6.1 ETHNOGRAPHIC HISTORY

The Project Area is located approximately 126 km south-east of Lake Mungo, one of the most famous archaeological sites in Australia where AAR have been dated to 45,000 years before present (Hiscock 2000: 21-22). The Project Area is within the boundaries of the Kulin language group of the Western Murrumbidgee, encompassing the Mathi Mathi, Wathi Wathi, Nari Nari and Wemba Wemba language groups, the boundaries of which are difficult to define and often overlap (Pardoe & Martin 2001).

The first encounter that many of these people would have had with colonial setters was in the early 1800s when explorers first entered the Riverine Plain and surveyed land within the Murray, Murrumbidgee, Lachlan and Darling areas. The accounts of these early explores provide valuable insight into the customs and culture of some of the Aboriginal groups of these areas. John Oxley surveyed the Riverina in 1817, accompanied by botanist Charles Cunningham; he followed the Lachlan River downstream below Booligal, but dense swamps prevented progress further west (Eardley 1999). Between 1828 and 1831, Charles Sturt explored the Murrumbidgee and lower Murray Rivers. Sturt noted as he travelled downstream along the Murrumbidgee that the Aboriginal population increased; he stated that near the Murrumbidgee-Lachlan junction there *was a large tribe of natives…one hundred and twenty in number* (Sturt 1833, in Pardoe & Martin 2001).

Sir Thomas Livingstone Mitchell (1792-1855) explored the Lower Murrumbidgee region in 1836. Mitchell kept journals of his expeditions, detailing observations of Aboriginal people in the region prior to European settlement of the area. Mitchell noted that the staple food crop, bulrush root or balyan was often roasted in features now known as earth mounds our hearths (Mitchell 1839: 134). In reference to these mounds, he stated;

> *One artificial feature, not observed by me in other places, distinguishes the localities principally frequented by the natives, and consists in the lofty mounds of burnt clay, or ashes used by them in cooking. The common process of natives in dressing their provisions, is to lay the food between layers of heated stones; but here, where there are no stones, the calcined clay seems to answer the same purpose, and becomes better or harder, the more it is used. Hence the accumulation of heaps resembling small hills (Mitchell 1839: 80-81).*

Beveridge in his 1884 ethnography described the communities of the Murray, Murrumbidgee, Lachlan and Darling areas as being family oriented. The mounds across the landscape represented territorial markers; the communities were patriarchal, led by elders (Beveridge 1884; Pardoe 1988; Martin 2006). Daily life often consisted of hunting or gathering, cooking, or preparing food, preparing tools such as canoes, and telling stories or playing games.

The rivers were central to the Aboriginal way of life, providing a rich concentration of food resources; Pardoe (1988) suggested that communities living along the rivers would have controlled access to the water and its resources, the rights to this occupation handed down from ancestors (Eardley 1999). For some eight months of the year, resources in the region were available in abundance; however, for the remaining four months of the year, it was substantially more difficult to forage for food.

For this reason, the Aboriginal communities participated in a semi-sedentary lifestyle, moving periodically based on the availability of local resources, setting up temporary villages along the way. During the Summer when the river systems were abundant, Aboriginal communities would remain in the vicinity for weeks or months (Beveridge 1884). The diet of the communities was largely determined by the seasonal availability of resources; the food that sustained them consisted primarily of fish, and of other animals including kangaroo, emu, and opossum. Fish traps and weirs were used extensively in the Murrumbidgee region, built across the mouths of swamps and reed beds; these systems were likely used to store fish for months after the floods had passed (Pardoe & Martin 2001).

There is less detail about how Aboriginal people lived on the plains, more than 20 km from a main river channel. The plains were predominantly used in winter when there was usually more surface water resulting from winter rainfall and/or floodwaters pushed out from the rivers along the normally dry creeks. The Aboriginal people within the plains to the west of the lower Murrumbidgee (encompassing the project area) were said to retire to the Murrumbidgee and Lachlan Rivers as soon as the water on the plains dried up (Pardoe & Martin 2001).

One of the prominent physical features of the Aboriginal campsites were the ovens and/or mounds that were left behind. These features often formed central components within the campsite, most likely to have been used to cook (ovens) and potentially grow food (mounds) (Beveridge 1884; Pardoe & Martin 2001).

Beveridge noted that some mounds discovered in the area contained several and even dozens of burials within; he noted:

> *Aboriginal skeletons are frequently found in the cooking mounds…the reason for the position of these skeletons, however, can easily be explained…as grave-digging is very arduous when hands are few and the implements merely yam sticks, the easiest method…is simply enough done by scraping a hole in the friable soil of the mound (Beveridge 1884: 21-22).*

Even before colonial settlement in the region, diseases had spread from their handful of colonial holdings along the coastline. By the time explorers had reached the region, disease had ravaged the population. Beveridge described being involved in exhuming twenty-eight skeletons from a mound; when consulting the elders, he discovered that they were the remains of small-pox victims (Beveridge 1884: 22).

The groups within the Murray, Murrumbidgee, Lachlan, and Darling region were commercially connected; trade for certain items would have been vital, as some resources, such as that used for stone tool production, was difficult or impossible to source locally. It also would have been an important method to access food during times of drought or hardship. Beveridge described the importance of particular members of society, the Ngalla Wattow, in facilitating trade links between Aboriginal communities; these men were able to communicate in the languages of the surrounding communities and provided the means to transport goods between these communities. These men were the life-blood of their respective communities, and no harm was inflicted upon them from rival communities (Beveridge 1884).

6.2 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

Heritage NSW provides the AHIMS database which holds information concerning previously recorded Aboriginal sites in NSW. An extensive search of the AHIMS database was conducted on 1 March 2023, using the details provided in Table 6-1.

TABLE 6-1 AHIMS DATABASE SEARCH DETAILS

Item	Detail
Client Service ID	757675
Datum	GDA Zone 56
Latitude	-34.84 to -34.68
Longitude	143.85 to 144.06
Buffer	1 km
Number Sites	36

A total of 36 sites were identified within and surrounding the search area. Nine are located within the boundaries of the Project Area, and the remaining 27 sites located directly surrounding the Project Area. The sites are varied in type, consisting of burials, earth mounds, PADs, hearths and oven mounds, artefacts, and culturally modified trees (CMTs). Many of the registered sites contain multiple site types in one location (e.g., artefact and earth mound and PAD). Of the nine previously recorded sites located with the boundary of the Project Area, three are noted as burials with human remains. There is a high potential for more sites containing ancestral human remains to exist within the other listed sites given that they contain features such as earth mounds, hearths, and PADs.

The results of the full AHIMS search are summarised in Table 6-2.

TABLE 6-2 AHIMS REGISTERED SITE TYPES

Site Type	Total Number of Site types	Site ID Within Project Boundary
Burial	4	47-6-0947, 48-4-0540, 48-4-0539
Burial, Earth Mound, Hearth	3	
Burial, Earth Mound, PAD	2	47-6-0759
Artefact	7	48-40182
Artefact, Hearth	1	
Artefact, Hearth, PAD	1	
Artefact, Earth Mound, PAD	4	47-6-0755, 48-4-0318
Artefact, Burial, Earth Mound, PAD	1	
Artefact, Earth Mound, Hearth, PAD	2	48-4-0317
Artefact, Hearth, PAD	1	
Earth Mound, PAD	1	47-6-0756

Site Type	Total Number of Site types	Site ID Within Project Boundary
Hearth	5	
Hearth, PAD	2	
Modified Tree (Carved or Scarred)	2	
Total	36	

6.3 COLONIAL FRONTIER MASSACRE MAPPING

A review of the Colonial Frontier Massacre Mapping project developed through the Newcastle University has revealed that there are no known massacre sites within or near to the Project Area.

While no massacre events have been recorded against the Mutthi Mutthi, there are three events recorded within the region of Balranald along the Murray River. These were recorded at:

- Junction of Murray and Murrumbidgee Rivers massacre south-west of the Project Area – To 'clear' the area of Aboriginal people for a pastoral station, 70-80 Aboriginal men were trapped on both sides of the Murray River by Frederick Walker, Edmund Morey, William Ross, John Scott, the Jackson brothers, Williams, Lee and 'two fine Murrumbidgee natives – Robin Hood and Marengo' and Mr Yeomans from the other side of the river and others: "This broke their spirit";
- Beveridge Island - intentional poisoning south of the Project Area. There were rumours that up to twenty natives had been poisoned by Mr Beveridge, by leaving poisoned flour in their way. The original information came from a shearer on the Murray and was corroborated by Indigenous Australians on Edward Curr's and Archibald Campbell's runs. When pressed for more information for the Bench of Magistrates, JP Patrick Broughman said that he had "heard a report of the [alleged poisoning], but took no notice of it, as groundless rumours have frequently been spread of natives having been killed"; and
- Mount Dispersion, Murray River west of the Project Area – A massacre led by Major Mitchell, who followed the Aboriginal Australians for two hundred miles before lying in ambush with his party and sending bullock-drivers on cracking their whips to make it appear as though they had proceeded onwards. The natives were then set upon and fired at, with a large number killed on the spot and the remainder swimming to the other side of the river while continuing to be shot. At least 30 were killed with more injured.

These massacres demonstrate the significant level of conflict between the Indigenous Australians and the advancing colonial settlers, which in combination with changing land access and the introduction of disease had a significant impact on the Aboriginal population.

6.4 REGIONAL ARCHAEOLOGICAL BACKGROUND

6.4.1 HAY PLAIN BURIAL LANDSCAPE

Aboriginal burial customs on the Hay Plain exhibit considerable variability, yet recurring characteristics such as density, exclusivity, boundedness, and formalism suggest deliberate choices in burial locations. While a diverse range of burial positions and orientations are documented, specific locales on the Hay Plain display discernable patterns and regularity in burial practices. Notably, at sites like Jeraly North and Toogimbie, significant burial grounds were identified by Littleton (2002).

The Jeraly cemetery, recognised since the 1950s, encompasses an area exceeding 4000 m^2 and contains a minimum of seventeen documented burials. Initial observations in the 1970s revealed thirteen skeletons positioned on a sandhill near a claypan lake. Subsequent investigations conducted by Bonhomme (1990) and later by Colin Pardoe with members of the Hay LALC in 1993, identified additional burials, bringing the total count to seventeen. Despite efforts to conserve the site, rapid erosion made it challenging to ascertain the precise number of burials contained within the area. Jeraly North 1, situated approximately 1.7 km northwest of Jeraly cemetery, contained two fragmentary adult burials positioned 80 m apart. Adjacent to these remains, evidence of human occupation was found, although limited in scope, suggesting sparse habitation in the area. The spatial separation of ten m between the burials implies they were unrelated. Moving further north, Jeraly North 2, located three km from Jeraly North 1, exhibited signs of Aboriginal occupation, featuring stone artefacts, ovens, and mounds. Burials were not uniformly distributed across the area but were identified in seven distinct locations, each containing between two and nineteen burials. These burial clusters exhibited high density (>2/100 m^2), with an average distance between burials ranging from one to four metres.

Toogimbie, situated on the southern side of the Murrumbidgee River, includes a designated area known as the Toogimbie ‘cemetery’, spanning 7853 m^2. Initially documented in the 1970s, the site revealed fifteen skeletons, erosion has revealed eight burials on the western end. An additional 22 fragmentary burials were recorded in 1993. Outside this area, 92 human remains were found at 23 locations. Preservation tends to be poorer at Toogimbie compared to Jeraly, resulting in less detailed exposure of burial sites. Fifty-eight burials were recorded within a 314 square metre area, characterized by dense clusters surrounding larger group burials, a pattern common to the Hay Plain.

6.4.2 EXISTING REGIONAL PREDICTIVE MODELS

A localised landscape based predictive model was developed by Colin Pardoe for the 'Murrumbidgee Province' as part of the Murrumbidgee Province Aboriginal Cultural Heritage Study (Pardoe & Martin 2001).

This predictive model has focused on the localised landform features and their relationship to cultural heritage / archaeological site identification and includes assessment of the Project Area. Pardoe's assessments considered the relationship between landform features and the location of sites, making the following conclusions.

- Water – The pattern of site distribution was identified as having its greatest concentration within proximity to watercourses. Some variation in site distribution based on water source type was also noted:
  - Major Streams – No site was located more than 12 km from a major river channel with most sites found with a short distance of this channel (75% of sites were within 3.3 km of a major stream). For the purposes of predictive modelling all land within 5 km of a major stream was considered moderately sensitive, all lands within 3km of a major river was considered highly sensitive;
  - Minor Streams – No site was located more than 12 km from a minor stream (75% were within 2.2 km). For the purposes of predictive modelling all land within 5 km of a minor stream was considered moderately sensitive, all lands within 2 km of a minor stream were considered highly sensitive;
  - Lakes – More than 82% of sites are found within 8 km of a lake. For the purposes of predictive modelling all land within 8 km of a lake was considered highly sensitive; and
  - Swamps – No obvious pattern of distribution was identified which was attributed to variations in the way swamps are described in official mapping data.
- Landforms – Plains made up 93% of the Province, and as such minor variations in landform were noted to be significant as an impetus to the flow of water and location of resources. While sites were identified across most landforms patterns; channelled plain and confined trace landforms were identified as containing a disproportionate number of sites. These landforms were most often associated with the modern active floodplain. Comparatively, burials were most often associated with scalded, channelled and depressed plains associated with palaeo environments. Based on the Mitchell landform mapping the Majority of the Project Area is located within scalded, channelled and depressed plain landscapes. The channelled plain landscape is located across the central portion of the Project Area running in a south-west to northeast direction. This landform would be considered likely to include most sites within the Project Area; and
- Soils – Soil type was noted for its association with water resources and vegetation communities. Based on this association, varying soil types were identified to be associated more closely with site features (hearths, mounds etc) rather than overall site distribution.

Additional large-scale reviews of archaeological site types were completed by Martin in her review of the Hay Plain (Martin 2007; Martin 2010). Martin noted patterns in site distribution related to environmental features. Martin noted that:

- The narrow floodplains or confined traces of the Murrumbidgee and Lachlan, the Lowbidgee distributary system, the Gum Creek palaeochannel, and the Abercrombie Creek system in the Hay Plain have the highest density of sites. Large open water lakes also have a high density of sites;
- Sites are widely spread over different geomorphic categories across the Hay Plain with certain site types most likely to be identified in specific soil types. Confined traces (including the Murrumbidgee River), plains with channels, plain with depressions and channelled plains contained a higher density of sites. Localised landforms included lunettes and lakes were also identified to have a higher-than-average site density;
- Mounds were identified to be located to parts of the Hay Plain and not directly related to geomorphology. Mounds were noted however to be particularly dense along confined traces, The Lowbidgee and Hay Plain Southeast;
- Middens were identified to be largely located along the confined traces of the major rivers and on large water lakes and lunettes;
- Open sites were more commonly found away from riverine grey cracking clays;
- AAR appeared to cluster in the western portion of the Hay Plain in similar locations to mounds. These sites were not identified to be connected to geomorphology;
- Artefact sites and ground ovens were recorded to have been spread widely across the Hay Plain; and
- All archaeological site types are considered likely to occur on slightly raised sandier palaeochannel features.

Martin noted that on a wider scale that the gently west sloped topography of the Hay Plain was identified to have an influence on the overall presence of sites. Martin suggested this may have been related to earlier water retention environments. Prior to modern water control systems, it was noted that the western half of the Hay Plain would have acted as a sump which collected seasonal floodwater and excess rainfall and would have provided appropriate resources for the growth of a number of plant and animal resources. Mound sites in the area surrounding Gum Creek and the Abercrombie Creek System was noted to be focused on palaeaochannel features and around ephemeral lakes and swamps (Martin 2007: 199).

Much of the Project Area is comprised of landform types which were identified by Pardoe and Martin as having the potential to contain Aboriginal sites.

6.4.3 LOCAL ARCHAEOLOGICAL CONTEXT

A summary of the local archaeological context has been developed utilising the results of publicly available archaeological reporting and registered AHIMS sites within and in the vicinity of the Project Area. The result of this review helps to provide an indication of the range, nature and distribution of archaeological sites within the local area.

6.4.3.1 WITHIN THE PROJECT AREA

Abercrombie Water Efficiency Project Balranald, Murray River, and Hay LGAs (OzArk 2017)

Between 2014 and 2016, OzArk Environmental & Heritage Management Pty Ltd (OzArk) conducted surveys and assessments of the Abercrombie Water Efficiency Project (AWEP), which consisted of a 10 m wide corridor along approximately 276 km of pipeline as well as small areas of ancillary water infrastructure. Parts of the AWEP area was within the Keri Keri property. Initial investigation by OzArk had identified seven sites, three of which being open campsites.

An AHIP application was recommended for two isolated finds (WAIF1, a grinding stone fragment; and WA-IF3, a flaked piece of silcrete) but was refused based on lack of survey coverage. Re-assessment was undertaken including pedestrian transects and an AHIP application was subsequently approved by the NSW Office of Environment and Heritage (OEH, now Heritage NSW), allowing for the harm (removal) to the two previously mentioned objects and the management of a further 42 Aboriginal objects or 'no harm' areas. The 42 managed Aboriginal 'no harm' sites contained a variety of different features including PADs, modified trees, isolated artefacts, artefact scatters, and oven artefact. The variety in site types found throughout the Keri Keri area suggests that the region was seasonally inhabited by Aboriginal people.

6.4.3.2 WITHIN THE VICINITY OF THE PROJECT AREA

Burial and Occupation at Dry Lake and Tchelery, Via Hay (Littleton & Johnston 1993)

Littleton and Johnston prepared a heritage report to summarise two burial sites located as part of the Burial Conservation Program undertaken in conjunction with Hay LALC.

The report details the identification of two burial sites located at Dry Lake and Tcherlery located approximately 13 km west of the Project Area.

Dry Lake West was described as containing a series of nine mounds with burial and hearth features comprised of mound and hearth features. The site was identified at the western side of Dry Lake which is notable for scalds of coarse red sands. Notably several of the burials in this location were associated with hearth or clay ball features. Mound features were reported to be spaced approximately 200 m apart with the mounds exhibiting evidence of different land uses including stone artefact production and shellfish consumption. Littleton observed that burials were most often identified in the western half of a mound feature and noted that this may reflect primarily a pattern of erosion.

The Tcherlery location was identified approximately 300 m west of Dry Lake in an isolated stand of Black Box and saltbush surrounding an indistinct depression. It was assessed that this depression may have formed a water source in the past. Three mound features were identified at this location including one large mound extending approximately 80 x 120 m. As with Dry Lake, several burials were located across these mound features in associated with heat retainer hearth features.

Littleton and Johnson concluded that the sites support a pattern being identified across the Hay Plain associated burials with occupation mound sites. Burials were noted to be common and sometimes numerous in mounds and were often associated with campfire debris. Littleton further notes that burials in the Hay Plain have been identified to demonstrate several unique features including a variability of burial position and posture, the inclusion of children's remains and the density of burials.

Aboriginal Cultural Heritage Assessment Sunraysia Solar Farm Balranald (NGH Environmental 2016)

In 2016, NGH Environmental surveyed 800 ha of land for the proposed Sunraysia Solar Farm near Balranald, located approximately 30 km west of the Project Area. Much of the survey area was within the Condoulpe land system, consisting of sand plains and dune fields with dense to scattered mallee near Balranald. A small portion of the proposed transmission line alignment is within the Perekertin land system consisting of transitional riverine plains.

The landforms were generally the same across the survey area, that is, dunes of varying heights and swales, with gentle slopes in between. The low gradient, gently sloping terrain did not provide any marked differentiation in the soils, vegetation or other variable that may have led to different Aboriginal site use of the environment.

No Aboriginal sites had been previously recorded within and adjacent to the study area. Despite the variable visibility encountered during the survey (with some land cultivated and uncultivated), three sites comprising two clusters of burnt clay recorded as ovens were recorded, as well as a site complex of seven stone artefacts and three hearths. Most of the cultural material was recorded with the Perekertin landscape system and relatively undisturbed areas. It was stated that the recorded sites were not in proximity to water sources, reflecting the opportunistic use and broader movement of people. NGH noted that lack of scarred trees in the assessment area was likely due to historic clearance across the assessment area and the lack of permanent water within the assessment area.

It was stated that it was possible that additional artefacts and hearths could occur within the development footprint; however, based on the land use history of the area, there was low potential for the presence of intact subsurface deposits. NGH interpreted the nature of the archaeological material within this landscape to suggest that Aboriginal use of the landscape was intermittent.

Balranald Mineral Sands Project Aboriginal Cultural Heritage Assessment (Niche 2015)

Between 2012 and 2014, Niche undertook a survey of approximately 2119.9 ha of land for the Balranald Mineral Sands Project (totalling 9,964 ha), located approximately 70 km north-west of the current Project Area. A total of 548 sites were identified over the course of the project, 383 of which were located within the study area. A database of sites for the project was created that is referred to as the Balranald Project Aboriginal Heritage Database. During the field survey an emphasis was placed on visually inspecting alluvial plains, playas and basins while sand plains, sand dunes and areas with reduced archaeological visibility had less of an emphasis placed on them. While 11 land systems were identified and surveyed within the Balranald Mineral Sands Project, a moderate number of Aboriginal sites were in the Rata landform, which encompasses the majority of the Keri Keri Project Area. The project area contained landscapes with a high and moderate archaeological value, but most of the study area was considered to have low archaeological value and was assessed as being of fair to poor condition; this was reflective of the impacts of grazing and historic land use.

Stone artefact occurrences as isolated finds and clusters were the most common site types identified, followed by hearths. Niche noted that there was a strong correlation between the location of sites and dunes, rises, lunettes and exposures associated with depressions or a decrease in elevation in the landscape. Silcrete artefacts dominated the assemblage and accounted for 93.5% of the recorded artefacts. The bulk of the stone artefacts recorded were complete flakes, broken flakes and angular fragments. Retouched flakes or tools formed a small percentage of the assemblage with a number of tools types identified including burins, burrens, piecers and assorted scrapers. Niche concluded that within the study area sites fell into either short-term occupation or single activity sites, or specific long term seasonal nodal sites.

Balranald Sun Farming Project, NSW (Biosis 2017)

In 2017, Biosis surveyed approximately 2,058 ha of land for the Limondale Solar Farm, near Balranald, located approximately 30 km west of the current Project Area. The study area had poor ground surface visibility and was comprised of fields of wheat and other crops. The agricultural use of the study area caused extensive disturbance, including vegetation clearance, ploughing, fencing and the creation of vehicle tracks and access roads. The two main landforms within the study area were Murrumbidgee scalded plan and Mallee cliff sandplain.

Five previously registered Aboriginal sites were located within the study area; the survey relocated all of these sites and found them to be in good condition. Additionally, 11 previously unrecorded Aboriginal sites were identified within the study area, one of which was associated with a new PAD. Most of these sites, particularly hearths and earth mound complexes were located on red earth within Murrumbidgee scalded plain land systems.

The sites located within the Mallee Cliff sandplains land system indicated much lower intensity of use than those located within the Murrumbidgee scalded plains. All stone artefacts were made from silcrete. The large number of hearth sites, as well as the presence of four earth mounds within the study area suggest it was likely used extensively by Aboriginal groups in the past. The presence of two examples of mixed historical and Aboriginal sites (hearths with associated historic material) demonstrate that the land continued to be used by Aboriginal people following colonial settlement.

6.4.4 PRELIMINARY PREDICTIVE MODEL

There are several factors which have the potential to bias the results and interpretations of former archaeological studies. These factors include elements such as:

- The landform on which a site is observed is not necessarily the site's origin. Post depositional processes including impacts from flooding and bioturbation are likely to have resulted in the movement of archaeological deposits;
- Biases in landforms investigated are limited by proposed development locations or areas of interest to the archaeologist. Further variation in type, accuracy and level of reporting exist; and
- Site interpretation can be skewed by level of ground surface visibility and fragmentation of the archaeological record.

The following statements provide a summary of identified archaeological site patterning in the Project Area:

- Stone artefact sites are likely to be located across a variety of soil and geomorphological areas within the Project Area;
- Aboriginal occupation sites are likely to be concentrated in proximity to current or former watercourses (palaeochannels);
- Aboriginal sites within the Project Area are likely to include instances of mounds, hearth, artefact, burial, and PAD features;
- Mound, heath, burial, and PAD features are likely to be concentrated in areas associated with palaeochannel landforms and in areas of ephemeral lakes and swamps;
- AAR are likely to be located within raised sandy landforms found in association with palaeochannel features as well as within mound features;
- Archaeological remains associated with low lying clay-based environments within the Project Area are likely to be limited to surface artefact sites;
- CMTs may be present across the Project Area in areas of mature vegetation. Due to the limited presence of tree species across the Project Area, CMTs are likely to be rare within the Project Area; and
- Disturbance to Aboriginal sites across the Project Area is likely to be associated with the impact of stock grazing, flooding, erosion and wind. These post depositional forces are considered likely to have had a significant impact on the geographic distribution and intactness of archaeological material.

The Project Area is considered to demonstrate high potential to contain Aboriginal sites. The Project predictive model is discussed further in Section 13.1.1 and illustrated in Figure 13-1.

7. HISTORICAL CONTEXT

This chapter considers the potential historic heritage values for the Project Area. It includes a review of primary and secondary resources including available heritage assessments, reports, publications, historical maps and aerial imagery for the local area. This material was used to develop an overview of the Project Area's history and development over time. This section will also review existing historic heritage listings across the Project Area and its vicinity.

7.1 HISTORICAL OVERVIEW

Early colonial exploration of the Murrumbidgee Region occurred from the 1820s with expeditions originally focused along the Murrumbidgee River. From his explorations of the Murrumbidgee and lower Murray Rivers between 1828-31, Charles Sturt described treeless plains and good water sources, which lured graziers to the region. Pastoral stations focusing on cattle grazing were established in the lower Murrumbidgee region from the 1820s and by 1841 the Murrumbidgee District contained 147 stations. By 1845 an average pastoral property in the Murrumbidgee-Murray junction region comprised eighty thousand hectares (Eardley 1999).

Development of towns within the region soon followed. Balranald (to the west of the Project Area) was first investigated as the site of a township in c.1847, when George James MacDonald, Commissioner for Crown Lands for the Lower Darling District arrived in the region. In 1849 surveyor Francis McCabe laid out large reserves in the region of the Lower Murrumbidgee/Murray-Darling junction and included a site 'for a Township at the North End of Caiera, otherwise Balranald Reserve' (Heritage Archaeology 2007). It was in 1849 that Leighton Robinson and Thomas Duggan established a general store at Balranald and in the same year a public-house, the Balranald Inn, was erected by a Mr. Robertson (Feldtmann 1976). The township of Balranald was formally gazetted on 4 April 1851 and the first land sale held on 14 January 1852, with thirty-five lots submitted to public auction (Heritage Archaeology 2007). To the south-east of the project area, the township of Moulamein was also established in the late 1840s and was gazetted in 1851 (Heritage Archaeology 2007).

To the immediate west of the project area pioneer and explorer William Charles Wentworth established 'Tala' Station in 1835 (part of which is now Yanga Station) (Figure 7-1). At its largest (in 1887) Yanga Station totalled 168,000 ha and carried some 151,000 sheep and 2,000 cattle (Heritage Archaeology 2007).

The Project Area is within the extents of the historical Keri Keri Pastoral Holding No. 29. The Keri Keri Pastoral Holding encompassed the historic parishes The Willows, Kerkeri, Bluff, Winter, Yanga as well as the eastern portion of Merwin Parish (Figure 7-2 and Figure 7-3). The Project Area is largely within the historic parishes of The Willows of Caira County and Kerkeri of Wakool County. The resumed area of the pastoral run was 39,782 acres (16,099 ha) and the total leasehold area was 37,575 acres (15,206 ha). The run encompassed the Crown lands within the boundaries of those parts of Moulamein Block A and Moulamein Block B Runs lying to the north and south of the dividing line, as notified in Gazette, 11 July 1885 (and shown in Figure 7-1) (Hanson 1889). The run was held originally by John Cummings who predominantly focused on sheep farming.

Available pastoral run maps indicate that several pastoral improvements and structures were constructed across the Keri Keri Run over time. Noted structures across the property include several wells, tanks, dams, sheering sheds, shearers' huts, and cottages (Historic Land Record Viewer, accessed 9 February 2022). The south-western portion of the Keri Keri Run is shown to have included a relatively high density of structures including a homestead feature (Figure 7-4). These maps indicate that the main homestead structure was located to the south of the Project Area in proximity to the southern boundary of the Keri Keri Parish. Structures noted within the boundaries of the Project Area are limited to a series of tanks, dams and fence lines. The Sturt Highway (delineating the northern boundary of the Project Area) was gazetted in 1933. Recent historical aerials indicate that the Project Area continues to be utilising primarily as grazing lands.

FIGURE 7-1 HISTORICAL MAP OF THE REGION SHOWING THE PROJECT AREA - MOULMEIN A AND B (ARROWED; C.1860) (SLNSW, HTTPS://NLA.GOV.AU/NLA.OBJ-230694679/VIEW)

FIGURE 7-2 MURRUMBIDGEE RIVER DISTRICT SHOWING KERI KERI PASTORAL HOLDING (OUTLINED RED) IN RELATION TO BALRANALD TO WEST (ARROWED; 1901) (SLNSW, Z/M3 814/1901/1)

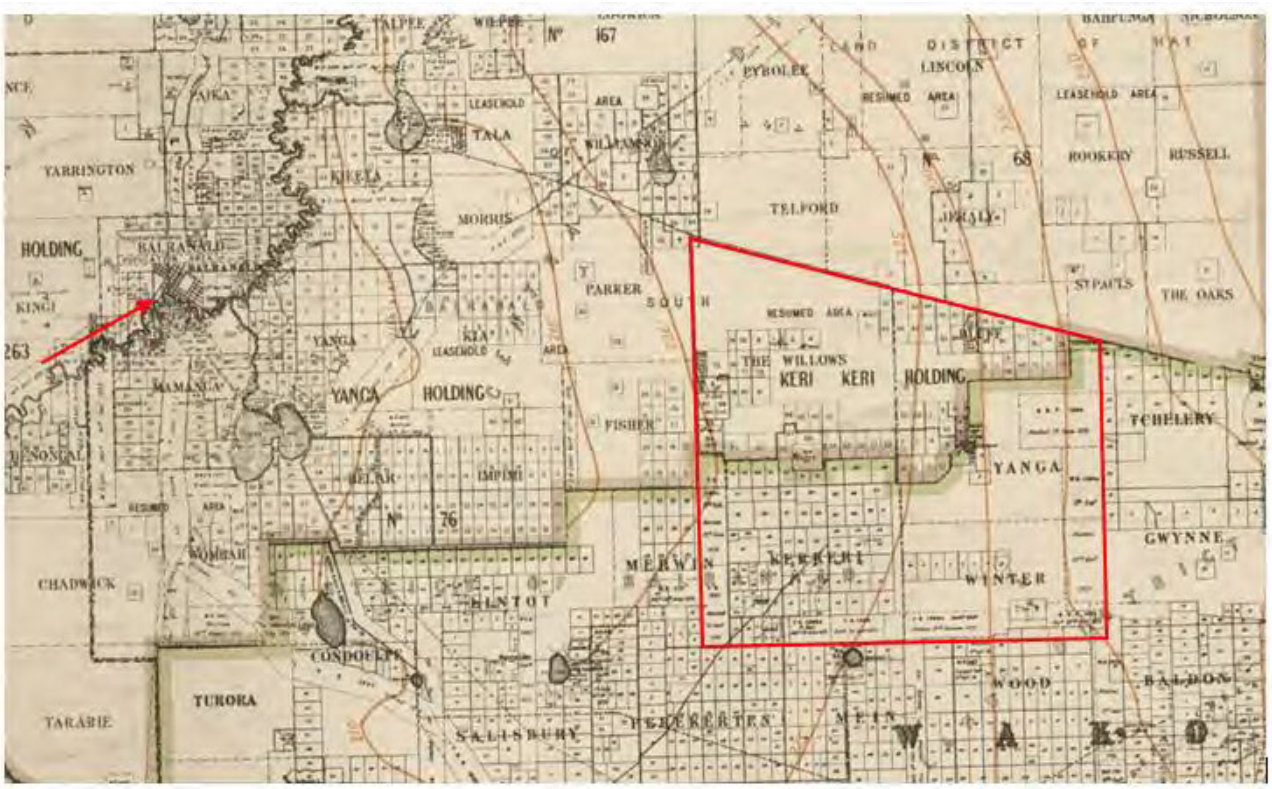


FIGURE 7-3 KERI KERI PASTORAL HOLDING, WITH PROJECT AREA IN RED (ND) (AUSTRALIAN NATIONAL UNIVERSITY, OPEN RESEARCH LIBRARY: E0058.PDF (ANU.EDU.AU))

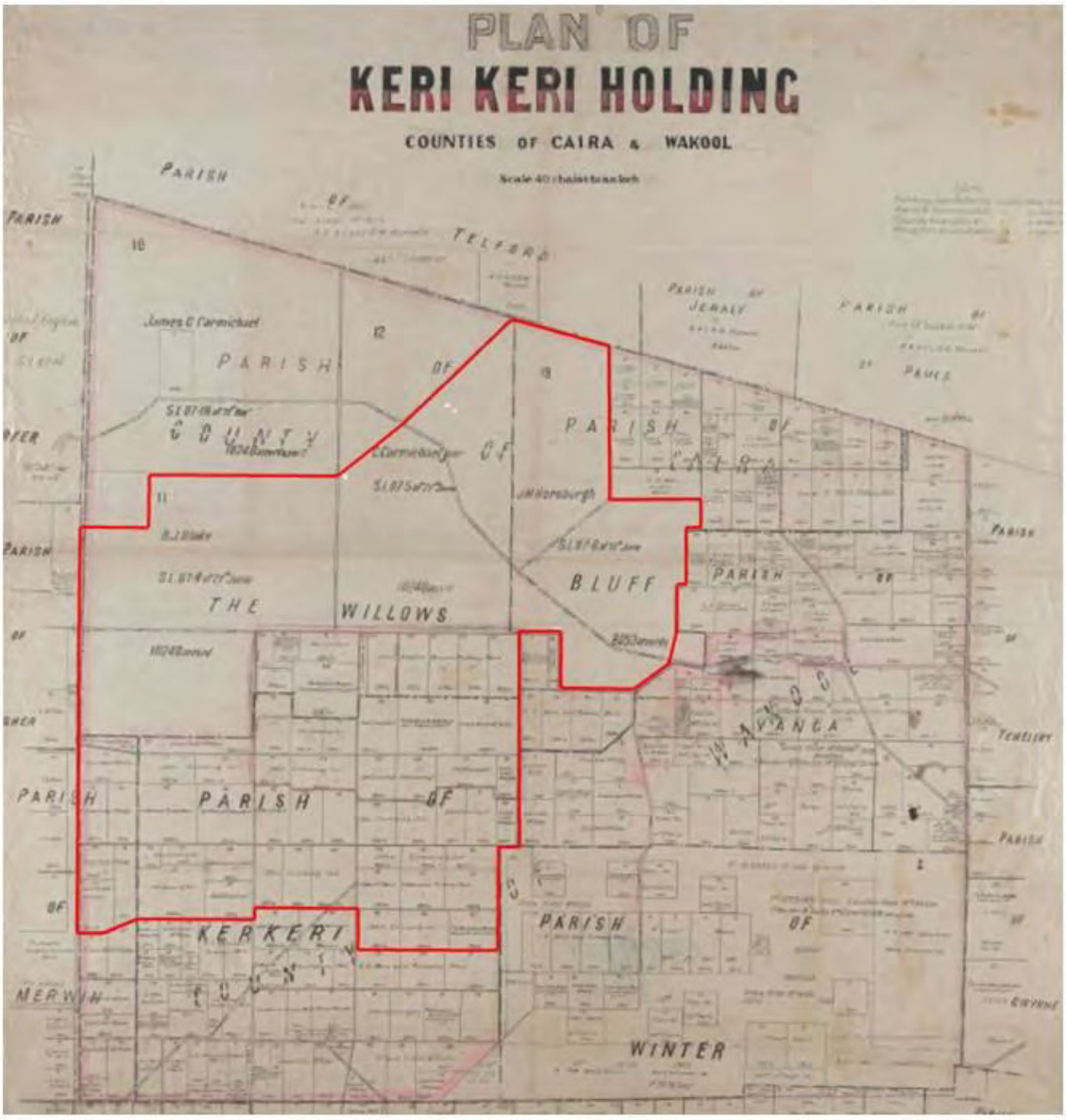
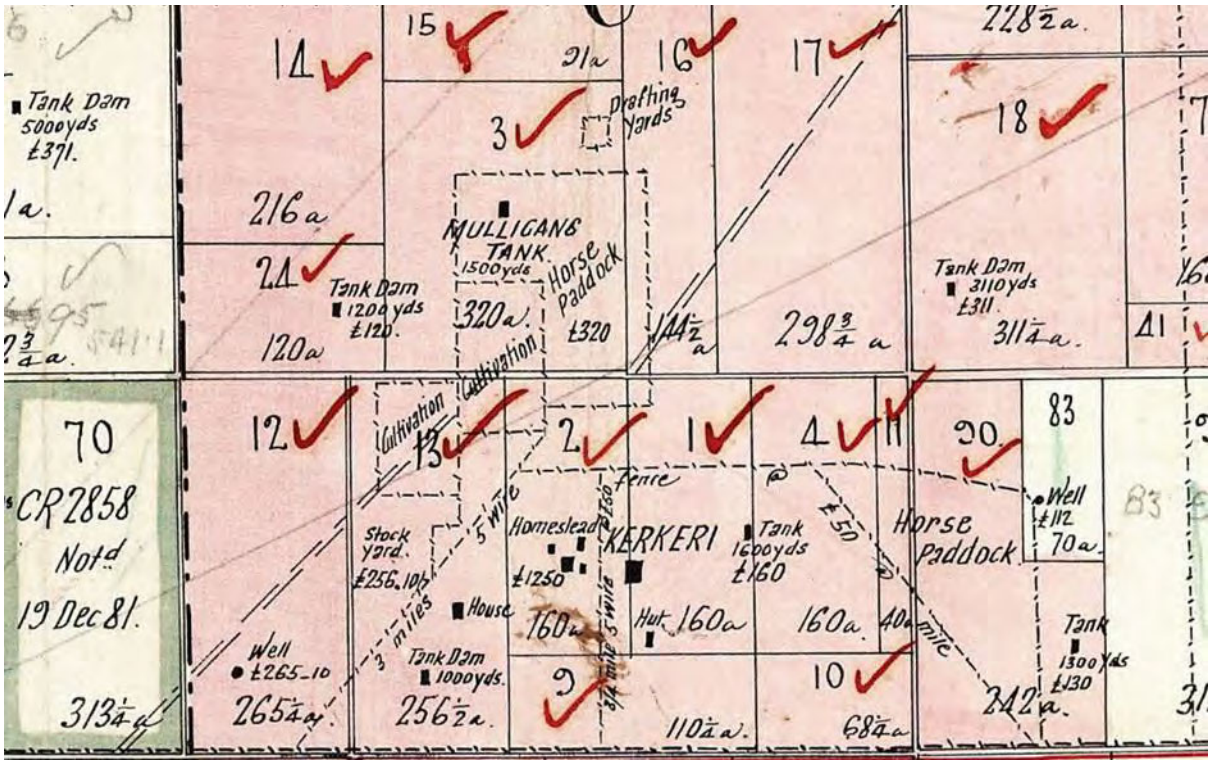


FIGURE 7-4 KERI KERI HOMESTEAD LOCATED TO THE SOUTH OF THE PROJECT AREA, (HLRV MAP 572526)



7.2 HISTORICAL HERITAGE DATABASE SEARCHES

The following databases were searched to determine whether known non-Aboriginal ('historic') heritage sites are located within the Project Area:

- Australian Heritage Database including the following heritage lists:
  - World Heritage List;
  - National Heritage List;
  - Commonwealth Heritage List;
  - RNE (non-statutory);
- NSW State Heritage Inventory including the following heritage lists:
  - SHR;
  - Selected S170 Heritage Registers; and
- Wakool LEP.

A search of heritage databases was undertaken on 10 January 2022 to determine whether any historic heritage items have previously been registered within the Project Area or with in the immediate vicinity. For the purposes of this assessment, heritage items within 5 km of the Project Area were considered to be in the vicinity of the Project Area. The results are outlined below.

7.2.1 STATUTORY HERITAGE REGISTER SEARCHES

7.2.1.1 COMMONWEALTH HERITAGE LIST

The Commonwealth Heritage List includes natural, Indigenous and historical heritage places owned or controlled by the Australian Government. Items on the list have satisfied the minister as having one or more Commonwealth Heritage values.

There are no Commonwealth Heritage listed places within or in proximity to the Project Area.

7.2.1.2 NATIONAL HERITAGE LIST

The Australian National Heritage List contains natural, historic, and Indigenous places deemed to be of outstanding heritage significance to Australia. Before a site is placed on the list a nominated place is assessed against nine criteria by the Australia Heritage Council.

There are no National Heritage listed places within or in proximity to the Project Area.

7.2.1.3 STATE HERITAGE REGISTER

A search of the NSW SHR was conducted on 10 January 2022.

There are no SHR-listed items within or in proximity to the Project Area.

7.2.1.4 WAKOOL LOCAL ENVIRONMENTAL PLAN 2013

A search of the Wakool LEP 2013 was conducted on 10 January 2022.

There are no locally heritage listed sites within the Project Area. The search noted one locally listed heritage items located approximately 30 km from the Project Area.

7.2.1.5 SECTION 170 HERITAGE REGISTERS

Section 170 of the Heritage Act 1977 requires all NSW state agencies to identify, conserve and manage the heritage assets owned, managed, and occupied by that agency. To facilitate this, Section 170 heritage registers were established for all NSW government agencies. These registers are held and maintained by each state agency and updated as assets are acquired, altered, or decommissioned.

A search of the relevant Section 170 registers was undertaken on 10 January 2022.

No Section 170 heritage places are located within or in proximity to the Project Area.

7.2.2 NON-STATUTORY CONSIDERATIONS

7.2.2.1 REGISTER OF THE NATIONAL ESTATE

The RNE is a non-statutory archive of natural, historic, and Indigenous places and incorporates over 13,000 places. Originally compiled between 1976 and 2003 by the Australian Heritage Commission, the register is now maintained by the Australian Heritage Council.

Following amendments to the Australian Heritage Council Act 2003, the RNE was frozen on 19 February 2007, which means that no new places can be added, or removed. Since February 2012 the RNE has been maintained as a non-statutory listing.

A search of the Australian Heritage Database was undertaken on 10 January 2022. This search identified no RNE listed places within or in proximity to the Project Area.

8. ARCHAEOLOGICAL SURVEY

8.1 AIMS

The aims of the cultural heritage survey were to:

- Cover a representative sample of the Project Area that would potentially be impacted by the Project;
- Provide the RAPs an opportunity to provide feedback on the cultural values and elements of cultural heritage significance within the Project Area;
- Record all Aboriginal objects or sites identified during survey;
- Identify areas of PAD that may be present; and
- Collect information to ascertain whether further archaeological investigation is required.

8.2 METHODOLOGY AND COVERAGE

The initial survey approach was designed to survey 100% of the development footprint of the Project. The first field season was hampered by rain and consequently the methodology was adjusted. Following the initial survey, the predictive model was updated to develop sensitivity mapping based on landform and vegetation mapping. This sensitivity mapping subsequently directed the approach for the remainder of the survey across the Project Area (see Section 13.1.1). The revised survey approach was adjusted to cover 100% of landscapes with high/very high archaeological potential (as per the predictive model), and 50% of landscapes with low to moderate archaeological potential. High/very high potential archaeological landscapes were associated with palaeochannel environments as delineated by gently raised red sandy landforms. These landscapes were a focus of the survey.

A total of 75 transects were completed across the proposed development footprint. Each transect has been recorded as a survey unit (SU) within Table 8-4 below. Survey of each transect was undertaken with a survey team of between seven and 10 people with the team spaced approximately 30 m apart. Where areas of exposure or visible potential archaeological features were identified were identified members of the transect team temporarily deviated from their assigned transect.

A handheld non-differential GPS device was used to track the path of the three members of the survey team, record the coordinates of survey transects as well as the location of Aboriginal cultural heritage sites.

A photographic record was kept during the survey. Photographs were taken to record aspects of each SU including landform, surface exposures, vegetation, areas of disturbance, and any identified Aboriginal site or area of archaeological potential. Scales were used for photographs where required, as specified in the Code of Practice.

Concurrent with the third stage of the archaeological survey, a forensic inspection of recorded potential AAR sites was conducted. A team consisting of heritage consultant, forensic anthropologist and two RAP representatives travelled to each of these previously recorded locations to verify the bones as AAR and provide further archaeological and cultural context to how these burials fit into the broader cultural landscape.

This approach resulted in the identification of over 300 heritage features. The Project design was adjusted following each of the three surveys to avoid all AAR sites and minimise impact to any Aboriginal cultural heritage sites.

8.3 PARTICIPANTS

The first Keri Keri field season was undertaken between 19 April and 29 April 2022. Poor site conditions following rain resulted in survey cancellation of several days. Survey was undertaken across seven days of the 11-day program.

The second Keri Keri field season was undertaken between 19 September and 1 October 2022. Again, poor site conditions following rain resulted in survey cancellation of several days. Survey was undertaken across 7.5 days of the 13-day program.

The final Keri Keri field season was undertaken between 20 February and 24 February 2023. A forensic anthropology survey of the recorded AAR was undertaken concurrently.

Participants in each survey day is shown in Table 8-1.

TABLE 8-1 SURVEY ATTENDANCE

Name	Organisation	Role	Date
[removed from public display]	ERM	Survey supervisor	**First season:** 22/04/22-26/04/22 28/04/22-29/04/22
[removed from public display]	ERM	Archaeologist	**First season:** 24/04/22-26/04/22 28/04/22-29/04/22 **Second season:** 20/09/22-24/09/22 **Third season:** 20/02/23-24/02/23
[removed from public display]	ERM	Archaeologist	**First season:** 22/04/22-23/04/22 **Second season:** 27/09/22-30/09/22 **Third season:** 20/02/23-22/02/23
[removed from public display]	ERM (Red-gum)	Archaeologist	**First season:** 22/04/22-26/04/22 28/04/22-29/04/22 **Second season:** 19/09/22-24/09/22 27/09/22-1/10/22 **Third season:** 20/02/23-25/02/23
[removed from public display]	ERM	Survey supervisor	**Second season:** 19/09/22-24/09/22 27/09/22-1/10/22
[removed from public display]	ERM	Survey supervisor	**Third season:** 23/02/23
[removed from public display]		Forensic Anthropologist	**Third season:** 20/02/23-25/02/23

Name	Organisation	Role	Date
Julian Pitts	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-26/04/22 28/04/22-29/04/22 **Second season:** 19/09/22-24/09/22 27/09/22-30/09/22 **Third season:** 20/02/23-24/02/23
Maxine Kelly	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-26/04/22 28/04/22-29/04/22
Andrew Pappin	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-25/04/22
Casey Kennedy	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-25/04/22
Nungarra Kelly	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 26/04/22 28/04/22-29/04/22 **Second season:** 24/09/22 27/09/22-29/09/22
Jason Pappin	Pappin Family Aboriginal Corporation	RAP site officer	**First season:** 26/04/22 28/04/22-29/04/22 **Second season:** 23/09/22-24/09/22
Tracy Hamilton	Yarkuwa Indigenous Knowledge Centre	RAP site officer	**First season:** 22/04/22-25/04/22 **Second season:** 19/09/22-23/09/22
Liticia Ross	Yarkuwa Indigenous Knowledge Centre	RAP site officer	**First season:** 22/04/22-25/04/22 **Second season:** 19/09/22-23/09/22 **Third season:** 20/02/23-21/02/23
John Jackson	Individual	RAP site officer	**First season:** 23/04/22 25/04/22 29/04/22
Roland Atkinson	Banggerang Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-23/04/22 28/04/22-29/04/22 **Second season:** 27/09/22-30/09/22 **Third season:** 20/02/23-24/02/23

Name	Organisation	Role	Date
Clinton Edwards	Banggerang Aboriginal Corporation	RAP site officer	**First season:** 22/04/22-23/04/22 28/04/22-29/04/22 **Second season:** 19/09/22-23/09/22 27/09/22-30/09/22 **Third season:** 20/02/23-24/02/23
Mary Pappin	Pappin Family Aboriginal Corporation	RAP site officer	**Second season:** 19/09/22-24/09/22 27/09/22-1/10/22 **Third season:** 20/02/23 22/02/23-24/02/23
McKarrol Pappin	Pappin Family Aboriginal Corporation	RAP site officer	**Second season:** 19/09/22-22/09/22 24/09/22 27/09/22-1/10/22 **Third season:** 23/02/23-24/02/23
Neville Murray	For John Jackson	RAP site officer	**Second season:** 19/09/22-24/09/22 27/09/22-30/09/22
Stuart Hood	Banggerang Aboriginal Corporation	RAP site officer	**Second season:** 19/09/22-23/09/22
Shuker Kelly	Pappin Family Aboriginal Corporation	RAP site officer	**Second season:** 27/09/22-30/09/22
Verna East	Pappin Family Aboriginal Corporation	RAP site officer	**Third season:** 20/02/23-24/02/23
David Edwards	Banggerang Aboriginal Corporation	RAP site officer	**Third season:** 20/02/23-22/02/23 25/02/23
Owen Johnson	For John Jackson	RAP site officer	**Third season:** 20/02/23-21/02/23
Verdell Pappin	Pappin Family Aboriginal Corporation	RAP site officer	**Third season:** 21/02/23-23/02/23

8.4 SURVEY COVERAGE

An assessment of survey coverage was completed to quantitatively assess the effectiveness of the survey at identifying Aboriginal objects. The assessment of effective survey coverage provides a measure of whether Aboriginal objects are readily visible, buried or otherwise obscured. The conditions which effect the detection of Aboriginal objects are referred to as exposure and visibility.

Visibility is the amount of bare ground that is present across a survey area. Visibility is lowered by elements which conceal the ground surface such as leaf litter, vegetation, stony ground of introduced materials.

Exposure estimates the percentage of land for which erosional processes and exposure was sufficient to reveal archaeological evidence on the ground.

In accordance with the Code of Practice, a summary of the survey coverage as delineated into SUs and landform is provided in Table 8-2 and Table 8-3. The landforms have been designated according to their Aboriginal heritage sensitivity (see Section 13.1.1).

TABLE 8-2 SURVEY COVERAGE SUMMARY – SUS

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W1	110,096	Ancient dune	80%	50%	44,038	40%
Survey Unit W2	558,257	Source bordering Aeolian Dune field	75%	50%	209346	37.5%
Survey Unit W3	178,381	Prior Stream (Palaeochannel Landform) / Rangeland Plain	80%	45%	64,217	36%
Survey Unit W4	105,107	Prior Stream (Palaeochannel Landform)	70%	65%	47,824	45.5%
Survey Unit W5	371,181	Prior Stream (Palaeochannel Landform) / Rangeland Plain	80%	70%	207,861	56%
Survey Unit W6	46,309	Prior Stream (Palaeochannel Landform) / Rangeland Plain	80%	70%	25,933	56%
Survey Unit W7	234,286	Prior Stream (Palaeochannel Landform), Rangeland Plain	75%	50%	87,857	37.5%
Survey Unit W8	27,074	Prior Stream (Palaeochannel Landform), Rangeland Plain	75%	50%	10,153	37.5%
Survey Unit W9	245,382	Prior Stream (Palaeochannel Landform) / Rangeland Plain	75%	50%	92,018	37.5%
Survey Unit W10	401,557	Prior Stream (Palaeochannel Landform) / Rangeland Plain	75%	50%	150,584	37.5%
Survey Unit W11	368,881	Prior Stream (Palaeochannel Landform) / Rangeland Plain	75%	50%	138,330	37.5%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W12	291,538	Prior Stream (Palaeochannel Landform)	70%	65%	132,650	45.5%
Survey Unit W13	224,571	Prior Stream (Palaeochannel Landform)	70%	65%	102,180	45.5%
Survey Unit W14	504,579	Source Bordering Dune (Lunette) / Source Bordering Aeolian Dunefield	60%	50%	151,374	30%
Survey Unit W15	198,200	Source Bordering Dune (Lunette) / Source Bordering Aeolian Dunefield	65%	60%	77,298	39%
Survey Unit W16	185,889	Prior Stream (Palaeochannel Landform)	60%	50%	55,767	30%
Survey Unit W17	41,490	Prior Stream (Palaeochannel Landform)	60%	80%	19,915	48%
Survey Unit W18	537,840	Prior Stream (Palaeochannel Landform)	60%	80%	258, 163	48%
Survey Unit W19	129,295	Prior Stream (Palaeochannel Landform)	50%	40%	25,859	20%
Survey Unit W20	69,108	Prior Stream (Palaeochannel Landform)	50%	40%	13,822	20%
Survey Unit W21	7,211	Prior Stream (Palaeochannel Landform)	50%	35%	1,262	17.5%
Survey Unit W22	4,447	Source Bordering Dune (Lunette)	50%	40%	889	20.0%
Survey Unit W23	832,829	Prior Stream (Palaeochannel Landform), Rangeland Plain	60%	45%	224,864	27%
Survey Unit W24	89,361	Prior Stream (Palaeochannel Landform)	50%	40%	17,872	20%
Survey Unit W25	9,235	Prior Stream (Palaeochannel Landform)	50%	40%	1,847	20%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W26	1,454,380	Prior Stream (Palaeochannel Landform) and Prior Stream Rangeland	10%	10%	14,544	1%
Survey Unit W27	539,928	Palaeochannel Rangelands, Prior Stream (Palaeochannel Landform)	35%	30%	56,692	10.50%
Survey Unit W28	93,055	Palaeochannel Rangelands, Prior Stream (Palaeochannel Landform)	35%	30%	9,771	10.50%
Survey Unit W29	60,565	Palaeochannel Rangelands	35%	30%	6,359	10.50%
Survey Unit W30	2,794,230	Source Bordering Aeolian Dunefield	35%	25%	244,495	8.75%
Survey Unit W31	461,615	Ancient Dune Landform	45%	40%	83,091	18%
Survey Unit W32	254,488	Rangeland Plain, Prior Stream (Palaeochannel Landform)	40%	20%	20,359	8%
Survey Unit W33	72,095	Rangeland Plain, Prior Stream (Palaeochannel Landform)	40%	20%	5,768	8%
Survey Unit W34	1,935,880	Rangeland Plain, Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands	40%	25%	193,588	10%
Survey Unit W35	589,876	Rangeland Plain, Source Bordering Aeolian Dunefield	35%	25%	51,614	8.75%
Survey Unit W36	663,071	Rangeland Plain, Ancient Lake (Depression), Source Bordering Aeolian Dunefield	45%	40%	119,353	18%
Survey Unit W37	835,136	Rangeland Plain, Ancient Lake (Depression), Source Bordering Dune (Lunette), Palaeochannel Rangelands	35%	25%	73,074	8.75%
Survey Unit W38	262,833	Rangeland Plain, Prior Stream (Palaeochannel Landform)	35%	25%	22,998	8.75%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W39	290,315	Rangeland Plain, Prior Stream (Palaeochannel Landform)	40%	30%	34,838	12%
Survey Unit W40	Consolidated into another SU					
Survey Unit W41	Consolidated into another SU					
Survey Unit W42	561,682	Rangeland Plain, Prior Stream (Palaeochannel Landform)	35%	25%	49,147	8.75%
Survey Unit W43	Consolidated into another SU					
Survey Unit W44	427,268	Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression)	30%	25%	37,386	8.75%
Survey Unit W45	542,721	Rangeland Plain, Prior Stream (Palaeochannel Landform)	25%	20%	27,136	5%
Survey Unit W46	94,370	Bordering Aeolian Dunefield, Rangeland Plain	45%	35%	14,863	15.75%
Survey Unit W47	560,847	Source Bordering Aeolian Dunefield, Rangeland Plain, Prior Stream (Palaeochannel Landform)	30%	20%	33,651	6%
Survey Unit W48	258,560	Source Bordering Aeolian Dunefield	30%	25%	19,392	7.50%
Survey Unit W49	27,475	Source Bordering Aeolian Dunefield, Rangeland Plain	45%	35%	4,327	15.75%
Survey Unit W50	111,293	Prior Stream (Palaeochannel Landform), Rangeland Plain, Source Bordering Aeolian Dunefield	45%	35%	17,529	15.75%
Survey Unit W51	706,650	Rangeland Plain, Source Bordering Aeolian Dunefield, Source Bordering Dune (Lunette), Prior Stream (Palaeochannel Landform)	50%	40%	141,330	20%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W52	106,526	Source Bordering Dune (Lunette), Source Bordering Aeolian Dunefield,	50%	40%	21,305	20%
Survey Unit W53	1,301,740	Source Bordering Aeolian Dunefield, Prior Stream (Palaeochannel Landform), Rangeland Plain	45%	40%	234,313	18%
Survey Unit W54	497,909	Prior Stream (Palaeochannel Landform), Rangeland Plain	35%	20%	34,854	7%
Survey Unit W55	289,458	Palaeochannel Rangelands, Former Swamp (Low Lying), Prior Stream (Palaeochannel Landform)	50%	40%	57,892	20%
Survey Unit W56	143,209	Rangeland Plain, Prior Stream (Palaeochannel Landform)	40%	35%	20,049	14%
Survey Unit W57	2,961,560	Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression), Former Swamp (Low Lying), Palaeochannel Rangelands	50%	40%	592,312	20%
Survey Unit W58	695,816	Prior Stream (Palaeochannel Landform), Former Swamp (Low Lying), Palaeochannel Rangelands	40%	35%	97,414	14%
Survey Unit W59	279,997	Rangeland Plain, Prior Stream (Palaeochannel Landform)	30%	15%	12,600	4.50%
Survey Unit W60	47,915	Rangeland Plain	60%	50%	14,375	30%
Survey Unit W61	532,214	Rangeland Plain, Source Bordering Aeolian Dunefield, Source Bordering Dune (Lunette), Ancient Lake (Depression)	30%	20%	31,933	6%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W62	963,851	Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands	30%	15%	43,373	4.50%
Survey Unit W63	465,234	Rangeland Plain, Prior Stream (Palaeochannel Landform)	35%	25%	40,708	8.75%
Survey Unit W64	1,282,460	Former Swamp (low lying), Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression), and Palaeochannel Rangelands	65%	60%	500,159	39%
Survey Unit W65	1,324,490	Former Swamp (Low Lying) and Palaeochannel Rangelands	75%	60%	596,020	45%
Survey Unit W66	439,886	Palaeochannel Rangelands	75%	35%	214,444	48.75%
Survey Unit W67	509,200	Palaeochannel Rangelands and Rangeland Plain	60%	50%	152,760	30%
Survey Unit W68	300,882	Prior Stream (Palaeochannel Landform) and Rangeland Plain	50%	45%	67,698	22.50%
Survey Unit W69	851,674	Source Bordering Lunette, Source Bordering Aeolian Dunefield, Prior Stream (Palaeochannel Landform) and Rangeland Plain	70%	60%	357,703	42%
Survey Unit W70	23,625	Source Bordering Lunette	50%	40%	4,725	20%
Survey Unit W71	921,028	Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands, Rangeland Plain, Former Swamp (low lying)	70%	60%	386,832	42%
Survey Unit W72	77,119	Palaeochannel Rangelands	70%	65%	35,089	45.50%

Survey Unit	Survey Unit Area (m^2)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m^2)	Effective Coverage (%)
Survey Unit W73	67,272	Prior Stream (Palaeochannel Landform), Forest Swamp (Low Lying)	65%	50%	21,863	32.50%
Survey Unit W74	294,230	Prior Stream (Palaeochannel Landform)	65%	50%	95,624	32.50%

TABLE 8-3 SURVEY COVERAGE SUMMARY – LANDFORMS (AS DESCRIBED BY ABORIGINAL HERITAGE SENSITIVITY)

Landform	Landform Area (m^2)	Area Surveyed (m^2)	Percentage of Landform Surveyed (%)	Area Effectively Surveyed (m^2)	Percentage of Landform Effectively Surveyed (%)	Number of Sites
Very High (total)	45,162,800	12,167,185	26.9%	4,258,515	9.4%	130
Very High (inside corridor)	3,052,047	3,052,047	94%	1,068,216	35%	15
High (total)	53,020	267	0.5%	93	0.2%	1
High (inside corridor)	0	0	-	-	-	0
Moderate (total)	54,218,400	13,909,700	25.7%	4,868,395	9.0%	71
Moderate (inside corridor)	17,304,278	8,032,793	44%	2,811,478	16.2%	40
Low (total)	81,377,500	14,531,300	17.9%	8,137,528	10.0%	23
Low (inside corridor)	23,560,722	9,775,309	39%	5,474,173	23.2%	13

8.5 SURVEY UNITS

A summary of each SU is provided in Table 8-4 and shown in Figure 8-1.

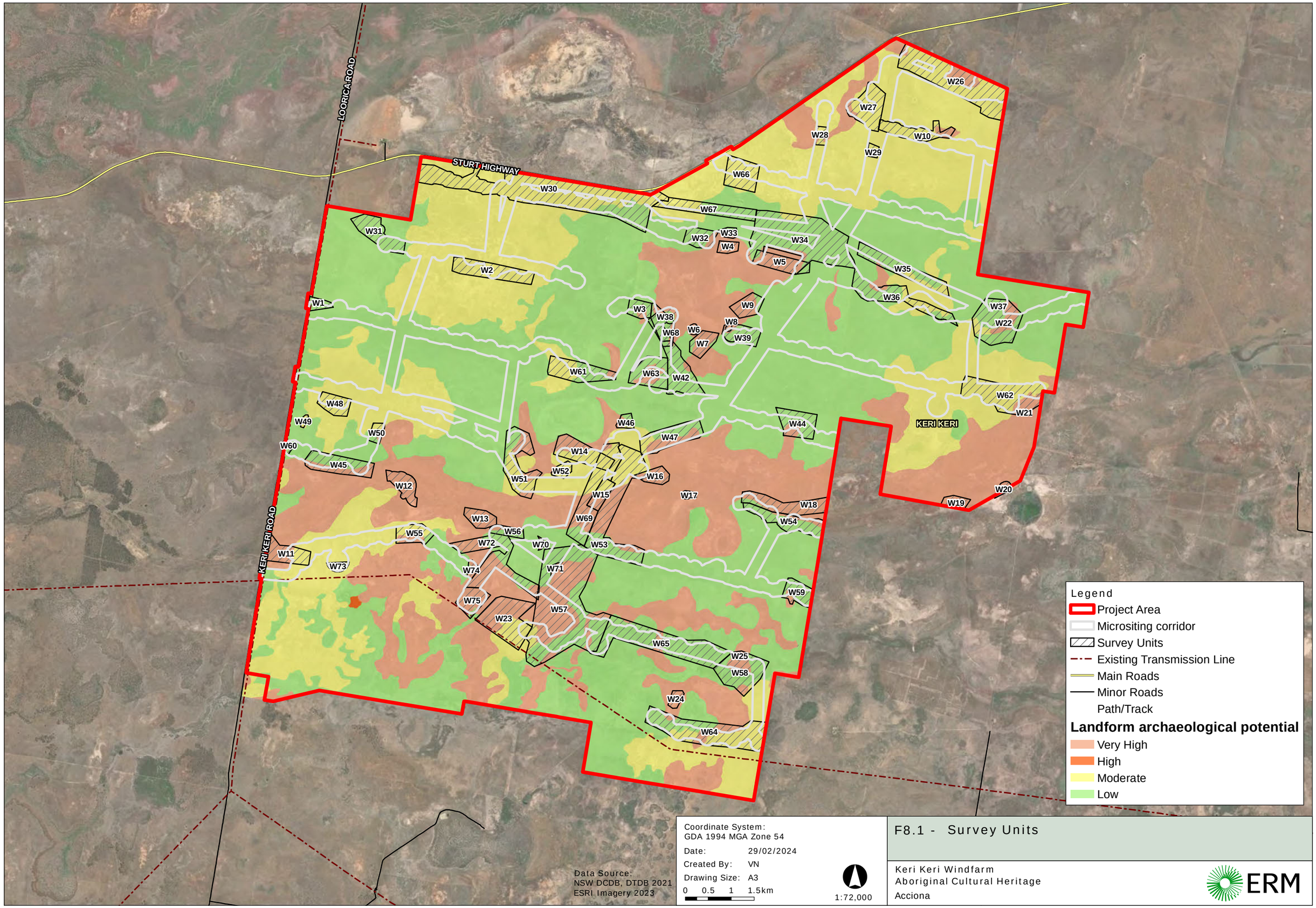


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TABLE 8-4 SURVEY UNIT DESCRIPTIONS

Survey Unit	Description	Identified cultural features	Photograph
April 2022			
Survey Unit W1 **Landform features:** Ancient Dune **Size:** 11.0096 ha **Visibility:** 80% **Exposure:** 50%	W1 was located on the western boundary of the Project Area. The landscape was almost entirely flat, with little discernible topography. Fine red-orange sand and silt sediments characterize the ground surface which was assessed to represent an ancient dune landform. Much of the ground surface of W1 had been stripped, graded and levelled to facilitate grazing pasture for livestock. The vegetation observed during the W1 survey reflected this, with minor instances of Cotton Bush and relatively extensive grass coverage when compared with other SUs. No mature tree species were noted within the SU.	**Aboriginal heritage values:** • None **Historic heritage values:** • None	 Photograph 8-1Western boundary of W1 and Project Area facing north. Note furrows indicating evidence of ground surface clearing in image's right.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W2 **Landform features:** Source Bordering Aeolian Dunefield **Size:** 55.8257 ha **Visibility:** 75% **Exposure:** 50%	W2 was located towards the Project Area's north-west corner. The landscape was predominantly flat, with little discernible topography aside from gentle undulations the ground surface. The survey unit was assessed to be located within a Source Bordering Aeolian Dunefield which was characterised by light red-brown clay-loam soils. Extensive evidence of shrink-swell activity was noted in the soil profile through abundant sinkholes and cracking muds. Vegetation was characterized by patches of shrubs approximately 0.5 m high. Dominant shrub species included Cotton Bush, Dillon Bush and Giant Redburr. Grass species provided relatively wide-reaching ground coverage across W2. One large She-Oak was identified in the western portion of W2. This tree experienced significant damage relatively recently in the form of broken limbs pulling away from the trunk. No evidence of cultural scarring was identified.	**Aboriginal heritage values:** • Artefact **Historic heritage values:** • None	 PHOTOGRAPH 8-2 LANDSCAPE OF W2 FACING SOUTHEAST. NOTE SHE-OAK (CASUARINA SP.) IN BACKGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W3 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 17.8381 ha **Visibility:** 80% **Exposure:** 45%	W3 was located in the northern extent of the Project Area. The landscape was almost entirely flat, with little discernible topography. Soils were dominated by grey-brown silty clay with minor instances of cracking muds associated with the Rangeland Plain landscape. Some very small mounds <1 m across and <0.5 m high were scattered across the landscape. These mounds were covered by Saltbush (*Atriplex* spp.) which had been stripped by grazing animals. It is unclear whether this plant species prefers growing on these small mounds, or whether the presence of these plants holds the substrate together, preventing erosion as the surrounding unvegetated soils are stripped away resulting in refuges. The central portion of W3 was associated with an area of Prior Stream deposit which was comprised of a sandier soil with increased visibility. The vast majority of identified Aboriginal objects within W3 were identified in this portion of the SU. Vegetation within W3 was particularly sparse, with low-lying shrubs scattering the landscape. Shrub species were dominated by Cotton Bush with smaller shrubs including Copperburrs and annual saltbushes. A relatively extensive undergrowth layer consisted of native grass and flower species, which provided a greater degree of groundcover compared to other SUs. Abundant invasive grasses were also observed. The survey of W3 yielded a broad range of archaeological material. An isolated silcrete flake and several grindstones and grindstone fragments of a range of lithologies were identified. One grindstone was noted as being porphyritic igneous rock – likely basalt or latite.	**Aboriginal heritage values:** • Artefact • AAR **Historic heritage values:** • None	 PHOTOGRAPH 8-3 LANDSCAPE OF W3 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
	This lithology indicates that the grindstone had been transported some distance as no basalt or other extrusive igneous rock sources are located nearby to the Project Area. AAR were also identified towards the southern extent of W3. Most of the archaeological material was located within the Prior Stream (Palaeochannel) Landform.		
Survey Unit W4 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 10.5107 ha **Visibility:** 70% **Exposure:** 65%	W4 was located towards the northern extent of the Project Area. The landscape was almost entirely flat, with little discernible topography. Sediments ranged in colour from orange-red to grey-reds, and were consistently sandy silts in texture. Exposure of the underlying substrate was consistent owing to the reduced groundcover. Cracking associated with the shrink-swell action of the soils interacting with water was prevalent, with cracks approximately 3 mm in width observed. Scalds and erosional surfaces were consistently scattered across the landscape and W4. Vegetation patterning was dominated by Bluebush species (*Maireana* spp.) and Thorny Saltbush species (*Rhagodia spinescens*). Shrubs were low-lying and evenly scattered. Light groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*.	**Aboriginal heritage values:** • Artefact **Historic heritage values:** • None	 PHOTOGRAPH 8-4 LANDSCAPE OF W4 FACING SOUTH-WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W5 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 37.1181 ha **Visibility:** 80% **Exposure:** 70%	W5 was located in the northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography. Like immediately adjacent SUs, sediments in W5 were characterized by the red sandy soils associated with the Prior Stream (Palaeochannel) Landform; however, were lighter in colour and finer in texture when compared to other more distant SUs exhibiting similar landform types. In low lying areas associated with the Rangeland Plain landform, sediments were noticeably finer trending towards silts and clays, and including areas of cracking muds. Vegetation was generally sparser than in previous SUs, with scour surfaces and clay pans being a regular occurrence. Dominant vegetation species included Bluebush species (*Maireana* spp.) and Thorny Saltbush species (*Rhagodia spinescens*). Minor instances of grasses that formed some degree of groundcover were also recorded. No tree species were identified within the SU. Archaeological remains within the SU were limited to silcrete and quartz artefact sites.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-5 LANDSCAPE OF W5 FACING EAST. NOTE CRACKING RED-GREY SILTY-SANDS IN THE FOREGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W6 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 4.6309 ha **Visibility:** 80% **Exposure:** 70%	W6 was located towards the centre north portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were characterized by red-grey sandy-loam soils. Shrub coverage varied from spares to moderate throughout W6. Dominant vegetation species included Bluebush species and Thorny Saltbush species. A relatively extensive undergrowth layer consisted of native grass and flower species and provided a greater degree of groundcover compared to other SUs. As with other SUs, invasive grasses were present. A range of artefact types were recorded during survey of W6. Almost all artefacts were observed within association or proximity to an identified mound feature, located centrally within W6. Artefact types comprising both Aboriginal and Historic cultural heritage material included isolated artefacts and artefact scatters, glass bottles and bottle fragments, coins, and metal objects and fragments (likely nails or pins/pegs). The mound feature was identified as a bottle dump. Additionally, and of note – the presence of flaked glass identified indicates post-contact utilisation of the site by Aboriginal people. The mound had been impacted significantly by rabbit holes, and obvious disturbance of the soil deposition was observed.	**Aboriginal heritage values:** • Artefact (Stone and Glass) • Contact Historic heritage values: • Glass bottles • Coins • Metal fragments • Brick fragments Refer to Section 10.2 for further details.	 PHOTOGRAPH 8-6 LANDSCAPE OF W6 FACING NORTH-EAST. NOTE DISTURBANCE OF GROUND SURFACE ASSOCIATED WITH RABBIT HOLES. PHOTOGRAPH 8-7 DETAIL OF CONCENTRATED GLASS INTERSPERSED WITH LITHIC MATERIAL AT BOTTLE DUMP LOCATION.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W7 **Landform features:** Prior Stream (Palaeochannel Landform), Rangeland Plain **Size:** 23.4286 ha **Visibility:** 75% **Exposure:** 50%	W7 was located towards the centre north portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were characterized by red-grey sandy-loam soils associated with the Prior Stream landscape. Shrub coverage was sparse. Dominant vegetation species included Bluebush species and Thorny Saltbush species. A relatively extensive undergrowth layer consisted of native grass and flower species. A range of artefact types were recorded during the survey of W7. This encompassed several isolated finds, including silcrete flakes and grindstone. Two artefact scatters were associated with hearth features suggesting longer term occupation then surrounding sites.	**Aboriginal heritage values:** • Artefact • Hearth • Mound • Historic heritage values: • None	 PHOTOGRAPH 8-8 LANDSCAPE OF W7 FACING WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W8 **Landform features:** Prior Stream (Palaeochannel Landform), Rangeland Plain **Size:** 2.7074 ha **Visibility:** 75% **Exposure:** 50%	W8 was located towards the centre north portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were characterized by red-grey sandy-loam soils. Shrub coverage was generally sparse. Dominant vegetation species included Bluebush species and Thorny Saltbush species. Greater grass coverage was observed in W8 instances of grasses that formed some degree of groundcover were also recorded. A relatively extensive undergrowth layer consisted of native grass and flower species. As with other SUs, invasive grasses were present. A series of AAR features were recorded in the central area of W8 associated with slight mounds and scalding. Isolated artefacts including an axe were also recorded nearby to the AAR.	**Aboriginal heritage values:** • Artefact • AAR Historic heritage values: • None	 PHOTOGRAPH 8-9 LANDSCAPE OF W8 FACING NORTH-WEST. EXPOSED SCALDS AND SLIGHT MOUND LANDFORMS IN THE MID-GROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W9 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 24.5382 ha **Visibility:** 75% **Exposure:** 50%	W9 was located towards the centre north portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were predominantly characterized by red-grey sandy-loam soils associated with the Prior Stream (Palaeochannel) Landform. Shrub coverage was sparse; however, areas of increased shrub cover were observed at certain places. Dominant vegetation species included Bluebush species (*Maireana* spp.) and Thorny Saltbush species (*Rhagodia spinescens*). Greater grass coverage was observed in W7. A relatively extensive undergrowth layer consisted of native grass and flower species such as *Rhodanthe* spp. and *Austrodanthonia* spp. Aboriginal Isolated artefacts were spread across W9 and included flakes and grindstones. A single hearth was recorded towards the centre of W9 adjacent to a scatter of bones and bone fragments, with some of the larger bone pieces clearly human in origin. This bone scatter was interpreted to be AAR, likely once a burial however the original depositional context of the bones has been lost due to erosion.	**Aboriginal heritage values:** • Artefact • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-10 W9 LANDSCAPE FACING NORTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W10 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 40.1557 ha **Visibility:** 75% **Exposure:** 50%	W10 was located towards the northeastern-most portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations. Sediments of much of the SU were characterized by red to grey loam soils ranging in texture between silts and clays within an area assessed to represent the Palaeochannel / Rangeland Plain Landform. The eastern portion of the SU included a small area assessed to represent a Prior Stream (Palaeochannel) Landform. Soils within this portion of the SU included a red brown sandy soil. Vegetation for W10 was characterised by relatively abundant native grasses and other related light groundcover species. Dominant species included wallaby grasses and Rough Spear Grass. Small and semi-isolated patches of shrubs <0.5 m in height were noted consisting of Dillon Bush, Cotton Bush and Thorny Saltbush. No archaeological material was identified across most of W10. However, in the eastern-most section of W10, a scatter of disarticulated bones interpreted to be AAR were recorded in the eastern portion of the SU associated with the Prior Stream landform. Isolated artefacts including a grindstone were also recorded nearby to the AAR.	**Aboriginal heritage values:** • Artefact • AAR Historic heritage values: • None	 PHOTOGRAPH 8-11 LANDSCAPE OF W10 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W11 **Landform features:** Prior Stream (Palaeochannel Landform) / Rangeland Plain **Size:** 36.8881 ha **Visibility:** 75% **Exposure:** 50%	W11 was located on the western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments to the west of the SU were red silty-sand soils associated with the Prior Stream landform, while soils in the east were comprised of grey-brown loamy clays associated with the Palaeochannel / Rangeland Plain Landform. Scour surfaces were noted in the western portion of W11 where red sands are predominant. To the west in red sandy soils, patchy vegetation characterized by Bluebush species. Several grass species contributed to groundcover. Bluebush bunches were noted to coalesce around gentle rises in the red sandy soils. To the east, taller shrub species formed patchy clusters across the landscape. Ground visibility differed significantly between western and eastern portions of W11. Increased groundcover in the western half of W11 resulted in relatively low visibility across this portion of the SU while ground visibility increased with reduced groundcover in the eastern half. Archaeological material also showed spatial variation between the eastern and western halves of W11. To the east and the grey-brown soils, only two isolated artefacts were recorded. This is in stark contrast to the western half dominated by red sand soils. Here, extensive	**Aboriginal heritage values:** • Artefact • Hearth • AAR • Mound Historic heritage values: • None	 Photograph 8-12 Landscape of W11 western half facing west. Note scour surface in background.

Survey Unit	Description	Identified cultural features	Photograph
	evidence of Aboriginal occupation was identified including multiple hearths, artefact scatters and isolated artefacts as well as a burial mound complex of containing AAR.		
Survey Unit W12 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 29.1538 ha **Visibility:** 70% **Exposure:** 65%	W12 was within the central western portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments to the west of the SU were predominantly red silty-sand soils, with some areas of grey-brown throughout. Scour surfaces were commonly observed across W12, particularly where red sands were predominant. Across the majority of W12, vegetation was characterized by Bluebush species (*Maireana* spp.) with small low-lying stands of *M. pyramidata* being the most abundant plant type. Curly Windmill Grass (*Enteropogon ramosus*), corkscrew grass (*Austrostipa* nodosa) and several wallaby grass species (*Austrodanthonia* spp.) contributing to groundcover. Bluebush bunches were noted to coalesce around gentle rises in the red sandy soils. Ground visibility was generally good across W12, with large areas of exposed ground surface and scalding observed, particularly within the northern and southern extents. Groundcover increased in some areas adjacent to slight mounding and red sand scalds, and as such, ground visibility was somewhat decreased in those areas.	**Aboriginal heritage values:** • Artefact • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-13 LANDSCAPE OF W12 FACING SOUTH-WEST SHOWING PRESENCE OF SCOURS IN RED SANDY SOIL LANDSCAPE.

Survey Unit	Description	Identified cultural features	Photograph
	Isolated artefacts were the predominant archaeological material type identified across W12, with quartz and silcrete flakes comprising the primary artefact type and raw material. Several potential AAR features were recorded in the central southern portion of W12 within relative proximity to each other, one of which contained numerous cranial bone fragments.		
Survey Unit W13 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 22.4571 ha **Visibility:** 70% **Exposure:** 65%	W13 was located within the central western portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments to the west of the SU were predominantly red silty-sand soils, with some areas of grey-brown throughout. Scour surfaces were commonly observed across W13, particularly where red sands were predominant. Across the majority of W13, vegetation was characterized by Bluebush species with small low-lying stands being the most abundant plant type. A number of grass species were present which contributed to groundcover. Bluebush bunches were noted to coalesce around gentle rises in the red sandy soils. Ground visibility was generally good across W13, with large areas of exposed ground surface and scalding observed, particularly within the northern and southern extents. Groundcover increased in some areas adjacent to slight mounding and red sand scalds, and as such, ground visibility was somewhat decreased in those areas.	**Aboriginal heritage values:** • Artefact • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-14 LANDSCAPE OF W13 FACING SOUTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
	Various types of archaeological material were identified in diffuse concentration across the whole of W13. These included artefact isolates and scatters, earth mound or hearth features (often in association with isolated artefacts, primarily silcrete and/or quartz flakes), an oven stone, and AAR.		
Survey Unit W14 **Landform features:** Source Bordering Dune (Lunette) / Source Bordering Aeolian Dunefield **Size:** 50.4579 ha **Visibility:** 60% **Exposure:** 50%	W14 was located in the centre of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Soils across W14 were grey-brown in colour, and silty-clay in texture. Cracking muds were abundant, as were gilgais demonstrating the shrink-swell nature of these soils when water is introduced. Furthermore, a wide area of standing water was recorded after multiples days without rain and without a creek or similar water channel further demonstrating the water-retaining characteristics of this landscape. Vegetation was generally patchy across W14 with clumps of Cotton Bush (*Maireana aphylla*) scattered the landscape. Rough Spear Grass (*Austrostipa scabra*) and Gaint Redburr (*Sclerolaena tricuspis*) contributed to the majority of groundcover. Identified archaeological material included several artefact sites as well as one example of a hearth feature. Quartz and silcrete flakes were the primary artefact type and raw material identified. Fragments of flaked glass of undetermined age were recorded in the western-most portion of W14.	**Aboriginal heritage values:** • Artefact • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-15 LANDSCAPE OF W14 FACING NORTH-WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W15 **Landform features:** Source Bordering Dune (Lunette) / Source Bordering Aeolian Dunefield **Size:** 19.8200 ha **Visibility:** 65% **Exposure:** 60%	W15 was located within the centrally within the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. The northern portion of W15 is located within Source Bordering Aeolian Dunefield landform, where sediments included light red clay and loam soils. The southern portion is located within Prior Stream (Palaeochannel) Landform and sediments included predominantly red silty-sand soils, with some areas of grey-brown throughout. Scour surfaces were commonly observed across the entirety of W15, particularly where red sands were predominant. Vegetation in the northern part of W15 included generally sparse shrubland dominated by Cotton Bush (*Maireana aphylla*) with Dillon Bush (*Nitraria billardierei*) and native grasses dominated by Rough Spear Grass. The southern portion was characterised by slightly greater ground cover overall; however, scours and exposed ground surface were commonly observed. Ground visibility varied across W15, with large areas of exposed ground surface and scalding observed, particularly within the southern extent and increased vegetation resulting in poorer ground visibility in the north. Groundcover increased in some areas adjacent to slight mounding and red sand scalds, and as such, ground visibility was somewhat decreased in those areas.	**Aboriginal heritage values:** • Artefact • Hearth • Mound • AAR Historic heritage values: • None	 PHOTOGRAPH 8-16 LANDSCAPE OF W15 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
	Various types of archaeological material were identified in W15, particularly in the mid and southern portion of the SU. These included isolated artefacts and artefact scatters, earth mound or hearth features (often in association with isolated artefacts) Only one instance of archaeological material (isolated artefact) was identified within the northern Source Bordering Aeolian Dunefield landform portion of W15.		
Survey Unit W16 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 18.5889 ha **Visibility:** 60% **Exposure:** 50%	W16 was located in the centre of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments throughout W16 were light red-orange silty sands. Several areas entirely devoid of vegetation were record across W16. Standing water was also recorded at some locations. This had been observed at other locations with different, finer-grained soil types, and the presence of standing water some time removed from rainfall potentially indicates a thin layer of red sands overlying less permeable sediments such as clays. Vegetation was predominantly low-lying Black Bluebush (*Maireana pyramidata*) as well as other Bluebush species (e.g*., M.georgei*, *M.sedifolia* and *M.appressa*). Native grasses were also abundant, including Curly Windmill Grass (*Enteropogon ramosus*), corkscrew grass (*Austrostipa nodosa*) and a few wallaby grass species (*Austrodanthonia* spp.). The archaeology of W16 is characterized by a complex of hearths in the SUs northern extent.	**Aboriginal heritage values:** • Artefact • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-17 LANDSCAPE OF W16 SHOWING EXTANT HEARTH FEATURES.

Survey Unit	Description	Identified cultural features	Photograph
	The remains of dozens of hearths cluster in a relatively confined area interspersed with displaced hearth stones, isolated flakes and artefact scatters. A grindstone was recorded to the north, slightly beyond the SU survey boundary. No AAR were identified in W16.		
Survey Unit W17 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 4.1490 ha **Visibility**: 60% **Exposure:** 80%	W17 was located within the central western extent of the Project Area. The landscape within W17 sits within and on the periphery of an isolated erosional pan with predominantly exposed grey silty sediment. Red-brown sandy soils consistent with the broader Prior Stream (Palaeochannel) Landform were observed on the slightly elevated peripheries of the erosional pan. Vegetation was observed only within the peripheral zones of the erosional pan, associated with the red-brown soils and comprised of generally sparse shrubland dominated by Cotton Bush and native grasses dominated by Rough Spear Grass. Ground visibility was generally excellent across W17, due to the absence of ground covering vegetation within the erosional pan. Archaeological material (artefact scatter) was only identified at the northern periphery of the erosional pan, in association with the red-brown soils and slightly elevated eroding embankment.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 Photograph 8-18 Landscape of W17. Note the division between elevated red-brown soil and the erosional plan.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W18 **Landform features**: Prior Stream (Palaeochannel Landform) **Size**: 53.7840 ha **Visibility:** 60% **Exposure:** 80%	W18 was located on the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments throughout W16 were light red-orange silty sands, however had a noticeably higher silt/clay content compared to similar sediments in other SUs. An area of bare soil was identified towards the centre of W18 with a few areas of standing water. Vegetation was predominantly low-lying Black Bluebush as well as other Bluebush species confined into dense clusters. Interspersing these clusters were low-lying groundcover species including Cannonball Burr and Creeping Salt Bush. Isolated artefacts were found throughout W18 with quartz and silcrete flakes being the dominant artefact type and raw material. Several PADs were identified in W18. These features were identified based on associated terrain features and vegetation type. In this case, gentle mounds (<0.5 m in height) with Black Bluebush (*Maireana pyramidata*) which were assessed as likely indicators of AAR sites. No visible human remains were recorded in W18.	**Aboriginal heritage values:** • Artefact • PAD Historic heritage values: • None	 PHOTOGRAPH 8-19 VIEW ACROSS W18 FACING NORTH, VIEW OF STANDING WATER IN BACKGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W19 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 12.9295 ha **Visibility:** 50% **Exposure:** 40%	W19 was located on the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were red-grey silty sands. Minor cracking muds were observed throughout W19. As with other Sus, shrubs congregated in clusters. Dominant shrub species included a range of Saltbush species (e.g., *Maireana georgei*, *M.sedifolia* and *M. appressa*). Low-lying Creeping Salt Bush (*Rhagodia spinescens*) formed the undergrowth. Areas lacking shrubs were identified where vegetation was entirely dominated by low-lying groundcover. Many isolated artefacts were recorded across W19. Spatially, these artefacts appear confined to the western half of W19. Raw materials included silcrete, chert and crystal quartz. A greenstone flake was recorded in the north-west quadrant of W19. Hearths were recorded in the north of W19. Evidence of AAR's in the form of bone fragments and loose teeth were identified within the SU.	**Aboriginal heritage values:** • Artefact • AAR • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-20 W19 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W20 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 6.9108 ha **Visibility:** 50% **Exposure:** 40%	W20 was located along the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments were characterized by red-orange silty sands. Vegetation was evenly spread across W20. Shrubs species included a range of Saltbush species and Dillon Bush. Large proportions of W20 were dominated by only low-lying groundcover species which reduced visibility across large portions of the SU. Localised areas of high visibility were identified with the SU associated with several scour landforms. A small mound was recorded reaching a height of approximately 1 m. Hearths and artefact scatters were relatively common feature throughout the SU. Multiple spatially separated instances of AAR were also recorded.	**Aboriginal heritage values:** • Artefact • AAR • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-21 MOUND IN W20 LOCATED IN REAR OF IMAGE.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W21 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 0.7211 ha **Visibility:** 50% **Exposure:** 35%	W21 was located at the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Soils across the entirety of W21 were characterized by red-orange sandy sediments. Vegetation in W21 was notably lower lying when compared to other SUs. Scattered clumps of Salt- and Bluebush species were far more diffuse at W21 resulting in an exceptionally featureless landscape. *Maireana* spp. shrubs were interspersed with Cannonball Burr (*Dissocarpus paradoxus*) and native grasses that included Curly Windmill Grass (*Enteropogon ramosus*), corkscrew grass (*Austrostipa nodosa*) and several wallaby grass species (*Austrodanthonia* spp.). The area in which W21 is located was used as pastoral grazing land at the time of survey. The relatively small and low-lying nature of the vegetation at this SU was considered likely to be associated with the effects of recent grazing which has stripped the land of taller vegetation. The archaeology of W21 was characterised by evidence of several AAR sites. Several large bones and bone fragments were recorded interpreted as being human in origin. Some of these bones were lying on the ground surface, but some were partially buried or embedded in the soils. It is unclear to whether these remains represented intact AAR's or fragmented/ redeposited remains. Several	**Aboriginal heritage values:** • Artefact • AAR Historic heritage values: • None	 PHOTOGRAPH 8-22 LANDSCAPE OF W21 FACING SOUTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
	stone artefacts were also identified within the SU.		
Survey Unit W22 Landform features: Source bordering dune **Size:** 0.4447 ha **Visibility:** 50% **Exposure:** 40%	W22 was located towards the north-eastern corner of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by light orange sandy-silts, trending towards grey in colour. W22 bounds a single mound feature. See below for interpretation. Vegetation of W22 was dominated by low-lying groundcover species, particularly *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. The mound is largely devoid of shrub species such as Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) that are typical across other SUs and W37 which surrounds W22. The mound has been identified as a PAD, owing largely to its physiographic positioning, and vegetation patterning aligning with the investigation's predictive model. A stone artefact confirms some tangible archaeological connection to this feature, and it is likely that further archaeological material, as observed at other locations, remains buried within the mound. Note that W22 is encircled by W37 (see below).	**Aboriginal heritage values:** • Artefact • Earth Mound • PAD Historic heritage values: • None	 PHOTOGRAPH 8-23 MOUND ENTIRELY ENCOMPASSING W22 IN BACKGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W23 **Landform features**: Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands **Size:** 83.2829 ha **Visibility**: 60% **Exposure:** 45%	W23 was located at the southern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Sediments ranged from red-orange silty sands in the west, to grey-brown silt-rich sediments in the eastern and southern portions of W23. Relatively small scour patches were common in the red-sandy soils, though not as prevalent in the grey silty soils. Towards the north of the SU where the red sands are dominant, broad areas devoid of vegetation were recorded. Vegetation was sparse across W23. Small relatively low-lying clusters of shrubs comprised mainly of Saltbush species (e.g., *Rhagodia spinescens*, *Maireana pyramidata, M. georgei*, *M.sedifolia* and *M. appressa*). Giant Redburr (*Sclerolaena tricuspis*) were abundant interspersed between clusters of taller shrubs. Identified archaeological sites were largely restricted to the northern most extent of W23 in the red sandy soils associated with the Prior Stream (Palaeochannel) Landform. A single isolated silcrete flake was recorded in the eastern grey silts and clays. To the west and north and red sand areas, several isolated artefacts were identified with quartz and silcrete being the dominant raw materials. The northern portion of the SU included a relative density of archaeological material including remains of hearths, artefacts, and several instances of bones interpreted as AAR.	**Aboriginal heritage values:** • Artefact (stone and glass) • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-24 SCOUR PATCH COMMONLY APPEARING IN RED-ORANGE SANDS OF W23.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W24 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 8.9361 ha **Visibility:** 50% **Exposure:** 40%	W24 was located in the south-east quadrant of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Soils were characterized as being red-orange trending to brown silty sands. Cracking muds were present in the soil surface; however, structural integrity of the substrate remained solid. Parts of W24 show evidence of mechanical clearing and grading potentially associated with the building of a water tank and trough. Similar to W21, the vegetation at W24 was notably lower lying when compared to other SUs. Scattered clumps of Salt- and Bluebush species were far more diffuse then seen elsewhere across the Project Area. *Maireana* spp. shrubs were interspersed with Cannonball Burr (*Dissocarpus paradoxus*) and native grasses that included Curly Windmill Grass (*Enteropogon ramosus*), corkscrew grass (*Austrostipa nodosa*) and several wallaby grass species (*Austrodanthonia* spp.). The area in which W24 is found is used as pastoral grazing land. Archaeological evidence within W24 was characterized by AAR found in associated with an intact hearth and other isolated artefacts.	**Aboriginal heritage values:** • Artefact • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-25 LANDSCAPE OF W24. NOTE CHANNELS ORIENTED TOP-LEFT TO BOTTOM-RIGHT AS EVIDENCE OF GROUND CLEARING AND SCOURING.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W25 **Landform features:** Prior Stream (Palaeochannel Landform) **Size:** 0.9235 **Visibility**: 50% **Exposure:** 40%	W25 was located in the south-eastern quadrant of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in height. Soils were characterized as being red-orange trending to brown silty sands. Cracking muds were present in the soil surface, however structural integrity of the substrate remained solid. Similar to W24, the vegetation at W25 was notably lower lying when compared to other SUs. Scattered clumps of Salt- and Bluebush species were far more diffuse then seen elsewhere across the Project landscape. *Maireana* spp. shrubs were interspersed with Cannonball Burr (*Dissocarpus paradoxus*) and native grasses that included Curly Windmill Grass (*Enteropogon ramosus*) and corkscrew grass (*Austrostipa nodosa*). The area in which W24 is found is used as pastoral grazing land. The archaeology of W25 is characterised by a camp site featuring hearth and hearth stones as well as a lithic artefact scatter. A grindstone was also identified in the southern portion of W25.	**Aboriginal heritage values:** • Artefact • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-26 LANDSCAPE OF W25.

Survey Unit	Description	Identified cultural features	Photograph
September 2022			
Survey Unit W26 **Landform features:** Prior Stream (Palaeochannel) and Prior Stream Rangelands **Size:** 145.4380 ha **Visibility:** 10% **Exposure:** 10%	W26 was located within the northern portion of the Project Area and extended along an existing paddock boundary fence. The survey unit was largely comprised of a flat landscape with a localised area of undulations associated with a central rise landform. A mound was identified towards the central portion of W26. Soils were largely obscured due to the dense groundcover of vegetation, but where apparent, sediments were characterised by light grey fine sandy silts trending to light orange in the centre of W26 and the transition to the Prior Stream (Palaeochannel) Landform. Vegetation featured small stands of Saltbush (*Maireana* spp.) with interspersed native grasses (e.g., *Enteropogon ramosus*, *Austrostipa* spp., and *Austrodanthonia* spp.). Groundcover was dominated by Paper Daisies (*Rhodanthe anthemoides*), *Atriplex sp.*, and *Sclerostegia tenuis*. Dense groundcover largely obscured the underlying substrate. Isolated stone artefacts were particularly prevalent towards the central portion of W26. These artefacts were found in association with a mound feature. This mound was interpreted to be a PAD based on the physiographic evidence observed as well as the proximity to material culture, and in consideration of the predictive model. It is likely that further sub-surface archaeological material remains nearby.	**Aboriginal Heritage Values** • Artefact • Mound • PAD **Historic Heritage Values** • None	 PHOTOGRAPH 8-27 LANDSCAPE OF W26 FACING SOUTH-WEST. NOTE MOUND AT CENTRE OF SU TO THE LEFT FOREGROUND OF THE PHOTOGRAPH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W27 **Landform features:** Palaeochannel Rangelands, Prior Stream (Palaeochannel Landform) **Size:** 53.9928 ha **Visibility:** 35% **Exposure:** 30%	W27 was located on the north-eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by red sandy-silts, trending grey in colour. Small mounds approximately 50 cm in height scattered the landscape of W27. Vegetation featured small stands of Saltbush (*Maireana* spp.) with interspersed native grasses (e.g., *Enteropogon ramosus*, *Austrostipa* spp., and *Austrodanthonia* spp.). Groundcover was dominated by Paper Daisies (*Rhodanthe anthemoides*), *Atriplex sp.*, and *Sclerostegia tenuis*. No archaeological material was identified during the surveys of W27.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-28 LANDSCAPE OF W27. NOTE DENSE GROUNDCOVER OF PAPER DAISIES (RHODANTHE ANTHEMOIDES), AND SMALL MOUND IN FOREGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W28 **Landform features:** Palaeochannel Rangelands, Prior Stream (Palaeochannel Landform) **Size:** 9.3055 ha **Visibility:** 35% **Exposure:** 30%	W28 was located on the central-northern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by red sandy-silts, trending grey in colour. Like W27 described above, vegetation featured small stands of Saltbush (*Maireana* spp.) with interspersed native grasses (e.g., *Enteropogon ramosus*, *Austrostipa* spp., and *Austrodanthonia* spp.). Groundcover was dominated by Paper Daisies (*Rhodanthe anthemoides*), *Atriplex sp.*, and *Sclerostegia tenuis*. No archaeological material was identified during the surveys of W28.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-29 INDICATIVE LANDSCAPE OF W28 (PHOTOGRAPH TAKEN BY DR, JODIE BENTON [OZARK, 2016]).

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W29 **Landform features:** Palaeochannel Rangelands **Size:** 6.0565 ha **Visibility:** 35% **Exposure:** 30%	W29 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, trending red in colour. Vegetation that characterised W29 include shrubs of Dillon Bush (*Nitraria billardierei*) with Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*). Groundcover included Redburr species (e.g., *Sclerolaena tricuspis*, *S.divaricata*, and *S.*obliquicuspis) as well as Cannonball Burr (*Dissocarpus paradoxus*). A dense layer of Paper Daisies (*Rhodanthe anthemoides*) was also present. No archaeological material was identified during the surveys of W28.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-30 LANDSCAPE OF W29 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W30 **Landform features:** Source Bordering Aeolian Dunefield **Size:** 279.4230 ha **Visibility:** 35% **Exposure:** 25%	W30 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, trending pale red-orange in colour. Minor instances of cracking in soils were observed. Scalds and erosion features devoid of vegetation were noted across W30. Depressions containing standing water were also observed despite no rain falling in the days prior to the surveys. Vegetation was characterised by low-lying and sparse shrubs of Dillon Bush (*Nitraria billardierei*) with Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*). Black Roly-Poly (*Sclerolaena muricata*), Branching Goosefoot (*Chenopodium nitrariaceum*), *Atriplex* spp., *Halosarcia pergranulata*, and Paper Daisies (*Rhodanthe anthemoides*) combine to form dense and widespread groundcover. Archaeology of W30 was characterised by stone artefacts, specifically chert and silcrete flakes, and a coarse fist-sized grindstone.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-31 LANDSCAPE OF W30 FACING SOUTH-WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W31 **Landform features:** Ancient Dune Landform **Size:** 46.1615 ha **Visibility:** 45% **Exposure:** 40%	W31 was located in the northeastern corner of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments ranged in colour from grey-red trending towards grey-orange, sandy-silt in texture. Soils were somewhat coarser compared to other nearby SUs. Cracks in the soil were common. Patches of soil retaining standing water were also observed despite no rain falling in the days prior to the surveys. Scalds and erosion features devoid of vegetation were common. Vegetation was characterised by clumps of Saltbush species, particularly Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*). Groundcover dominated by Paper Daisies (*Rhodanthe anthemoides*) with minor instances of *Halosarcia pergranulata*, *Sclerostegia tenuis*, and *Sclerolaena tricuspis*. A mound was recorded to the north of W31. Investigation of the mound resulted in the identification of numerous stone artefacts; flakes of chert and silcrete being most common. Hearth stones and were identified at the eroded edge of the mound. Bones interpreted as AAR were also identified.	**Aboriginal heritage values:** • Artefact • Hearth • Mound • AAR Historic heritage values: • None	 PHOTOGRAPH 8-32 LANDSCAPE OF W31.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W32 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 25.4488 ha **Visibility**: 40% **Exposure:** 20%	W32 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by dark grey sandy-silts, and significantly darker than other SUs. It is likely that this is due to recent rains and the soil's water retaining characteristics. Vegetation that characterised W32 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W32.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-33 LANDSCAPE OF W32 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W33 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 7.2095 ha **Visibility:** 40% **Exposure:** 20%	W33 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts. Vegetation that characterised W32 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W32.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-34 LANDSCAPE OF W33 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W34 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands **Size:** 193.5880 ha **Visibility**:40% **Exposure:** 25%	W34 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts. Vegetation that characterised W32 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. The archaeology of W34 was restricted to a single isolated silcrete manuport recorded towards the southeast of the SU.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-35 LANDSCAPE OF W34 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W35 **Landform features:** Rangeland Plain, Source Bordering Aeolian Dunefield **Size:** 58.9876 ha **Visibility:** 35% **Exposure:** 25%	W35 was located towards the north-eastern corner of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, trending light grey-orange. Vegetation that characterised W32 was typically much lower lying compared to other SUs. Small and very dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed. Vegetation of the SU was dominated by native grasses such as *Austrodanthonia longifolia.* A dense groundcover layer was recorded comprised of Paper Daisies (*Rhodanthe anthemoides*), *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Such a landscape lacking shrubs and more significant plant communities landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. Archaeology of W35 was restricted to two isolated stone artefacts in the south-eastern corner of W35; one of which being a chert flake.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-36 LANDSCAPE OF W35 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W36 **Landform features:** Rangeland Plain, Ancient Lake (Depression), Source Bordering Aeolian Dunefield **Size:** 66.3071 ha **Visibility:** 45% **Exposure:** 40%	W36 was located towards the north-eastern corner of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by light orange sandy-silts. Compared to the nearby W35, vegetation followed a similar species composition; Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) with an undergrowth of Paper Daisies (*Rhodanthe anthemoides*), *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Shrub abundance was significantly greater at W36, however. Silcrete flakes and a grindstone comprised the stone tool assemblage of W36. Fragments of freshwater shell (*sensu Velesunio* spp.) were also identified. Bones later identified to be AAR were recorded, leading to the interpretation of this being a camp site. Likely, further sub-surface archaeological material remains nearby.	**Aboriginal heritage values:** • Artefact • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-37 LANDSCAPE OF W36 FACING EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W37 **Landform features:** Rangeland Plain, Ancient Lake (Depression), Source Bordering Dune (Lunette), Palaeochannel Rangelands **Size:** 83.5136 ha **Visibility:** 35% **Exposure:** 25%	W36 was located towards the north-eastern corner of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by light orange sandy-silts, trending towards grey in colour. Tracks of bare soil devoid of vegetation criss-cross the landscape of W37. This feature is likely due to the repeated traffic of stock moving across the landscape. Vegetation of W37 was dominated by low-lying groundcover species, particularly *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Relatively minor populations of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) are scattered across W37 but are lower-lying than typically noted in other SUs. No archaeological material was identified during the surveys of W37. Note that W37 encircles W22 (see above).	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-38 LANDSCAPE OF W37 FACING SOUTH-EAST. NOTE STOCK TRACK IN THE FOREGROUND.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W38 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 26.2833 ha **Visibility:** 35% **Exposure:** 25%	W38 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by dark grey sandy-silts, and significantly darker than other SUs. It is likely that this is due to recent rains and the soil's water retaining characteristics. Vegetation that characterised W38 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia_longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W38.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-39 LANDSCAPE OF W38.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W39 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 29.0315 ha **Visibility**: 40% **Exposure:** 30%	W39 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, with a higher proportion of silts and clays compared to other SUs. Vegetation that characterised W39 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W39.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-40 LANDSCAPE OF W39 FACING SOUTH-WEST.
Survey Unit W40	**CONSOLIDATED INTO ANOTHER SU.**		
Survey Unit W41	**CONSOLIDATED INTO ANOTHER SU.**		

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W42 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 56.1682 ha **Visibility**: 35% **Exposure:** 25%	W42 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by dark grey sandy-silts, and significantly darker than other SUs. It is likely that this is due to recent rains and the soil's water retaining characteristics. Vegetation that characterised W42 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W42.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-41 LANDSCAPE OF W42 FACING SOUTH.
Survey Unit W43	**CONSOLIDATED INTO ANOTHER SU.**		

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W44 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression) **Size:** 42.7268 ha **Visibility:** 30% **Exposure**: 25%	W44 was located along the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, trending to orange-grey. Vegetation that characterised W44 was typically much lower lying compared to other SUs. Individual as well as clumps of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia*. Furrows devoid of vegetation regularly oriented across W44 implies mechanical vegetation and/or ground clearing activities, likely resulting in relatively underdeveloped vegetation communities and an overrepresentation of grasses compared to taller shrubs (see *Photograph 8-42*). A mound was recorded towards the northern extent of W44. A grindstone comprised the stone tool assemblage of W36. Fragments of freshwater shell (likely *Velesunio* spp.) were also identified. Upon recording hearth stones nearby, the interpretation of this total assemblage turned towards the mound representing a camp site. Likely, further sub-surface archaeological material remains nearby.	**Aboriginal heritage values:** • Artefact • Mound • PAD Historic heritage values: • None	 PHOTOGRAPH 8-42 LANDSCAPE OF W44 FACING SOUTH. NOTE CHANNELS IN RIGHT OF IMAGE THE RESULT OF MECHANICAL GROUND/VEGETATION CLEARING ACTIVITIES. PHOTOGRAPH 8-43 MOUND AND PAD RECORDED AT THE NORTHERN EXTENT OF W44.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W45 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 54.2721 ha **Visibility:** 25% **Exposure:** 20%	W45 was located along the south-western western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by red-brown sandy-silts, trending to orange-grey in some locations. Cracks formed through the shrink-swell action of water interacting with the soils were prevelant, with shallow cracks approximately 2 mm in width. Vegetation followed comparable patterning as seen in adjacent SUs. Vegetation in W49 was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Native grasses that included Curly Windmill Grass (*Enteropogon ramosus*), corkscrew grass (*Austrostipa nodosa*) and a number of wallaby grass species (*Austrodanthonia* spp.) were abundant throughout W45 contributing to a dense undergrowth layer. The archaeology of W45 was represented by a single silcrete flake towards the centre of the SU.	**Aboriginal heritage values:** • Artefact (Stone) Historic heritage values: • None	 PHOTOGRAPH 8-44 LANDSCAPE OF W45 FACING SOUTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W46 Landform features: Source Bordering Aeolian Dunefield, Rangeland Plain **Size:** 9.4370 ha **Visibility:** 45% **Exposure:** 35%	W46 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, becoming significantly darker in locations where sediments were moist. This is likely due to recent rains and the soil's water retaining characteristics. Vegetation that characterised W46 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Such a bare landscape is likely due to pastoral grazing of stock, or deliberate land clearing activities. No archaeological material was identified during the surveys of W46.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-45 LANDSCAPE OF W46 FACING WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W47 **Landform features:** Source Bordering Aeolian Dunefield, Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 56.0847 ha **Visibility:** 30% **Exposure:** 20%	W47 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments varied between the northern and southern extents of W47. To the north, soils were typically finer in texture trending towards silts and grey in colour. In contrast, soils to the south of W47 are coarser, more silty sands and exhibiting a strong red colour. Clear transitions between the sediment types were observed in the field at the transition between Prior Stream (Palaeochannel) Landform and the underlying Rangeland Plain sediments. Significant cracking as a result of shrink-swell action of soils were noted with cracks upwards of 2 cm in width. Vegetation patterning conformed with observations in adjacent SUs. Vegetation at W47 was characterised by small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Two mounds form the nexus of the archaeology of W47. Both mounds are in the western end of W47. The northern mound is devoid of shrubs across its extent; however, no material culture was identified. Likely, further sub-surface	**Aboriginal heritage values:** • Artefact • Mound • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-46 LANDSCAPE OF W37 FACING NORTH. PHOTOGRAPH 8-47 SOUTHERN MOUND/PAD OF W47 FACING SOUTH. MOUND FEATURE TO THE LEFT OF THE PHOTOGRAPH.

Survey Unit	Description	Identified cultural features	Photograph
	archaeological material remains nearby. In association with the southern mound (*Photograph 8-47*), numerous silcrete and chert flakes were recorded, as was a grindstone. Bone was identified later interpreted as AAR. To the east of the mounds, towards the centre of W47 were two silcrete flakes.		
Survey Unit W48 **Landform features:** Source Bordering Aeolian Dunefield **Size:** 25.8560 ha **Visibility:** 30% **Exposure:** 25%	W48 was located along the south-western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by light orange sandy silty soils, with minor cracking consistently observed across W48 where soil surface was exposed. Vegetation was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, with some native grass species including Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa nodosa*) being less prevalent. No archaeological material was identified during the surveys of W48.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-48 LANDSCAPE OF W48 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W49 **Landform features:** Source Bordering Aeolian Dunefield, Rangeland Plain **Size:** 2.7475 ha **Visibility:** 45% **Exposure:** 35%	W49 was located along the south-western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised as brown to dark brown sandy silts with ubiquitous cracking in the soils. Both the dark colour of the sediments and narrow (<4 mm wide) cracks the result of water interacting with the sediment. Scald and similar erosion features devoid of any vegetation were similarly common. Vegetation followed comparable patterning as seen in adjacent SUs. Vegetation in W49 was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Paper Daisies (*Rhodanthe anthemoides*) were particularly prevalent. A relatively low-lying mound was identified towards the western extent of W49. No material culture was identified, however geomorphology and vegetation patterning observed at W49, when considered against the predictive model and other examples elsewhere in the Project Area, the potential for archaeological material to be contained in or associated with the mound is considered likely.	**Aboriginal heritage values:** • PAD Historic heritage values: • None	 PHOTOGRAPH 8-49 LANDSCAPE OF W49 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W50 **Landform features:** Prior Stream (Palaeochannel Landform), Rangeland Plain, Source Bordering Aeolian Dunefield **Size:** 11.1293 ha **Visibility**: 45% **Exposure:** 35%	W50 was located along the south-western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised as brown to dark brown sandy silts, trending red in colour. Cracks that were so common at W49 were largely absent at W50. Scald and similar erosion features devoid of any vegetation were similarly common. Vegetation followed comparable patterning as seen in adjacent SUs. Vegetation in W49 was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Paper Daisies (*Rhodanthe anthemoides*) were particularly prevalent. No archaeological material was identified during the surveys of W50.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-50 LANDSCAPE OF W50 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W51 **Landform features:** Rangeland Plain, Source Bordering Aeolian Dunefield, Source Bordering Dune (Lunette), Prior Stream (Palaeochannel Landform) **Size:** 70.6650 ha **Visibility:** 50% **Exposure:** 40%	W51 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments varied across W51, ranging from orange to light brown sandy silts, to grey in the southern portions of the SU. Scalds and erosion features devoid of vegetation were common, with some exhibiting regularly oriented patterns indicating a likely mechanical origin. Vegetation that characterised W46 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Vegetation patterning dominated by grasses rather than shrubs is likely due to the mechanical clearing of vegetation or ground surface as art of pastoral practices. Two low-lying mounds were identified towards the north and southern extents of W51. Stone artefacts in the form of flakes and grindstones were identified in association with both mounds. When considered against the predictive model and other examples elsewhere in the Project Area, the potential for further archaeological material to be contained in or associated with either mound is considered likely.	**Aboriginal heritage values:** • Artefact • Mound • PAD Historic heritage values: • None	 PHOTOGRAPH 8-51 LANDSCAPE OF W51 FACING SOUTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W52 **Landform features**: Source Bordering Dune (Lunette), Source Bordering Aeolian Dunefield, **Size**: 10.6526 ha **Visibility:** 50% **Exposure:** 40%	W52 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by fine-grained grey silts throughout W52. Scalds and erosion features devoid of vegetation were common, with some exhibiting regularly oriented patterns indicating a likely mechanical origin. Vegetation that characterised W52 was typically much lower lying compared to other SUs. Small, dispersed patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia.* Dense groundcover featured *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). No archaeological material was identified during the surveys of W52.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-52 LANDSCAPE OF W52 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W53 **Landform features:** Source Bordering Aeolian Dunefield, Prior Stream (Palaeochannel Landform), Rangeland Plain **Size:** 130.1740 ha **Visibility:** 45% **Exposure:** 40%	W53 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments varied across W53. The sediments of the northern- and southern-most extents of the SU were typically finer in texture, and notably more gey trending to light browns in colour. In comparison, the soils of W53's centre were coarser, and red-orange in colour. This sedimentological patterning closely aligns with shifts in landform. Vegetation across the entirety of W53 was dominated by low-lying grass and groundcover species. *Atriplex* spp., *Halosarcia pergranulata, Sclerolaena stelligera*, and *Sclerostegia* spp., as well as Paper Daisies (*Rhodanthe anthemoides*) were prevalent. Instances of shrubs of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed throughout the SU. Archaeology within W53 is relatively abundant compared to other SUs. To the north, multiple examples of stone artefacts across a range of raw materials were recorded, including chert, silcrete and quartz. Hearths and hearth stones were common across W53, and often found in association with mounds and artefacts. A greenstone axe blank – clearly indicative of long-distance trade – was identified in the centre	**Aboriginal heritage values:** • Artefact • Hearth • Mound • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-53 VEGETATED LANDSCAPE OF W53 FACING SOUTH-EAST. PHOTOGRAPH 8-54 EROSION SURFACES AT W53 FACING WEST.

Survey Unit	Description	Identified cultural features	Photograph
	of the SU. A camp site in the south of W53 yielded artefacts, hearths and hearth stones, as well as AAR.		
Survey Unit W54 **Landform features:** Prior Stream (Palaeochannel Landform), Rangeland Plain **Size:** 49.7909 ha **Visibility:** 35% **Exposure:** 20%	W54 was located along the eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts light orange in colour. Relatively small proportions of bare soil were observed, with even and widespread vegetation obscuring the soil surface. Vegetation was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, with some native grass species including Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa nodosa*) being less prevalent. Paper Daisies (*Rhodanthe anthemoides*) were common. The archaeology of W54 was expansive. Isolated artefacts, typically flakes, were the most numerous type of material culture. Other stone artefacts were found in association with hearths and/or mound features. A camp site was interpreted towards the centre of W54 combining multiple artefact and site types into one discrete location. A burial featuring AAR was recorded in association with PAD. It is likely	**Aboriginal heritage values:** • Artefact • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-55 LANDSCAPE OF W54 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
	further sub-surface material culture and potentially other burials remain unrecorded.		
Survey Unit W55 **Landform features:** Palaeochannel Rangelands, Former Swamp (Low Lying), Prior Stream (Palaeochannel Landform) **Size:** 28.9458 ha **Visibility**:50% **Exposure:** 40%	W55 was located towards the south-western extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts light orange in colour. Relatively small proportions of bare soil were observed, with even and widespread vegetation obscuring the soil surface, though not to the same extent as W54 described above. Vegetation was characterised by examples of typically single Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs. Undergrowth was dominated by *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, with some native grass species including Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa nodosa*) being less prevalent. Paper Daisies (Rhodanthe anthemoides) were common. Populations of vegetation was patchier in structure and organisation when compared to other SUs. No archaeological material was identified during the surveys of W55.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-56 LANDSCAPE OF W55 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W56 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 14.3209 ha **Visibility:** 40% **Exposure:** 35%	W56 was located towards the southern-central extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts light orange in colour, trending light brown. Isolated scalds and erosional surfaces devoid of vegetation scattered W56. Vegetation across the entirety of W53 was dominated by low-lying grass and groundcover species. *Atriplex* spp., *Halosarcia pergranulata, Sclerolaena stelligera*, and *Sclerostegia* spp., as well as Paper Daisies (*Rhodanthe anthemoides*) were prevalent, as was the native grass species *Austrodanthonia longifolia*. Rare instances of shrubs of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed across W56. No archaeological material was identified during the surveys of W56.	**Aboriginal heritage values:** • None Historic heritage values: ▪ None	 PHOTOGRAPH 8-57 LANDSCAPE OF W56 SHOWING SPARSITY OF SHRUB-SIZED VEGETATION.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W57 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression), Former Swamp (Low Lying), Palaeochannel Rangelands **Size**: 296.1560 ha **Visibility**: 50% **Exposure:** 40%	W57 is located from the southern-most boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts light orange in colour, trending towards light greys and browns. While significant groundcover of vegetation obscured soil surface across the majority of W57, bare areas of sediments were commonly observed. Minor cracking in the surface soils from shrink-swell actions of dampened soils were prevalent. Vegetation across W57 was typically low-lying, with groundcover chararcterised by small bushes including Nitre Bush (*Nitraria billardierei*), *Atriplex* spp., *Halosarcia pergranulata,* Cannonball Burr (*Dissocarpus paradoxus*), and *Sclerostegia* varietals. Paper Daisies (*Rhodanthe anthemoides*) formed dense groundcover at specific areas within W57. A single isolated artefact, interpreted as a hammer- or grindstone was recorded towards the centre of W57. A mound was identified at the northern-most extent of W57. Closer inspection revealed hearths and hearth stones, as well as bones interpreted as AAR. This mound feature and associated archaeological material was determined to be a camp site.	**Aboriginal heritage values:** • Artefact • Mound • PAD • Hearth • AAR Historic heritage values: • None	 PHOTOGRAPH 8-58 LANDSCAPE OF W57 FACING NORTH. NOTE MOUND ON LEFT OF PHOTOGRAPH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W58 **Landform features:** Prior Stream (Palaeochannel Landform), Former Swamp (Low Lying), Palaeochannel Rangelands **Size:** 69.5816 ha **Visibility:** 40% **Exposure:** 35%	W58 was located in the south-eastern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts, light orange in colour and trending to light browns. Evidence of mechanical scouring across the land surface was noted in the form of a series of long, regularly spaced furrows. This did not extend across the entire SU. Vegetation across W58 was typically low-lying, with groundcover chararcterised by small bushes including Nitre Bush (*Nitraria billardierei*), *Atriplex* spp., *Halosarcia pergranulata,* Cannonball Burr (*Dissocarpus paradoxus*), and *Sclerostegia* varietals. Paper Daisies (*Rhodanthe anthemoides*) formed dense groundcover at specific areas within W58. Minor instances of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed across W58, however these species appeared to concentrate towards the mound feature in the southeast of W58. Undergrowth of the previously mentioned groundcover species was notably denser on this mound when compared to the rest of W58. Two mound features were identified in W58. The northern mound (*Photograph 8-60*) was recorded in the north of W58, and had an isolated artefact found in association. The southern mound was noted as carrying bones, interpreted to be AAR. No other archaeology was recorded at either mound, or the rest of the SU.	**Aboriginal heritage values:** • Artefact • Mound • AAR Historic heritage values: • None	 PHOTOGRAPH 8-59 LANDSCAPE OF W58 FACING SOUTH-WEST SHOWING SPARSE VEGETATION. PHOTOGRAPH 8-60 LANDSCAPE OF W58 FROM THE NORTHERN MOUND FEATURE. NOTE DENSITY OF UNDERGROWTH AND COMPARED TO ABOVE.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W59 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 27.9997 ha **Visibility:** 30% **Exposure:** 15%	W59 was located along the south-eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sandy silts, grey brown in colour. Ground cover at W59 was particularly extensive resulting in relatively small substrate visibility when compared with other SUs. As with W58, vegetation across W59 was typically low-lying, with groundcover chararcterised by small bushes including Nitre Bush (*Nitraria billardierei*), *Atriplex* spp., *Halosarcia pergranulata,* Cannonball Burr (*Dissocarpus paradoxus*), and *Sclerostegia* varietals. Paper Daisies (*Rhodanthe anthemoides*) formed dense groundcover at specific areas within W59, with minor instances of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*). Interestingly, Paper Daisies (*Rhodanthe anthemoides*) did not appear to grow on the mounded feature in the centre of W59. Archaeology of W59 was split between two features; a PAD in the SU's north, and a mound to the south of the SU. A chert flake was found in association with the northern mound. This artefact, when considered against that physiographic evidence of the mound and its associated landform, was interpreted to be a part of a PAD, and recorded as such. The mound to the south contained bones, later determined to be AAR.	**Aboriginal heritage values:** • Artefact • Mound • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-61 LANDSCAPE OF W59 FACING NORTH-EAST. NOTE NORTHERN MOUND ON LEFT OF PHOTOGRAPH RECORDED AS PART OF A PAD.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W60 **Landform features:** Rangeland Plain **Size:** 4.7915 ha **Visibility:** 60% **Exposure:** 50%	W60 was located along the south-western boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by fine-grained grey soils, with ubiquitous cracks as a result of shrink-swell action of soils interacting with water. Large scald and similar erosion features are common throughout W60. Vegetation at W60 was sparse. Minor instances of low-lying Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs scatter the SU, with dense groundcover featuring *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). No archaeological material was identified during the surveys of W60.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-62 LANDSCAPE OF W60 SHOWING SPARSITY OF VEGETATION.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W61 **Landform features:** Rangeland Plain, Source Bordering Aeolian Dunefield, Source Bordering Dune (Lunette), Ancient Lake (Depression) **Size:** 53.2214 ha **Visibility**: 30% **Exposure:** 20%	W61 was located in the central portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments ranged in colour from greys in the eastern portion of W61, to red-browns in the centre, returning to greys in the west. Changes in colour and texture loosely aligned with landform features observed. Vegetation across W61 was extensive, with relatively few instances of bare soils visible. Vegetation across W61 was characterised by low-lying Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) shrubs scatter the SU, with dense groundcover featuring *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, but mostly Paper Daisies (*Rhodanthe anthemoides*). Saltbush species (e.g., *Maireana* spp.) were notably small in size, likely juvenile specimens. Further, Saltbush appeared to congregate on mound features throughout W61. W61 exhibited a diverse archaeological profile, largely restricted to the eastern and central portions of the SU. To the east, low mounds were found in association with hearth stones and isolated stone artefacts. The archaeology of the central portion of W61 is underpinned by a complex of at least 3 individual mounds approximately 100 m in diameter. Within this complex, a site comprised of a considerable number of hearths. Numerous PADs were also interpreted based on physiographic evidence considered against the predictive model.	**Aboriginal heritage values:** • Artefact • Hearth • Mound • PAD Historic heritage values: • None	 PHOTOGRAPH 8-63 MOUND COMPLEX IN CENTRAL PORTION OF W61. NOTE MOUNDS IN FOREGROUND AND BACKGROUND TO THE RIGHT.

Survey Unit	Description	Identified cultural features	Photograph
	Of note is a greenstone flake recorded within this mound complex. It is likely that further archaeological material is contained in or associated with the mounds throughout W61.		
Survey Unit W62 **Landform features:** Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands **Size:** 96.3851 ha **Visibility**: 30% **Exposure**: 15%	W62 was located along the north-eastern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by light orange sandy-silts, trending towards grey in colour. Tracks of bare soil devoid of vegetation criss-cross the landscape of W62. This feature is likely due to the repeated traffic of stock moving across the landscape. Vegetation of W62 was dominated by low-lying groundcover species, particularly *Atriplex* spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*. Relatively minor populations of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) are scattered across W62 but are lower-lying than typically noted in other SUs. Vegetation populations resulted in extensive groundcover obscuring soil surface. Archaeology is restricted to the eastern-most portion of W62, coinciding with the Prior Stream (Palaeochannel) Landform. A hearth was recorded, as well as a silcrete grindstone with multiple grinding facets observed.	**Aboriginal heritage values:** • Artefact • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-64 LANDSCAPE OF W62 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W63 **Landform features:** Rangeland Plain, Prior Stream (Palaeochannel Landform) **Size:** 46.5234 ha **Visibility:** 35% **Exposure:** 25%	W63 was located in the central-northern extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by grey sandy-silts, trending to light brown colours where soils were exposed. Where the soil surface was apparent, minor cracking resulting from shrink-swell action was commonplace. Vegetation that characterised W63 was typically much lower lying compared to other SUs. Abundant small patches of Cotton Bush (*Maireana aphylla*) and Thorny Saltbush (*Rhagodia spinescens*) were observed, interspersed by native grasses such as *Austrodanthonia longifolia*. Dense groundcover featured Atriplex spp., *Halosarcia pergranulata* and *Sclerostegia tenuis*, and Paper Daisies (*Rhodanthe anthemoides*). Cannonball Burr (*Dissocarpus paradoxus*) was observed to be a particularly abundant groundcover species. Such a dense groundcover layer obscured visibility to the underlying substrate. Paper Daisy (*Rhodanthe anthemoides*) populations, while abundant in most areas across W63, were not observed growing on mound features in the southwest of the SU. Two mounds were recorded at W63; one in the centre of the SU, with the other in the southwest corner. Both had AAR found in association with each mound. A flake made of vein quartz was recorded along the northern boundary of W63. Multiple PADs were also identified, interpreted through physiographic evidence and the predictive model developed for this ACHAR.	**Aboriginal heritage values:** • Artefact • Hearth • Mound • PAD • AAR Historic heritage values: • None	 PHOTOGRAPH 8-65 MOUND IN SOUTH-WESTERN CORNER OF W63 FACING SOUTH-WEST. NOTE ABSENCE OF PAPER DAISY OTHERWISE PREVALENT ACROSS THE SU.

Survey Unit	Description	Identified cultural features	Photograph
February 2023			
Survey Unit W64 **Landform features**: Former Swamp (low lying), Rangeland Plain, Prior Stream (Palaeochannel Landform), Ancient Lake (Depression), and Palaeochannel Rangelands **Size:** 128.2460 ha **Visibility:** 65% **Exposure:** 60%	W64 was located in the south-eastern most extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically sands and sandy clays orange in colour, trending towards reds and greys. Numerous examples of shrink-swell processes in the sediment resulted in significant cracking with widths of over 1 cm observed in areas of exposed sediment. Linear features devoid of vegetation were commonplace, likely due to the traffic of sheep moving through the paddock. Vegetation was dominated by low-lying clumps of Dillon Bush (*Nitraria billardierei*) interspersed by Common Wallby Grass (*Austrodanthonia caespitosa*). Archaeology identified in W64 was restricted to a single flake approximately 17 mm in length and comprised of vein quartz.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-66 LANDSCAPE OF W64 FACING SOUTH-EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W65 **Landform features**: Former Swamp (Low Lying) and Palaeochannel Rangelands **Size:** 132.4490 ha **Visibility:** 75% **Exposure:** 60%	W65 was located in the south-eastern most extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were broadly comparable to W64 above, though greyer in colour lacking the distinctive red/orange sediments associated with Prior Stream (Palaeochannel) Landform elsewhere in the Project Area. Cracks resulting from shrink-swell action of sediments were common. Compared to W64 above, vegetation was typically sparser. Species represented included Dillon Bush (*Nitraria billardierei*) interspersed by Common Wallby Grass (*Austrodanthonia caespitosa*), with Bluebush species (*Maireana* spp.) present as well. No archaeological material was identified during the surveys of W65.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-67 LANDSCAPE OF W65 FACING SOUTH-WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W66 **Landform features:** Palaeochannel Rangelands **Size:** 43.9886 ha **Visibility:** 75% **Exposure:** 65%	W66 was located along the northern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were fine-grained silty sands predominantly grey in colour. As with other locations across the Project Area, cracks associated with shrink-swell action of soils were prevalent. Scald features devoid of any vegetation were common through W66. In these bare areas, water retention was observed in depressions of damp ground despite no rainfall for at least 10 days prior to survey. Vegetation was lower lying compared to other SUs in the Project Area, dominated by *Nitraria billiardierei* and *Sclerolaena tricuspis* intermixed with minor instances of *Dissocarpus paradoxus.* Grass species *Austrodanthonia* spp. and *Austrostipa* spp. formed a significant portion of groundcover. Archaeology of W66 was characterised by a camp site located in the northeast of the unit. Flakes of chert and silcrete comprised the artefact assemblage, with abundant examples of hearth stones and heat baked clays also observed.	**Aboriginal heritage values:** • Artefact • Hearth Historic heritage values: • None	 PHOTOGRAPH 8-68 LANDSCAPE OF W66 FACING WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W67 **Landform features:** Palaeochannel Rangelands and Rangeland Plain **Size:** 50.9200 ha **Visibility:** 60% **Exposure:** 50%	W67 was located in the northern portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were red-grey silty sands, with minor cracking in erosional scalds which were scattered across the SU. Stock tracks oriented in an east-west direction were an obvious feature. As with W66 above, vegetation was relatively low lying, dominated by *Nitraria billiardierei* and *Sclerolaena tricuspis,* This shrub layer was considerably sparser compared to other SUs with a greater extent of grass ground coverage dominated by *Austrodanthonia* spp. and *Austrostipa* spp. A mound feature was identified in the western-most portion of the SU. An extensive stone tool assemblage of mixed lithologies including flakes, blades, and grindstones. Evidence of hearth features were also identified. Bones later interpreted as AAR were found along the edge of the mound.	**Aboriginal heritage values:** • Artefact • AAR • Hearth • Mound Historic heritage values: • None	 PHOTOGRAPH 8-69 LANDSCAPE OF W67 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W68 **Landform features:** Prior Stream (Palaeochannel Landform) and Rangeland Plain **Size:** 30.0882 ha **Visibility**: 50% **Exposure:** 45%	W68 was located in the central-northern portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Where apparent, fine silty-sand soils grey-red in colour were observed. Compared to other SUs in the Project Area, greater ground coverage was observed with relatively fewer bare erosional surfaces. Vegetation was characterised by low-lying bluebush species (*Maireana* spp.) interspersed by native grass varietals including Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa* spp.) and several Wallaby Grass species (*Austrodanthonia* spp.). No archaeological material was identified during the surveys of W68.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-70 LANDSCAPE OF W68 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W69 **Landform features:** Source Bordering Lunette, Source Bordering Aeolian Dunefield, Prior Stream (Palaeochannel Landform) and Rangeland Plain **Size:** 85.1674 ha **Visibility**: 70% **Exposure:** 60%	W69 was located in the central-southern portion of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments ranged in colour from grey-red to orange silty sands. Numerous examples of stock tracks were observed in areas of the SU discretely destroying vegetation. Minor surface cracking was observed, as well as isolated examples of small <50 cm-wide depressions retaining water despite no rains falling in the area for at least 10 days prior to surveys. Vegetation patterning varied across the SU, ranging from areas of abundant native grasses such as Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa* spp.) and a number of Wallaby Grass species (*Austrodanthonia* spp.), patchy populations of Saltbush species (e.g., *Rhagodia spinescens* and *Atriplex* spp.) as well as *Sclerolaena tricuspis* and *Dissocarpus paradoxus*, with groundcover featuring black Roly-Poly (*Sclerolaena muricata*). Scald features devoid of any vegetation were commonplace. Archaeology of W69 was characterised by isolated stone flakes of chert and silcrete, and numerous examples of hearth stones. Towards the centre of the SU at the transition between Prior Stream (Palaeochannel) Landform and Source Bordering Aeolian Dunefield, a low-lying mound featuring a complex	**Aboriginal heritage values:** • Artefact • Hearth • Historic heritage values: • None	 PHOTOGRAPH 8-71 LANDSCAPE OF W69 WITH MOUND IN BACKGROUND.

Survey Unit	Description	Identified cultural features	Photograph
	of isolated and artefacts and hearth stones in proximity has been interpreted as a camp site.		
Survey Unit W70 **Landform features:** Source Bordering Lunette **Size:** 2.3625 ha **Visibility**: 50% **Exposure:** 40%	W70 was located in the central portion of the Project Area, towards the southern extent of the Project boundary. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were grey sandy-silts throughout the SU. Large cracks (> 5 cm in width) were observed at locations in the SU. Soils were notably softer adjacent to these cracks. Vegetation was overwhelmingly dominated by native grasses including Curly Windmill Grass (*Enteropogon ramosus*), Corkscrew Grass (*Austrostipa* spp.) and several Wallaby Grass species (*Austrodanthonia* spp.). Small Saltbush species (*Maireana* spp.) were diffusely spread across the landscape of W70. Archaeology of W70 was restricted single quartz flake recorded during surveys.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-72 LANDSCAPE OF W70 FACING WEST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W71 **Landform features**: Prior Stream (Palaeochannel Landform), Palaeochannel Rangelands, Rangeland Plain, Former Swamp (low lying) **Size:** 92.1028 ha **Visibility**: 70% **Exposure:** 60%	W71 was located towards the southern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were typically red-grey sandy silts, with colours tending more towards red in the northern-most portions of W71. Scalds and similar erosional features of bare sol were common, though as described above, more common in the south of the SU. Interestingly, cracking of soils was less prevalent at this SU compared to others within the Project Area. Vegetation patterning differed between the northern and southern portions of W71. The northern section of the SU exhibited a higher proportion of native grasses (e.g., *Enteropogon ramosus*, *Austrostipa* spp., and *Austrodanthonia* spp.) to shrubs of Saltbush (e.g. *Maireana* spp.) (*Photograph 8-73*). The southern extent of the SU exhibited notably less grass coverage, with more prevalent scalds and erosion features devoid of vegetation (*Photograph 8-74*). Two silcrete flakes were recorded in the north-western corner of W71.	**Aboriginal heritage values:** • Artefact Historic heritage values: • None	 PHOTOGRAPH 8-73 NORTHERN LANDSCAPE OF W71 FACING NORTH. PHOTOGRAPH 8-74 SOUTHERN LANDSCAPE OF W71 FACING SOUTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W72 **Landform features:** Palaeochannel Rangelands **Size:** 7.7119 ha **Visibility:** 70% **Exposure:** 65%	W72 was located on the southwestern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were characterised by red-grey sandy-silts. Cracking as a result of shrink-swell action of the soils was less apparent here than in other SUs. Vegetation across W73 was typically low-lying species of Salthbush (*Maireana* spp.) interspersed with native grasses (e.g., *Austrostipa* and *Austrodanthonia* spp.) and Redburr (Sclerolaena) varietals. Compared to other SUs across the Project area, the vegetation representing W73 was relatively low-lying. No archaeological material was identified during the surveys of W72.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-75 LANDSCAPE OF W72 FACING NORTH.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W73 **Landform features:** Prior Stream (Palaeochannel Landform), Forest Swamp (Low Lying) **Size:** 6.7272 ha **Visibility:** 65% **Exposure:** 50%	W73 was located in the south-western most extent of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. Sediments were silty sands tending orange grey in colour. Cracks resulting from shrink-swell action of the sediments interacting with water were commonplace, though narrower (<3 mm in width) when compared with other examples of the same feature. Speargrass species (*Austrodanthonia* spp. and *Austrostipa* spp.) were the dominant species represented within W73, with interspersed Saltbush shrubs (*Maireana* spp.) and Giant Red Burr (*Sclerolaena tricuspis*). Vegetation at W73 was notably sparser and drier when compared to other SUs. Clumps of shrivelled Paper Daisy (*Rhodanthe anthemoides*) were common. No archaeological material was identified during the surveys of W74.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-76 LANDSCAPE OF W73 FACING EAST.

Survey Unit	Description	Identified cultural features	Photograph
Survey Unit W74 **Landform features**: Prior Stream (Palaeochannel Landform) **Size:** 29.4230 ha **Visibility**: 65% **Exposure:** 50%	W74 was located on the centre-southern boundary of the Project Area. The landscape was predominantly flat, with little discernible topography aside from small rises and gentle undulations measuring no more than approximately 0.5 m in size. As observed at W72, sediments in W74 were largely comparable, with sediments were characterised by grey sandy-silts. Cracking as a result of shrink-swell action of the soils was less apparent here than in other SUs. Again, vegetation across W74 was comparable to W72 above; low-lying species of Salthbush (*Maireana* spp.) interspersed with native grasses (e.g., *Austrostipa* and *Austrodanthonia* spp.) and Redburr (Sclerolaena) varietals. Clumps of Saltbush (*Maireana* spp.) were more compact at W74 compared to W72, with a relatively greater extent of groundcover. No archaeological material was identified during the surveys of W74.	**Aboriginal heritage values:** • None Historic heritage values: • None	 PHOTOGRAPH 8-77 LANDSCAPE OF W74 FACING NORTH-EAST.

9. ABORIGINAL HERITAGE VALUES

9.1 REGISTERED ABORIGINAL HERITAGE SITES

Heritage NSW provides the AHIMS database which holds information concerning previously recorded Aboriginal sites in NSW. A total of 36 sites were identified within a one-kilometre buffer of the Project Area. Nine are located within the boundaries of the Project Area, and are varied in type, consisting of burials, earth mounds, PADs, hearths, and artefacts. Many of the registered sites contain multiple site types in one location (e.g., artefact and earth mound and PAD).

The results of the full AHIMS search are summarised in Table 9-1 and illustrated in Figure 9-1.

TABLE 9-1 AHIMS REGISTERED SITES

Site ID	Name	Site Type
47-6-0755	WA-OS5 (West Abercrombie Open Site 5)	Artefact, Earth Mound, PAD
47-6-0756	WA-OS6 (West Abercrombie Open Site 6)	Earth Mount, PAD
47-6-0759	WA-OS7 (West Abercrombie Open Site 7)	Burial, Earth Mound, PAD
47-6-0947	Millicent Burials	Burial
48-4-0182	PTQ1	Artefact
48-4-0317	WA-OS24 (West Abercrombie Open Site 24)	Artefact, Earth Mound, Hearth, PAD
48-4-0318	WA-OS23 (West Abercrombie Open Site 23)	Artefact, Earth Mound, PAD
48-4-0539	Keri Keri Burial 1 2021	Burial
48-4-0540	Lyntot Swamp Burial	Burial

9.2 NEWLY IDENTIFIED ABORIGINAL HERITAGE SITES

A total of 209 new sites were recorded within the Project Area during the development of this ACHAR. These are detailed in Appendix A, illustrated in Figure 9-1, and summarised in the table below.

TABLE 9-2 NEWLY IDENTIFIED SITES

Site Type	Number
Artefact	142
Artefact, Hearth	7
Artefact, Hearth, PAD	3
Artefact, PAD	4
Burial	4
Burial, Artefact	6
Burial, Artefact, Hearth	5
Burial, Artefact, PAD	1

Site Type	Number
Burial, Artefact, Shell, PAD	1
Burial, Earth Mound, Artefact, Hearth, PAD	8
Burial, Earth Mound, Hearth, PAD	2
Burial, PAD	1
Earth Mound, Artefact, Hearth	1
Earth Mound, Artefact, Hearth, PAD	2
Earth Mound, Artefact, PAD	3
Earth Mound, PAD	4
Hearth	9
Modified Tree	1
PAD	5
TOTAL	**209**

A total of 61 individual burials at 23 locations were verified during the forensic survey in February 2023. Some of these sites were in fact a small number of wind-blown bone fragments, while the majority were at or close to their original position and associated with other archaeological features such as culturally modified soils, hearths, or stone artefacts (Pardoe 2023).

A summary of a preliminary assessment of the remains is provided in Table 9-3.

TABLE 9-3 SUMMARY OF ABORIGINAL ANCESTRAL REMAINS

Sex	Child	Young Adult	Adult	Older Adult	Unknown	Total
Undetermined	5	1	35	1	2	44
Female	-	-	8	1	-	9
Male	-	1	6	1	-	8
Total	5	2	49	3	2	61

Four additional sites were recorded as containing potential AAR but have not yet been verified.

9.3 AREAS OF POTENTIAL ARCHAEOLOGICAL DEPOSIT

The archaeological potential of an area is determined by a number of factors including its landform, soil features and level of disturbance. Certain landforms are conducive to both Aboriginal occupation and the survivability of subsurface deposits. The location of these landforms in proximity to natural resources (e.g., water, food) increases the likelihood that these landforms would have been utilised by Aboriginal people in the past.

The Project Area is comprised of a landscape which is predominantly flat with small rises generally adjacent to clay pans, ephemeral lakes, and small ponds. Some of these rises are natural dunes formed along palaeochannels or lake lunettes, and others are culturally created earth mounds, or a combination of both.
These rises have been identified as suitable to retain archaeological deposits as they were the focus of Aboriginal occupation to have easy access to the nearby retained water during dry seasons, and also to stay dry when much of the surrounding area was underwater during wet seasons.

A total of 34 new locations of PAD were recorded within the Project Area, 24 of which were associated with visible archaeological material such as AAR, hearths, or artefacts. The remaining 10 PADs were recorded as such due to the presence of dunes or earth mounds with similar characteristics to those with visible archaeological material present.

F9.1 - Aboriginal heritage sites within the Project Area
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9.4 DISCUSSION

The distribution of recorded sites is consistent with the predictive model discussed in Section 6, which has been refined to determine the Aboriginal heritage sensitivity mapping discussed in Section 13.1.1and is illustrated in Figure 9-2:

- 5 previously recorded and 121 newly recorded sites (artefacts, hearths, and most of the burials/earth mounds) were located in the red brown alluvial loams and eolian sand associated with the bordering dunes and lunettes of palaeochannels (prior streams) and ancient lakes (very high sensitivity);
- 3 previously recorded and 67 newly recorded sites (isolated artefacts, hearths, and eight burials/earth mounds) in the red-brown clays, clay loam alluvial plains, grey-brown cracking clays, or sandy clay soils associated with palaeochannel rangelands, bordering aeolian dunefields, and blackbox woodland (moderate sensitivity);
- 1 previously recorded and 20 newly recorded sites (isolated artefacts and three earth mounds) in the black, brown and grey cracking clays and depressions associated with ancient lake beds and former swamps (low sensitivity); and
- One newly recorded site (CMT) in the small area of red-brown clays and red sandy rises associated with the Murray Pine on an elevated plain (high sensitivity).

F9-2 - Aboriginal heritage sites by landform
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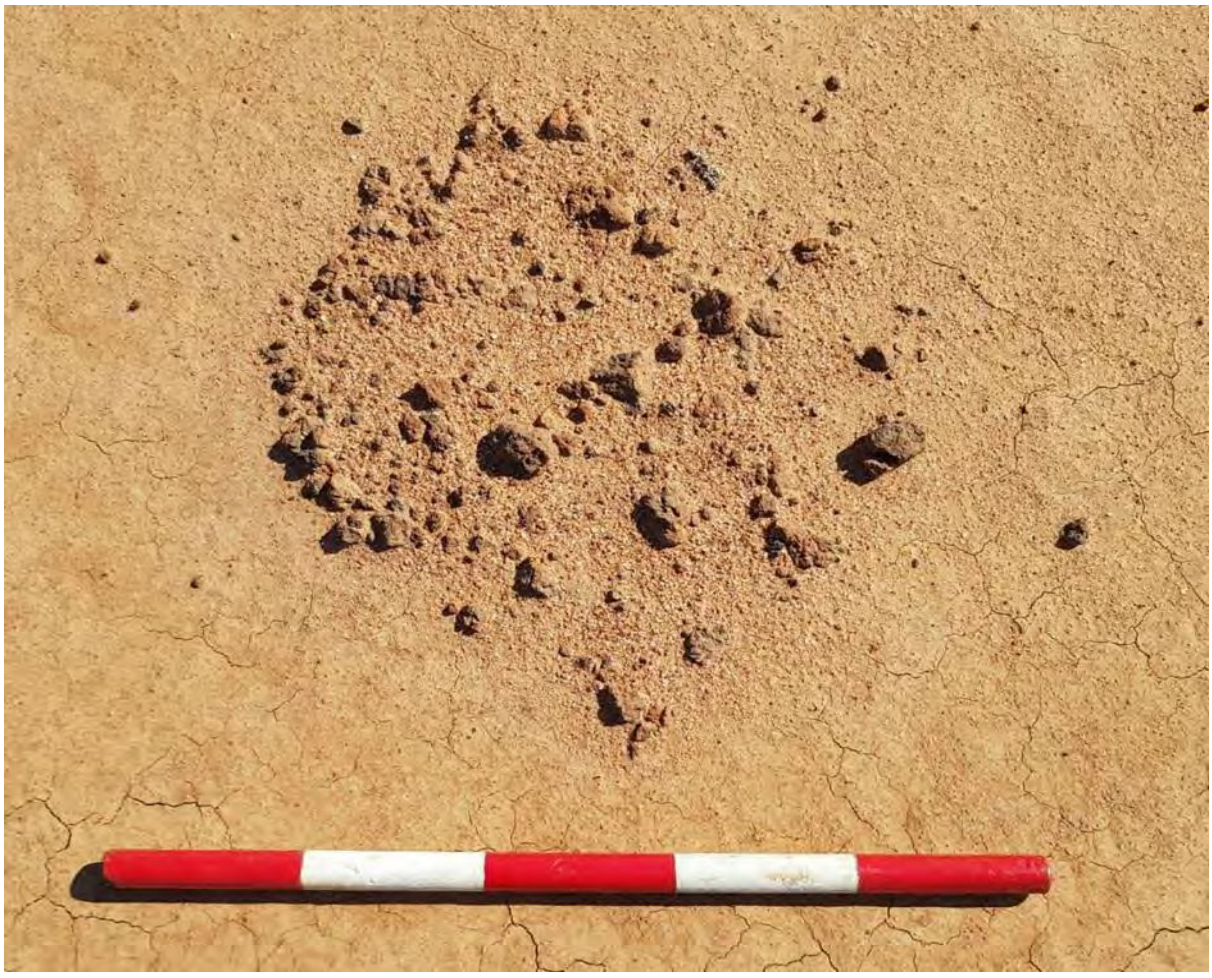
A total of 61 individual burials at 23 locations were verified during the forensic survey in February 2023, in addition to the seven burials at three locations that were recorded and verified during the early stages of this Project in 2021 and already registered on AHIMS. One other AHIMS site is noted to include a burial, and there were four other sites recorded as part of this assessment with potential AAR that have yet to be verified. This results in a total of at least 69 recorded burials at a minimum of 27 locations (Figure 9-3). Approximate estimates of antiquity included two individuals dating to tens of thousands of years, a dozen being several hundred years, and the majority ranging over a few thousand years (Pardoe 2023).

Burials generally appeared to be part of residential places in red sandy dunes adjacent to clay pans, ephemeral lakes, and small ponds. They were usually located at the edges of these places but were sometimes observed in the centre when associated with ground disturbance from digging animals. These observations indicate that burials are likely to occur across the entirety of the residential place but are more visible at the eroding extremities. The residential places were generally of a consistent size (approximately 20 m in diameter) across the Project Area and sat above the eroded surrounding ground by about 20-30 cm. The culturally modified soil usually had scalded sloping margins leading to a patch of flat scalding before vegetation appears. Heat retainer gravel from exhausted hearths or the eroded bases of ground ovens were sometimes seen around the edges. Heat retaining gravel or oven stones appeared to be exclusively made from termite nests (Photograph 9.1, Pardoe 2023).

PHOTOGRAPH 9-1 HEARTH WITH HEAT RETAINING STONES AND GRAVEL (ERM 2022)



F9.3 - Aboriginal Ancestral Remains within the Project **Area**
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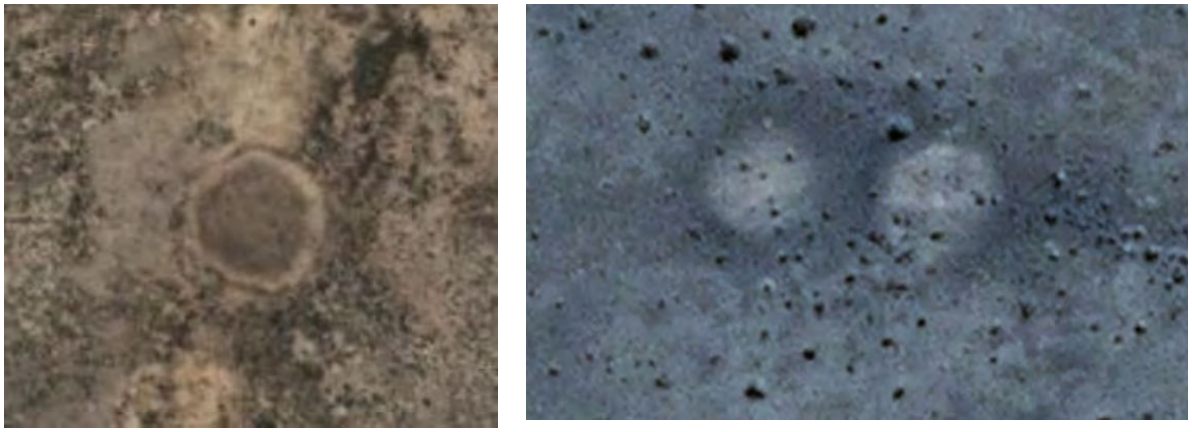
Earth mounds were also observed across the Project Area, generally circular and very visually distinct in the aerial imagery (

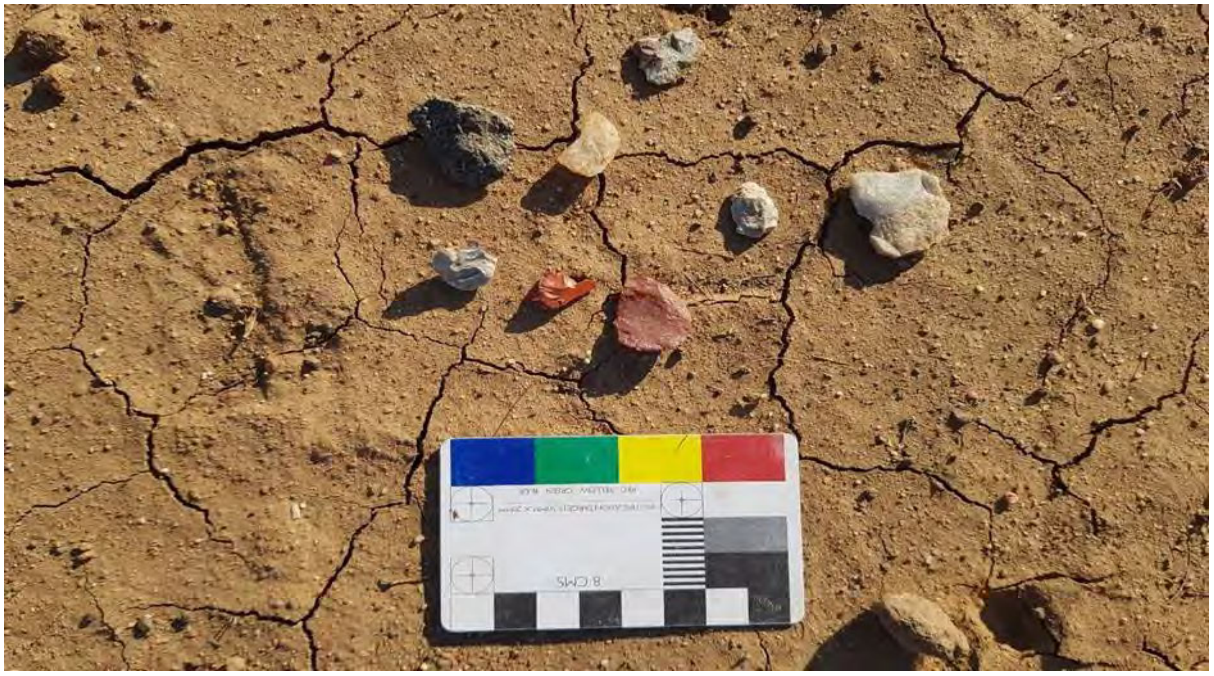
Photograph 9-2). They were generally of similar size to the residential areas discussed above, being approximately 20 m in diameter and about 20-30 cm in height. Bone, stone artefacts, or hearths were sometimes observed on the mounds, and they were generally less impacted by erosion than the sandier dune sites.

PHOTOGRAPH 9-2 EARTH MOUNDS WITHIN THE PROJECT AREA AS VISIBLE ON AERIAL IMAGERY (GOOGLE EARTH)



Stone artefacts were also recorded within the residential places and earth mounds as well as scattered as isolated finds or in small groupings across the landscape. It is likely that most of these artefacts were deposited in the residential places or earth mounds, but many have since been distributed by stock or water movement onto and across the flatter surrounding landscape. There were both ground and flaked stone artefacts present. The flaked stone was generally small, with no cortex, and frequently backed (Photograph 9.3), as would be expected when there is no source material located nearby. Raw materials were predominantly quartz and quartzite, but also included silcrete, chert, and flaked glass.

PHOTOGRAPH 9-3 TYPICAL FLAKED STONE ARTEFACTS RECORDED (ERM 2022)



Ground artefacts included generally broken examples of the commonly recorded plates and grindstone/topstone (mortar and pestle) combinations (Photograph 9.4), but also kulki, small faceted stones that can fit in the hand and have smooth indentations or pits in the faces from grinding small amounts of material or smoothing other pointed artefacts (Photograph 9.5). Other less easily identifiable ground stone artefacts may have been rasps for smoothing wooden implements.

PHOTOGRAPH 9-4 TYPICAL GRINDSTONE (ERM 2022)

PHOTOGRAPH 9-5 TYPICAL KULKI (ERM 2022)

Very few trees were present within the Project Area; however, one CMT was recorded in the south-west corner (Photograph 9.6). It is a rare example of the use by Aboriginal people of the limited timber available in this landscape.

PHOTOGRAPH 9-6 ONLY EXAMPLE OF A CMT RECORDED IN THE PROJECT AREA (ERM 2022)

10. HISTORIC HERITAGE VALUES

10.1 REGISTERED HISTORIC HERITAGE SITES

There are no registered historic heritage sites within or in proximity to the Project Area.

10.2 NEWLY IDENTIFIED HISTORIC HERITAGE SITES

A small number of historic objects were observed during the field surveys. One new identified Aboriginal heritage site located 200-300 m from one of the Keri Keri property buildings also included some accumulated historic material, in the form of a bottle dump (Photograph 10.1) and some coins (Photograph 10.2). The location of these features within the site boundary is illustrated in Figure 10-1.

PHOTOGRAPH 10.1 BOTTLE DUMP WITHIN KK-161 (ERM 2022)

PHOTOGRAPH 10.2 COIN FOUND WITHIN KK-161 (ERM 2022)

10.3 HISTORICAL ARCHAEOLOGICAL POTENTIAL

Review of the potential for Historical Archaeological Resource to be present within the Project Area is based on a consideration of current ground conditions and analysis of historic development within the Project Area. Built structures noted within the boundaries of the Project Area are limited to a series of tanks, dams, and fence lines.

Gradings of archaeological potential utilised for this assessment is detailed in Table 10-1.

TABLE 10-1 GRADING OF ARCHAEOLOGICAL POTENTIAL

Grading	Justification
Nil	No evidence of historical development or use, or where previous impacts would have removed all archaeological potential
Low	Research indicates little or low intensity historical development, or substantial previous impacts. Expected that deep subsurface archaeological features may survive
Moderate	Known historical development with some evidence of previous impact. Likely that archaeological remains survive with some localised truncation and disturbance
High	Evidence of multiple phases of historical development and structures with minimal or localised twentieth century development impacts. Archaeological remains likely to be largely intact

Due to the deflating nature of the landscape, the scarce and unsubstantial built structures, the long-term use of the Project Area for grazing, and the limited historical material observed during survey, the historical archaeological potential of the Project Area is considered Nil-Low.

F10.1 - Historic features within site boundary of KK-161
`[removed from public display]

11. SIGNIFICANCE ASSESSMENT – ABORIGINAL HERITAGE

11.1 ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE ASSESSMENT FRAMEWORK

Aboriginal heritage sites, objects and places hold value for communities in many ways. The nature of those heritage values is an important consideration when deciding how to manage a heritage site, object or place and balance competing land use options.

Assessment of the Aboriginal cultural heritage significance of the Project Area has been completed in accordance with the requirements of the ACHAR Guide (OEH 2011). Assessment has included identification of social, historic, scientific, and aesthetic values which area discussed below:

- *Social or cultural value* (assessed only by Traditional Owners/First Nations People) refers to the spiritual, traditional, historical, or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them;
- *Historic value* (assessed by Traditional Owners/First Nations People and/or non-Aboriginal historical specialists) refers to the associations of a place with a historically important person, event, phase, or activity in an Aboriginal community. Historic places do not always have physical evidence of their historic importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities and include places of post-contact Aboriginal history;
- *Scientific* (archaeological) value (assessed by professional archaeologists) refers to the importance of a landscape, area, place or object because of its rarity, representativeness, and the extent to which it may contribute to further understanding and information; and
- *Aesthetic value* (assessed by Traditional Owners and/or non-Aboriginal specialists) refers to the sensory, scenic, architectural, and creative aspects of the place. It is often closely linked with social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use.

Scientific values were graded with a basic ranking of high, moderate, or low. The grading is based on the rarity, representativeness, and research (educational) potential for each value:

- High significance is usually attributed to sites, which are so rare or unique that the loss of the site would affect our ability to understand aspects of past Aboriginal use/occupation for an area;
- Moderate significance can be attributed to sites which provide information on an established research question; and
- Low significance is attributed to sites which cannot contribute new information about past Aboriginal use/occupation of an area. This may be due to disturbance of the nature of the site's contents.

11.2 IDENTIFYING CULTURAL VALUES

Cultural heritage values for the Project Area were identified through a combination of desktop assessment and consultation undertaken during the preparation of the ACHAR (see Section 3). This information was collected by ERM Heritage Consultants (Archaeologists).

The Burra Charter states:

> cultural significance is embodied in the place—in its fabric, setting, use, associations, and meanings. It may exist in: objects at the place or associated with it; in other places that have some relationship to the place; and in the activities and traditional and customary practices that may occur at the place or that are dependent on the place.

Table 11-1 summarises the cultural heritage values identified for the Project Area and the surrounding region.

TABLE 11-1 CULTURAL HERITAGE VALUES IDENTIFIED FOR THE PROJECT AREA AND SURROUNDS

Cultural heritage value	Description	Distance from Project Area	Source
Yanga National Park	Formerly a significant pastoral run established by William Wentworth, the area was gazetted as a national park in 2007. Yanga National Park comprises 66,734 ha with considerable frontage along the Murrumbidgee River. The area has been recognised as having important cultural significance, and includes Aboriginal sites such as mounds, CMTs, burials, and middens. The Mutthi Mutthi consider the heritage values located within the Project Area as part of the same cultural landscape as those located within the Yanga National Park.	22 km to the north-west	Heritage Archaeology 2007 Consultation workshop
Mungo National Park	Mungo National Park is part of the UNESCO World Heritage-listed Willandra Lakes Region in south-western New South Wales. The park comprises 110,967 ha and includes one of the most famous archaeological sites in Australia that has been dated back as far as 45,000 years. Many AAR have been recorded, including Mungo Lady and Mungo Man, considered by many to be the oldest human remains found in Australia and some of the oldest remains of modern humans found outside of Africa. The Mutthi Mutthi consider themselves related to the people found at Mungo and see those from the Project Area to have the same relationships and significance, with the potential to include examples of similar antiquity.	126 km to the north-west	Hiscock 2000 Consultation workshop

Cultural heritage value	Description	Distance from Project Area	Source
Cultural Landscapes	The palaeochannel landforms present across the Project Area and beyond are generally associated with the Yanco system which formed between 20-13 ka, a peak time for Aboriginal occupation of the area, however several palaeochannels in the Murrumbidgee have been dated with their development extending as far back as 105 ka and could contain much early evidence. Burials are most often associated with scalded, channelled and depressed plains associated with palaeochannels and they hold great cultural value to the Mutthi Mutthi accordingly.	Project Area and surrounds	Pardoe & Martin 2011 Consultation workshop

11.2.1 SOCIAL OR CULTURAL SIGNIFICANCE

The Consultation Requirements specify that the social or cultural value of a place must be identified through consultation with Aboriginal people. All Aboriginal sites are considered to have cultural significance to the Aboriginal community as they provide physical evidence of past Aboriginal use and occupation of the area.

Consultation with the RAPs throughout the process have identified that the Project Area demonstrates social significance as part of a wider cultural landscape. In particular, the significance of the Project Area has been identified to be associated with the use of the landscape as a residence and burial area for the Mutthi Mutthi people. These uses are noted particularly in the archaeological record through the prevalence of sites in the sandy earth mounds that are the remnants of embankments and lunettes along palaeochannels and small lakes. This landscape formed one component of a wider cultural landscape which extended towards the Murray River to the south and the Willandra Lakes district to the north.

The Project Area has been assessed to demonstrate high social significance as part of this wider cultural landscape.

11.2.2 HISTORIC SIGNIFICANCE

Historic values refer to the association of the place with aspects of Aboriginal history. Historic values are not necessarily reflected in physical objects, but may be intangible and relate to memories, stories, or experiences.

The ethnographic record indicates significant overlap between the Mutthi Mutthi people and colonial settlers. Archaeologically this has been confirmed to extend in some capacity to the Project Area through the presence a flaked glass artefact. Despite the evidence of this overlap, the current assessment has not identified a specific person or event of historic value associated with the Project Area.

The Project Area has been assessed to demonstrate low historic significance.

11.2.3 SCIENTIFIC SIGNIFICANCE

Scientific significance contains four subsets: research potential, representativeness, rarity, and educational potential. These are outlined below.

- *Research Potential:* is the ability of a site to contribute to our understanding of Aboriginal occupation locally and on a regional scale. The potential for the site to build a chronology, the level of disturbance within a site, and the relationship between the site and other sites in the archaeological landscape are factors which are considered when determining the research potential of a site;
- *Rarity:* This criterion is similar to that of representativeness, it is defined as something rare, unusual, or uncommon. If a site is uncommon or rare it will fulfil the criterion of representativeness. The criterion of rarity may be assessed at a range of levels including local, regional, state, national, and global (NSW NPWS 1997: 10);
- *Representativeness:* is defined as the level of how well or how accurately something reflects upon a sample. The objective of this criterion is to determine if the class of site being assessed should be conserved in order to ensure that a representative sample of the archaeological record be retained. The conservation objective which underwrites the 'representativeness' criteria is that such a sample should be conserved (NSW NPWS 1997: 7-9); and
- *Educational Potential:* This criterion relates to the ability of the cultural heritage item or place to inform and/or educate people about one or other aspects of the past. It incorporates notions of intactness, relevance, interpretative value, and accessibility. Where archaeologists or others carrying out cultural heritage assessments are promoting/advocating the educational value of a cultural heritage item or place it is imperative that public input and support for this value is achieved and sought. Without public input and support the educative value of the items/places is likely to not ever be fully realised (NSW NPWS 1997: 10).

A scientific significance assessment of each site type is summarised in Table 11-2.

A discussion of the defining characteristics of the sites assessed to demonstrate Low, Moderate and High scientific significance is provided below.

TABLE 11-2 SCIENTIFIC SIGNIFICANCE ASSESSMENT OF ABORIGINAL SITES PRESENT

Site Type	Research potential	Rarity	Representativeness	Educational potential	Overall
Artefact	Low	Low	Low	Low	Low
Burial	High	High	High	High	High
Earth Mound	Moderate	Moderate	Moderate	Moderate	Moderate
Hearth	High	Moderate	Moderate	Moderate	Moderate
CMT	Moderate	Moderate	Low	Low	Low
PAD	Moderate	Unknown	Unknown	Unknown	Unknown
Shell	Moderate	High	Low	Low	Moderate

11.2.3.1 SITES OF LOW SCIENTIFIC SIGNIFICANCE

Isolated stone artefacts and CMTs within the Project Area have been assessed to demonstrate low archaeological significance. The majority of the artefacts found within the Project Area are single isolated finds identified in areas which demonstrate clear evidence of water movement or other post depositional processes. Artefacts located in the flat clay landforms are considered to demonstrate low research potential due to their limited connection to the original phase of deposition and are equally not considered to be representative of a specific type of phase of land use. While stone artefacts are not particularly common across the region due to limited availability of source material, the artefacts recorded are not considered to exhibit high rarity values.

Trees in general are rare across the Project Area, making CMTs rare to this specific area, however they are not uncommon within the region and the one tree recorded in this ACHAR is not considered to exhibit high rarity values and would provide limited research potential.

11.2.3.2 SITES OF MODERATE SCIENTIFIC SIGNIFICANCE

Sites of moderate scientific significance include earth mounds and hearth features which have research potential, are relatively rare across the national archaeological record but representative at the Project Area level.

11.2.3.3 SITES OF HIGH SCIENTIFIC SIGNIFICANCE

Burial sites within the Project Area have been assessed to demonstrate high scientific significance due to their research potential and rarity.

11.2.3.4 SITES OF UNKNOWN SCIENTIFIC SIGNIFICANCE

Area of PAD within the Project Area have been assessed to demonstrate unknown scientific significance. These sites would require further investigation through archaeological test excavation to adequately assess their significance.

11.2.4 AESTHETIC SIGNIFICANCE

Aesthetic values refer to the sensory, scenic, architectural, and creative aspects of the place. These values may be related to the landscape and are often closely associated with social/cultural values. While the Project Area has some aesthetic values associated with being part of one the flattest landscapes in Australia, it been assessed as having low aesthetic significance due to absence of landmark features within the landscape.

11.2.5 ABORIGINAL HERITAGE STATEMENT OF SIGNIFICANCE

The Project Area forms a component of a cultural landscape associated with Aboriginal use of the Riverina Murray Region for a number of cultural and subsistence-based activities. The sites vary in type and density, but predominantly represent evidence of residential areas and cultural burial.

Sites within the Project Area have been evaluated as being of low to moderate and high scientific significance. Sites with low scientific significance include isolated finds, low density artefact scatters, and CMTs. These sites are likely to represent movement through the landscape rather than continued or intensive occupation. Research potential of these sites is low, as they have a low likelihood of contributing to our understanding of past Aboriginal land use practices.

Sites with moderate to high scientific significance include earth mounds, hearth features, and burials. These sites may represent occupation or activity areas subject to repeated use and have research potential that is consistent with other sites in the nearby Willandra Lakes Region World Heritage Area.

Assessment of social/cultural significance can only be undertaken by the local Aboriginal community. No specific areas of social or cultural significance have been identified; however, it is understood that all Aboriginal heritage sites retain significance for the Aboriginal community and the cultural landscape of the Project Area, particularly manifest in the AAR, is highly significant to the Mutthi Mutthi.

12. IMPACT ASSESSMENT

12.1 POTENTIAL IMPACTS

The Project will include the following elements:

- 155 wind turbines with a proposed tip height of 291.5 m;
- BESS facility located across an area of approximately 12 ha;
- Meteorological masts fitted with associated instruments;
- Three on-site electrical substations;
- Internal electrical reticulation network (both overhead and underground);
- Operation and maintenance buildings;
- Preparation and construction of internal roads to turbine and substation locations as well as upgrades to existing roads; and
- Temporary laydown and batching plants during construction.

The Project design was amended following each of the three heritage surveys conducted across the Project Area. In each instance, design refinements were made to avoid AAR and minimise impact to any other Aboriginal heritage sites, where possible. Sites identified as having high potential for impact due to their location within the development footprint may also be able to be further avoided by micro siting of turbines and infrastructure within the development footprint.

A summary of potential impacts to identified Aboriginal heritage values has been developed based on the proposed disturbance footprint of the Project and are summarised in Table 12-1. The area that has been identified as containing infrastructure and likely to require ground disturbance is described as the clearing corridor. The 100 m buffer is described as the micrositing corridor, which could allow for movement of the project infrastructure.

TABLE 12-1 POTENTIAL IMPACTS TO ABORIGINAL CULTURAL HERITAGE SITES ASSOCIATED WITH PROPOSED PROJECT LAYOUT

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-034	Artefact (isolated)	High- within Biosecurity Washdown	-
KK-035	Artefact (isolated)	High – within hardstand footprint	-
KK-044	Artefact (isolated)	-	Low- easy to avoid (approx. 15m outside micrositing corridor
KK-045	Artefact (multiple)	High – within hardstand footprint	-
KK-046	Artefact (isolated)	-	Moderate - can avoid
KK-047	Artefact (isolated)	-	Moderate - can avoid
KK-048	Artefact (multiple)	High – within hardstand footprint	-

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-049	Artefact (isolated)	Moderate to High – adjacent to hardstand	-
KK-050	Artefact (isolated)	-	Moderate - can avoid
KK-051	Artefact (isolated)	-	Moderate - can avoid
KK-052	Artefact (isolated)	-	Moderate - can avoid
KK-053	Artefact (isolated)	-	Moderate - can avoid
KK-054	Artefact (isolated)	-	Low – easy to avoid (outside corridor)
KK-059	Artefact (isolated)	-	Moderate – can avoid
KK-060	Artefact (isolated)	-	Low – easy to avoid
KK-074	Artefact (isolated)	-	Low – easy to avoid (approx. 60m outside micrositing corridor)
KK-075	Artefact (isolated)	-	Moderate – can avoid
KK-076	Artefact (isolated)	-	Moderate – can avoid
KK-077	Artefact (isolated)	-	Moderate – can avoid
KK-078	Artefact (isolated)	-	Low – easy to avoid (approx. 26m outside the micrositing corridor)
KK-084	Artefact (multiple)	-	Moderate – can avoid
KK-089	Artefact (isolated)	-	Moderate – can avoid
KK-090	Artefact (isolated)	-	Moderate – can avoid
KK-092	Artefact (isolated)	-	Moderate – can avoid
KK-093	Artefact (isolated)	-	Moderate – can avoid
KK-094	Artefact (isolated)	-	Moderate – can avoid
KK-095	Artefact (isolated)	-	Moderate – can avoid
KK-096	Artefact (isolated)	High – within corridor	-
KK-097	Artefact (isolated)	-	Moderate – can avoid
KK-101	Artefact (isolated)	-	Moderate – can avoid
KK-102	Artefact (isolated)	-	Moderate – can avoid
KK-103	Artefact (isolated)	-	Moderate – can avoid
KK-105	Artefact (isolated)	-	Moderate – can avoid
KK-106	Artefact (isolated)	-	High – can avoid
KK-107	Artefact (isolated)	-	High – can avoid
KK-108	Artefact (isolated)	-	Moderate to High – can avoid

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-109	Artefact (isolated)	-	Moderate – can avoid
KK-112	Hearth	-	Low – easy to avoid (approx. 90m outside micrositing corridor)
kk-113	Hearth	-	Low – easy to avoid (approx. 130m outside micrositing corridor)
KK-114	Artefact (isolated)	-	Moderate – can avoid
KK-116	Artefact (isolated)	-	Low – easy to avoid (approx. 30m outside micrositing corridor)
KK-117	Artefact (multiple)	-	Moderate – can avoid
KK-118	Artefact (isolated)	-	Moderate – can avoid
KK-120	Artefact (isolated)	-	Moderate to High – can avoid
KK-121	Artefact (isolated)	-	Moderate – can avoid
KK-122	Artefact (isolated)	-	Moderate – can avoid
KK-126	Artefact (isolated)	-	Moderate to High – can avoid
KK-132	Artefact (isolated)	High – within corridor	-
KK-133	Artefact (isolated)	-	Moderate to High – can avoid
KK-134	Artefact (isolated)	-	Low – easy to avoid (approx. 7 m outside micrositing corridor)
KK-135	Artefact (isolated)	-	Low – easy to avoid (approx. 17 m outside micrositing corridor)
KK-136	Artefact (isolated)	-	Moderate to High – can avoid
KK-137	Artefact (isolated)	-	Moderate- can avoid
KK-138	Artefact (isolated)	-	Moderate – can avoid
KK-139	Artefact (isolated)	-	Moderate – can avoid
KK-140	Hearth	-	Moderate – can avoid
KK-141	Artefact (isolated)	-	Moderate – can avoid
KK-142	Hearth	-	Low – easy to avoid (approx. 15m outside micrositing corridor)
KK-143	Hearth	-	Low – easy to avoid (approx. 15m outside micrositing corridor)

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-144	Artefact (isolated)	-	Moderate – can avoid
KK-145	Hearth	-	Moderate – can avoid
KK-146	Hearth	-	Moderate – can avoid
KK-147	Artefact (isolated)	-	Low – can avoid (outside micrositing corridor)
KK-148	Artefact (isolated)	-	Low – easy to avoid (outside micrositing corridor)
KK-149	Artefact (isolated)	-	Low – can avoid (outside micrositing corridor)
KK-150	Artefact (isolated)	High – within corridor	High – within micrositing corridor
KK-151	Earth Mound, PAD	Moderate- can avoid (approx. 20m from hardstand)	High – partially within micrositing corridor
KK-152	Artefact scatter	Low – can avoid (approx. 77m from clearing corridor)	Moderate to High – partially within micrositing corridor
KK-154	Burial, Artefact	Moderate to High- can avoid (approx. 15m from hardstand boundary)	High – partially within micrositing corridor
KK-155	Artefact, Hearth, PAD	Moderate -can avoid (approx. 6m from hardstand)	High – within micrositing corridor
KK-158	Earth Mound, PAD	Moderate -can avoid (approx. 6m from clearing corridor)	High – within micrositing corridor
KK-159	Burial, Artefact, Hearth	-	Low to Moderate – can avoid (approx. 8m outside micrositing corridor)
KK-160	Burial, Artefact, Hearth	-	Low - adjacent to micrositing corridor (approx. 40m) but can avoid
KK-163	Burial, Artefact	Low to Moderate – approx. 50m from hardstand	High – within micrositing corridor
KK-164	Burial, Artefact, Shell, PAD	Moderate to High- adjacent to clearing corridor	High – within micrositing corridor
KK-165	Earth Mound, Artefact, PAD	Moderate -can avoid (approx. 36m from clearing corridor)	High – within micrositing corridor
KK-166	Burial	-	Low- easy to avoid (approx. 500m from micrositing corridor)
KK-167	Burial, Artefact	-	Low – easy to avoid (approx. 120m from micrositing corridor)

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-169	Earth Mound, Artefact, PAD	Low to Moderate (approx. 60m from clearing corridor)	Moderate to High – partially within micrositing corridor
KK-171	Artefact Scatter	-	Low – easy to avoid (approx. 120m from micrositing corridor)
kk-172	PAD	Low (approx. 125m from hardstand)	Low- can avoid (approx. 30m outside micrositing corridor boundary)
KK-173	Burial, PAD	Moderate to High- can avoid (14m from clearing corridor)	High – majority of site extent within micrositing corridor
KK-174	Artefact Scatter	-	Low - can avoid (approx. 30m outside micrositing corridor boundary)
KK-175	PAD	Moderate- can avoid (15m from hardstand)	High – within micrositing corridor
KK-176	Burial, Earth Mound, Artefact, Hearth, PAD	High – within transmission line corridor	High – within micrositing corridor
KK-177	Artefact, Hearth	Moderate – approx. 50m from hardstand	High – partially within micrositing corridor
KK-178	Artefact Scatter	Moderate – approx. 40m from hardstand	Moderate – entirely within micrositing corridor
KK-179	Artefact, Hearth, PAD	Low- approx. 80m from overhead transmission line clearing corridor	Moderate to High – partially within micrositing corridor
KK-180	PAD	High – within overhead transmission line clearing corridor	High – within micrositing corridor
KK-181	Artefact, PAD	-	Low – easy to avoid (approx. 210m outside micrositing corridor)
KK-182	Artefact Scatter	-	Low – easy to avoid (approx. 75m outside micrositing corridor)
KK-183	Artefact, PAD	Moderate – adjacent to clearing corridor (approx. 8m)	Moderate – partially within micrositing corridor
KK-184	Artefact, Hearth	Moderate – approx. 20m from hardstand	Moderate to High – entirely within micrositing corridor
KK-185	Artefact, Hearth	-	Low to Moderate - can avoid (approx. 10m outside micrositing corridor)

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-186	Earth Mound, Artefact, Hearth, PAD	High – partially within corridor within overhead transmission line clearing corridor	High – entirely within micrositing corridor
KK-187	Earth Mound, Artefact, Hearth	High – partially within overhead transmission line clearing corridor	High – large portion of the site within the micrositing corridor
KK-188	Artefact, Hearth	-	Low – easy to avoid (outside micrositing corridor)
KK-190	PAD	-	Low – easy to avoid (outside micrositing corridor)
KK-191	Burial, Artefact	-	Low - can avoid (outside micrositing corridor)
KK-192	Hearth	-	Low - can avoid (outside micrositing corridor)
KK-193	Burial, Artefact, Hearth		Low - can avoid (outside micrositing corridor)
KK-195	Burial (unverified)		Low – can avoid (outside micrositing corridor)
KK-201	Burial, Earth Mound, Artefact, Hearth, PAD	Moderate – approx. 40m from hardstand	Moderate to High – partially within micrositing corridor
KK-202	Burial, Earth Mound, Artefact, Hearth, PAD	-	Low to Moderate – can avoid (approx. 65m outside micrositing corridor)
KK-206	Earth Mound, Hearth, PAD	-	Low – easy to avoid (approx. 140m outside micrositing corridor)
KK-207	Burial, Earth Mound, Hearth, PAD	Moderate to High – site extent adjacent to two hardstand locations	High – Three portions of the site lie within the micrositing corridor
KK-208	Earth Mound, Artefact, Hearth, PAD	Moderate – approx. 28m from hardstand	Moderate to High – partially within micrositing corridor
KK-209	Artefact, Hearth	-	Low – can avoid (approx. 40m outside micrositing corridor)
KK-211	Burial, Earth Mound, Hearth, PAD	-	Low – easy to avoid (outside micrositing corridor)
KK-212	Burial, Artefact, PAD	Moderate to High – adjacent to clearing corridor	High – partially within the micrositing corridor

Aboriginal heritage site	Site Type	Potential for impact based on clearing corridor	Potential for impact based on micrositing corridor
KK-213	Burial	-	Low – can avoid (approx. 150m outside micrositing corridor)
KK-214	Burial, Artefact, Hearth	High – partially within hardstand	High – partially within corridor
KK-215	Burial, Earth Mound, Artefact, Hearth, PAD	Low – approx. 115m outside overhead transmission line clearing corridor	Low to Moderate – can avoid (approx. 23m outside micrositing corridor)
kk-216	Earth Mound, PAD	-	Low – easy to avoid (approx. 70m outside micrositing corridor)
WA-OS5 (47-6-0755)	Artefact, Earth Mound, PAD	-	Low – easy to avoid (approx. 35m outside micrositing corridor)
WA-OS6 (47-6-0756)	Earth Mound, PAD	-	Low – easy to avoid (approx. 135m outside micrositing corridor)
KK Burial	Burial	Moderate- can avoid (approx. 23m from hardstand boundary)	High – partially within micrositing corridors
Millicent Burials (47-6-0947)	Burial	Moderate- can avoid (approx. 42m from hardstand boundary)	High– partially within micrositing corridor

12.2 ECOLOGICAL SUSTAINABLE DEVELOPMENT PRINCIPLES

In accordance with the ACHAR Guide, Ecologically Sustainable Development (ESD) principles have also been considered in the preparation of this Heritage Report.

The ESD principles as relevant to Aboriginal and historic cultural heritage when considered in the context of the preparation of the current development footprint of the Project are considered below.

12.2.1 THE PRECAUTIONARY PRINCIPLE

The precautionary principle states that lack of full scientific certainty about the threat of harm should never be used as a reason for not taking measures to prevent harm from occurring. The current assessment has included detailed heritage investigation incorporating review of former studies, in depth field surveys and the identification of areas of heritage constraint which would require further investigation in order to ensure scientific certainty.

12.2.2 THE PRINCIPLE OF INTERGENERATIONAL EQUITY

The principle of intergenerational equity holds that the present generation should make every effort to ensure the health, diversity, and productivity of the environment – which includes cultural heritage – is available for the benefit of future generations.

Heritage values have formed a key assessment criterion in the development of the current development footprint.

The completion of the current detailed assessment at the proposed development footprint stage has resulted in the development of a uniform and detailed understanding of the Project Area. This will enable an accurate understanding of potential heritage impacts at a side-wide level and allow for appropriate management of the cumulative impacts to heritage associated with the Project ensuring that appropriate management and mitigation strategies can be developed as part of future development stages and ongoing site management.

12.3 CUMULATIVE IMPACTS

The ACHAR guide identifies that a consideration of the ESD principles should include an understanding of the cumulative impacts of the proposal in relation other identified sites in the region.

Cumulative impacts are a result of incremental, sustained and combined effects of human action and natural variations over time and can be both positive and negative. They can be caused by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and future activities as they arise' (DPIE 2022).

As the Project contains Aboriginal Objects, there are cumulative impacts associated with any land uses which would result in impacts to these elements. This is particularly noteworthy due to the general lack of registered AHIMS sites otherwise registered within the region. It is also acknowledged that continued development within the Riverina Murray Region has the potential to result in a cumulative impact to the cultural values of the local area when impacts overlap with impacts from other projects, which can result in a greater overall effect. This effect is dependent on the scale and timing of the impacts and generally occurs when projects are constructed concurrently or consecutively and are based on their location.

During this assessment, potential harm has been identified to archaeological sites in Table 12-1 above and as archaeological sites are a non-renewable resource any harm to an Aboriginal object/site constitutes an irreversible and cumulative impact. It is noted in Section 11 that all sites have inherent cultural value to the Aboriginal community as a tangible connection between the traditional lands and past Aboriginal occupation and use. However, harm as result of this Project will be overall minimal and not negatively affect the cultural and scientific values across the region.

Additionally, suggested future changes to the Project design to avoid Aboriginal heritage sites, where possible, would result in a minimal contribution to the cumulative impacts across the Project Area and the Riverina Murray Region. These suggested future changes are discussed in Section 13.

For the above reasons it is assessed that cumulative impacts as a result of this Project are low.

13. SUMMARY AND RECOMMENDATIONS

13.1 ABORIGINAL HERITAGE

- A total of nine previously registered Aboriginal sites are within the Project Area, consisting of Burials, Earth Mounds, PADs, Hearths, and Artefacts. All nine sites are extant;
- A total of 209 new sites with similar features were identified within the Project Area as part of the development of this ACHAR; and
- Based on the current development footprint direct harm to 13 sites has been identified associated with the clearing corridor and infrastructure layout (Table 12-1). A further 74 sites have been assessed to be subject to potential impact associated with the potential works within the micro-siting corridor. However, mitigation measures should be implemented as part of the ACHMP to avoid and minimise impacts to sites. As the Project is assessed as a SSD, under Part 4.7 clause 4.41 (1)(d) of the EP&A Act, an ACHMP should be developed to record and describe the processes and procedures required to be implemented regarding Aboriginal cultural heritage prior to and during the construction and operational phases of the Project.

13.1.1 ABORIGINAL HERITAGE SENSITIVITY MAPPING

The Project Area has been delineated into areas of low, moderate, high and very high Aboriginal heritage sensitivity (Figure 13-1) based on the results of predictive modelling and confirmed by the archaeological survey.

- Areas of very high sensitivity include red brown alluvial loams and aeolian sand associated with the bordering dunes and lunettes of palaeochannels (prior streams) and ancient lakes. The channelled plain landscape is focused across the central portion of the Project Area running in a south-west to north-east direction. These landforms include the majority of recorded sites within the Project Area;
- Areas of high sensitivity include red-brown clays and red sandy rises associated with the Murray Pine on an elevated plain. There is only one small area of this type in the Project Area and it is one of the few areas to contain trees, including the single CMT recorded;
- Areas of moderate sensitivity include red-brown clays, clay loam alluvial plains, grey-brown cracking clays, or sandy clay soils associated with palaeochannel rangelands, bordering aeolian dunefields, and blackbox woodland. These landforms mostly contain recorded sites such as isolated artefacts and hearths, with some burials and earth mounds and their associated archaeological features; and
- Areas of low sensitivity include black, brown and grey cracking clays and depressions associated with ancient lake beds and former swamps. These landforms mostly contain recorded sites such as isolated artefacts and hearths, with a small number of earth mounds and their associated archaeological features.

F13.1 - Aboriginal heritage sensitivity mapping
[removed from public display]

13.1.2 ABORIGINAL HERITAGE RECOMMENDATIONS

- Preservation and management of Aboriginal sites and cultural heritage values should form a key objective of development controls for the Project. ERM recommends further changes to the Project disturbance footprint at detailed design phase to avoid impacting sites.
- Micro-siting of project elements should be used as a mitigation measure to avoid disturbing Aboriginal cultural heritage sites. Micro-siting should occur within the boundary of the area previously surveyed. If micro-siting was to occur within any areas that have not been previously surveyed, additional archaeological survey should be undertaken.
- PADS, burials, earth mounds and hearths sites that are within the current proposed disturbance footprint will be subject to varying levels of impact. As they have unknown heritage significance, test/ and or salvage excavation is recommended to assess the potential deposit under the authorisation of the Minister's Conditions of Approval, to avoid unnecessary impact to sites prior to approval. This approach is aligned with *Leading Practice Principles: First Nations and Renewable Energy Projects (Clean Energy Council 2024)*, namely Principles 1 and 3, which focus on respectful engagement and the preservation and protection of cultural heritage. Should test excavation determine that sites are significant, micro-siting of project elements should occur to avoid impact to these sites.
- An ACHMP should be developed to describe the processes and procedures required to be implemented during the construction and operational phases of the Project. This should be developed in partnership with the Traditional Owners and should at a minimum include:
    - Areas of the earth mounds, hearths, burials or PADs which may be subject to harm as part of disturbance within the clearing and /or micro-siting corridor should be subject to archaeological test or salvage excavation if harm is unavoidable. This assessment has found that there are 39 sites, and their extents, (containing features such as hearths, burials, earth mounds or PADs) within or immediately adjacent to the current proposed disturbance footprint that may be subject to varying levels of impact:
        - KK-140: hearth;
        - KK-142: hearth;
        - KK-143: hearth;
        - KK-145: hearth;
        - KK-146: hearth;
        - KK-151: hearth, PAD;
        - KK-154: burial, artefact;
        - KK-155: artefact, hearth, PAD;
        - KK-158: earth mound, PAD;
        - KK-159: burial, artefact, hearth;
        - KK-160: burial, artefact, hearth;
        - KK-163: burial, artefact;
        - KK-164: burial, artefact, shell, PAD;
        - KK-165: earth mound, artefact, PAD;
        - KK-167: burial, artefact;

- KK-169: earth mound, artefact, PAD;
- KK-172: PAD;
- KK-173: burial, PAD;
- KK-175: PAD;
- KK-176: burial, earth mound, artefact, hearth, PAD;
- KK-177: artefact, hearth;
- KK-179: artefact, hearth, PAD;
- KK-180: PAD;
- KK183:PAD artefact;
- KK-184: artefact, hearth;
- KK-185: artefact, hearth;
- KK-186: earth mound, artefact, hearth, PAD;
- KK-187: earth mound, artefact, hearth;
- KK-201: burial, earth mound, hearth, PAD;
- KK-202: burial, earth mound, hearth, PAD;
- KK-207: burial, earth mound, hearth, PAD;
- KK-208: earth mound, artefact, hearth, PAD;
- KK-209: artefact, hearth;
- KK-212: burial, artefact PAD;
- KK-214: burial, artefact, hearth;
- KK-215: burial, earth mound, artefact, hearth, PAD;
- WA-OS5 (47-6-0755): artefact, earth mound, PAD;
- KK Burial: burial; and
- Millicent Burials: burial.

◦ There are 56 artefact sites may be subject to harm as part of disturbance within the clearing and /or micro-siting corridor. Mitigation measures of surface collection, due to potential impacts, are recommended for:

- KK-034: isolated artefact;
- KK-035: isolated artefact;
- KK-044: isolated artefact;
- KK-045: isolated artefact;
- KK-046: isolated artefact;
- KK-047: isolated artefact;
- KK-048: isolated artefact;
- KK-049: isolated artefact;
- KK-050: isolated artefact;
- KK-051: isolated artefact;
- KK-052: isolated artefact;
- KK-053: isolated artefact;

- KK-059: isolated artefact;
- KK-075: isolated artefact;
- KK-076: isolated artefact;
- KK-077: isolated artefact;
- KK-078: isolated artefact;
- KK-084: isolated artefact;
- KK-089: isolated artefact;
- KK-090: isolated artefact;
- KK-092: isolated artefact;
- KK-093: isolated artefact;
- KK-094: isolated artefact;
- KK-095: isolated artefact;
- KK-096: isolated artefact;
- KK-097: isolated artefact;
- KK-101: isolated artefact;
- KK-102: isolated artefact;
- KK-103: isolated artefact;
- KK-105: isolated artefact;
- KK-106: isolated artefact;
- KK-107: isolated artefact;
- KK-108: isolated artefact;
- KK-109: isolated artefact;
- KK-114: isolated artefact;
- KK-116: isolated artefact;
- KK-117: isolated artefact;
- KK-118: isolated artefact;
- KK-120: isolated artefact;
- KK-121: isolated artefact;
- KK-122: isolated artefact;
- KK-126: isolated artefact;
- KK-132: isolated artefact;
- KK-133: isolated artefact;
- KK-134: isolated artefact;
- KK-135: isolated artefact;
- KK-136: isolated artefact;
- KK-137: isolated artefact;
- KK-138: isolated artefact;
- KK-139: isolated artefact;
- KK-141: isolated artefact;

  - KK-144: isolated artefact;
  - KK-150: isolated artefact;
  - KK-152: artefact;
  - KK-174: artefact scatter; and
  - KK-178: isolated artefact.
- Measures to manage archaeological material that needs to be relocated away from development activities;
- Measures to protect and conserve archaeological material that will not be impacted by development activities;
- The requirements regarding heritage training and inductions for employees and contractors;
- Any requirements regarding monitoring of ground disturbance activities by Traditional Owners;
- The development and provision of cultural awareness training; and
- A Chance Finds Procedure.

- The Applicant should liaise between the landholders and the Traditional Owners to develop appropriate stock management strategies to limit the further disturbance and damage to Aboriginal heritage sites;
- The Applicant should consider the appointment and training of a Traditional Owner liaison/s to coordinate appropriately informed access for staff and contractors to culturally sensitive areas and provide cultural awareness training; and
- The Applicant should consider working with the Traditional Owners to develop and implement an additional research project that would extend the understanding of the Aboriginal heritage values within the Project Area beyond the development footprint and place them in context of the broader cultural landscape of the Plains region, and the internationally significant story of this area and its connection to the Willandra Lakes and Lake Mungo. This could include:
  - More detailed analysis using LiDAR data to refine the Aboriginal heritage sensitivity mapping and develop more appropriate access arrangements relative to water movement across the property;
  - Comprehensive or sample-based cultural heritage surveys across the entirety of the Project Area;
  - Analysis of AAR sites to determine factors such as sex, age, antiquity and relationships across the site and to other remains recovered from the Plains region;
  - Development of cultural landscape descriptions common across the Plains region;
  - Erosion tracking and monitoring of effectiveness of management measures;
  - Development of plain-English teaching material; and
  - Media opportunities.

13.2 HISTORIC HERITAGE

- No registered historic heritage items are located within the Project Area; and
- One Aboriginal heritage site (KK-161) was identified as also including historic features, namely a bottle dump and some coins.

As the location of the historic features is outside the proposed development footprint, no further recommendations regarding their management are made at this time.

14. REFERENCES

Australia ICOMOS (2013) The Burra Charter: the Australian ICOMOS Charter for Places of Cultural Significance. Australia ICOMOS Incorporated, International Council on Monuments and Sites.

Australian Stratigraphic Units Database (2019) Shepparton Formation Stratigraphic Unit Details, available from: https://asud.ga.gov.au/search-stratigraphic-units/results/25474.

Beveridge, P. (1884) 'Of the Aborigines Inhabiting the Great Lacustrine and Riverine Depression of the Lower Murry'. Journal and Proceedings of the Royal Society of New South Wales. No. 17: 19-74.

Biosis (2017) Balranald Sun Farming Project, NSW: Archaeological Report. Unpublished report for Overland Sun Farming Company Pty Ltd.

Bonhomme, T. (1990) Report on Burials and Sandmining in the Riverine Plain. Unpubd report for NSW National Parks and Wildlife Service, Sydney.

Clean Energy Council (2024) Leading Practice Principles: First Nations and Renewable Energy Projects.

Conroy, Catherine (2016) Aboriginal Australians' Contemporary Wetland Plant Use and Cultural Attitudes to Water in the Murrumbidgee Catchment, NSW. Summary results of an Honours project for Charles Sturt University.

Davy, M.C. & J. Wild (2005) Reconnaissance soil landscape mapping of the NSW Riverine Plains. 1:500 000 scale. Co-funded by the Natural Heritage Trust, NSW Department of Primary Industries, NSW and the NSW Department of Natural Resources.

DECC (2002) Descriptions for NSW (Mitchell) Landscapes: Based on Descriptions compiled by Dr Peter Mitchell. NSW National Parks and Wildlife Service.

DECCW (2010a) Aboriginal Cultural Heritage Consultation Requirements for Proponents. Department of Environment, Climate Change and Water, NSW.

DECCW (2010b) Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. Department of Environment, Climate Change and Water, NSW.

DPIE (2022) Cumulative Impact Assessment Guidelines for State Significant Projects. Department of Planning and Environment.

Dunn, Irina & Roshan Sahukar (2003) The bioregions of New South Wales: their biodiversity, conservation and history / NSW National Parks and Wildlife Service. National Parks and Wildlife Service: Hurstville.

Eardley, K.A. (1999) A Foundation for Conservation in the Riverina Bioregion. Unpublished report for NSW National Parks and Wildlife Service.

Feldtmann, A. (1976) The Balranald Story: A souvenier of the Balranald "Back to" celebration 28th September to 5th October 1976. Unpublished.

Hanson, William (1889) Pastoral Possessions of NSW: Alphabetically Arranged in the Easterm, Central, and Western Divisions. Shallard Gibbs, Sydney.

Heritage Archaeology (2007) Balranald Shire Community Heritage Study 2006-2007. Unpublished report for Balranald Shire Council.

Hiscock, Peter (2000) 'Lake Mungo', Early Australia: 21-22.

Hughes, P.J. & M.E. Sullivan (1984) 'Environmental Approaches to the Assessment of Archaeological Significance'. In S. Sullivan & S. Bowdler (eds.) Site Surveys and Significance Assessments in Australian Archaeology. ANU, Canberra: 34-47.

Kingham, Robert (1998) Geology of the Murray-Darling Basin - Simplified Lithostratigraphic Groupings. Geohazards, Land and Water Resources Division, Australian Geological Survey Organisation: Canberra.

Klaver, J.M. (1998) Late Holocene Occupation of the Central Murrumbidgee Riverine Plain. Unpublished PhD, ANU Canberra.

Littleton, J. & H. Johnston (1993) Burials and Occupation at Dry Lake and Tchelery, via Hay. Unpublished report for NSW National Parks and Wildlife Service.

Littleton, J. (2002) Mortuary Behaviour on the Hay Plain: Do Cemeteries Exist? Archaeology in Oceania 37:3.

Martin, Sarah (2007) Inscribing the Hay Plain, Earth Mounds as Elements in a Cultural Landscape. Paper given at Australian Archaeological Association Annual Conference, Sydney University.

Martin, Sarah (2010) Archaeological Research, Characterisation and Predictive Modelling Project. Unpublished report for Department of Environment, Climate Change & Water.

Mitchell, Thomas (1839) Three Expeditions in the Interior of Eastern Australia: with Descriptions of the Recently Explored Region of Australia Felix and of the Present Colony of New South Wales. T & W Boone, London.

Niche (2015) Balranald Mineral Sands Project Aboriginal Cultural Heritage Assessment. Unpublished report for Iluka Resources Limited.

NGH Environmental (2016) Aboriginal Cultural Heritage Assessment Balranald Solar Farm. Unpublished report for Maoneng Australia Pty Ltd.

OEH (2011) Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales. Office of Environment and Heritage, NSW.

OEH (2012) Guide to Completing the AHIMS Site Recording Form. Office of Environment and Heritage, NSW.

OzArk Environmental & Heritage Management (2017) Post AHIP Report: Abercrombie Water Efficiency Project Balranald, Murray River and Hay LGAs. Unpublished report for NSW Department of Primary Industries, Water.

Page, K.J., J. Kemp & G.C. Nanson (2009) 'Late Quaternary Evolution of Riverine Plain Paleochannels, Southeastern Australia', Australian Journal of Earth Sciences, 56:S1, S19-S33, DOI: 10.1080/08120090902870772.

Pardoe, Colin & Sarah Martin (2001) Murrumbidgee Province Aboriginal Cultural Heritage Study – Report to New South Wales National Parks and Wildlife Service and Aboriginal Communities of the Region. Colin Pardoe Bio-Anthropology & Archaeology: Gilberton.

Pardoe, Colin (1988) 'The Cemetery as a Symbol: the Distribution of Aboriginal Burial Grounds in Southeastern Australia'. Archaeology in Oceania 23: 1-16.

Pardoe, Colin (1993) Wamba yadu, a later Holocene cemetery of the central Murray River. Archaeology in Oceania 28: 77-84.

Pardoe, Colin (2023) Some notes on burials and archaeology seen at Keri Keri. Unpublished document for Acciona and Mutthi Mutthi People.

Soil Conservation Service of NSW (1990) Hay District Technical Manual. Soil Conservation Service of NSW.

Sturt, Charles (1833) Two Expeditions into the Interior of Southern Australia, during the years 1828, 1829, 1830, and 1831: with observations on the soil, climate, and general resources of the colony of New South Wales. Elder Smith, London.

Watts, R. (2010) 'Ecosystem response modelling in the Murrumbidgee River', in Saintilan, N. & I. Overton (eds), Ecosystem response modelling in the Murray-Darling Basin. 13 edn, CSIRO Publishing, Canberra, pp. 199-213.

Williams, A. (2011) 'Understanding the Basin and its Dynamics chapter in Basin Futures: Water reform in the Murray-Darling Basin', in Connell, D. & R. Quentin Grafton (eds), Basin Futures: Water Reform in the Murray-Darling Basin. ANU Press, Canberra, pp. 1-37.

Williams, A. & T. Sides (2008) Wiradjuri Plant Use in the Murrumbidgee Catchment, Murrumbidgee Catchment Management Authority, Wagga Wagga, available from: http://wwul.org.au/files/Wiradjuri%20plant%20use%20of%20Murrumbidgee%20-%20CMA.pdf

Websites

Australian Soil Resource Information System (http://www.asris.csiro.au)

Australian National University Open Research Library (https://openresearch-repository.anu.edu.au)

Colonial Frontier Massacres (https://c21ch.newcastle.edu.au/colonialmassacres/map.php)

Historical Land Records Viewer (https://online.nswlrs.com.au)

Murray-Darling Basin Authority (https://www.mdba.gov.au)

State Library of New South Wales (https://www.sl.nsw.gov.au)

Threatened Species found in Murrumbidgee IBRA Sub-Region (https://www.environment.nsw.gov.au/threatenedSpeciesApp/cmaSearchResults.aspx?SubCmaId=348)

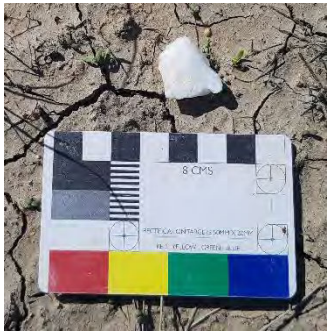
APPENDIX A ABORIGINAL HERITAGE SITE DETAILS

ABORIGINAL HERITAGE SITE DETAILS

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0755	WA-OS5	[redacted]	[redacted]	Artefact, Earth Mound, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0756	WA-OS6	[redacted]	[redacted]	Earth Mound, PAD		
47-6-0759	WA-OS7	[redacted]	[redacted]	Burial, Earth Mound, PAD	3 individuals	*Not revisited*
47-6-0947	Millicent Burials	[redacted]	[redacted]	Burial		
48-4-0182	PTQ1	[redacted]	[redacted]	Artefact		*Not revisited*

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0317	WA-OS24	[redacted]	[redacted]	Artefact, Earth Mount, Hearth, PAD		*Not revisited*
48-4-0318	WA-OS23	[redacted]	[redacted]	Artefact, Earth Mound, PAD		*Not revisited*
48-4-0539	Keri Keri Burial 1 2021	[redacted]	[redacted]	Burial		
48-4-0540	Lyntot	[redacted]	[redacted]	Burial		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1083	KK-001	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1084	KK-002	[redacted]	[redacted]	Artefact	Quartz flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1063	KK-003	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1064	KK-004	[redacted]	[redacted]	Artefact	Quartz flake fragment	
47-6-1065	KK-005	[redacted]	[redacted]	Artefact	Silcrete flake fragment	
47-6-1066	KK-006	[redacted]	[redacted]	Artefact	Quartzite core	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1067	KK-007	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-1068	KK-008	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1069	KK-009	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1070	KK-010	[redacted]	[redacted]	Artefact	Quartz flake	
TBC	KK-011	[redacted]	[redacted]	Not a Site	Duplicate/same site as KK-010	N/A

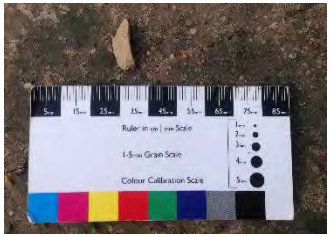
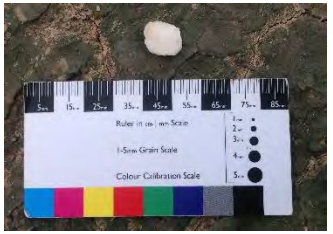
Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1071	KK-012	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1072	KK-013	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1073	KK-014	[redacted]	[redacted]	Artefact	Quartz fragment	*No photograph available*
47-6-1074	KK-015	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1075	KK-016	[redacted]	[redacted]	Artefact	Silcrete retouched flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1076	KK-017	[redacted]	[redacted]	Artefact	Grindstone	
47-6-1077	KK-018	[redacted]	[redacted]	Artefact	Chert flake	
47-6-1078	KK-019	[redacted]	[redacted]	Artefact	Quartz core	
47-6-1079	KK-020	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1080	KK-021	[redacted]	[redacted]	Artefact	Quartz flake	

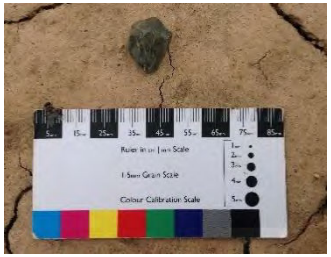
Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1081	KK-022	[redacted]	[redacted]	Artefact	Chert flake	
47-6-0957	KK-023	[redacted]	[redacted]	Artefact	Grindstone	
47-6-0958	KK-024	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-0959	KK-025	[redacted]	[redacted]	Artefact	Quartz core	
47-6-0960	KK-026	[redacted]	[redacted]	Artefact	Quartz fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0961	KK-027	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1059	KK-028	[redacted]	[redacted]	Modified Tree	Scarred tree	
47-6-0962	KK-029	[redacted]	[redacted]	Artefact	Glass flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0963	KK-030	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-0964	KK-031	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0965	KK-032	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-0966	KK-033	[redacted]	[redacted]	Artefact	2x silcrete flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0967	KK-034	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-0968	KK-035	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-0969	KK-036	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0970	KK-037	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0971	KK-038	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-0972	KK-039	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-0975	KK-040	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0973	KK-041	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0974	KK-042	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0976	KK-043	[redacted]	[redacted]	Artefact	Chert flake	
47-6-0977	KK-044	[redacted]	[redacted]	Artefact	Grindstone	
47-6-0978	KK-045	[redacted]	[redacted]	Artefact	2x quartz flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0979	KK-046	[redacted]	[redacted]	Artefact	Silcrete flake	*No photograph available*
47-6-0980	KK-047	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-0981	KK-048	[redacted]	[redacted]	Artefact	2x silcrete flakes	
47-6-0982	KK-049	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0983	KK-050	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0984	KK-051	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0985	KK-052	[redacted]	[redacted]	Artefact	Flaked glass	
47-6-0986	KK-053	[redacted]	[redacted]	Artefact	2x silcrete flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0987	KK-054	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-0989	KK-055	[redacted]	[redacted]	Artefact	Grindstone	
47-6-0988	KK-056	[redacted]	[redacted]	Artefact	Quartz and quartzite flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0990	KK-057	[redacted]	[redacted]	Artefact	Quartz and quartzite flakes	
TBC	KK-058	[redacted]	[redacted]	Not a Site	Duplicate/same site as KK-056	N/A
47-6-0991	KK-059	[redacted]	[redacted]	Artefact	Grindstone	

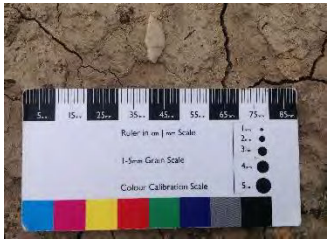
Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0992	KK-060	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-0993	KK-061	[redacted]	[redacted]	Artefact	Quartz and chert flakes	
48-4-0542	KK-062	[redacted]	[redacted]	Artefact	Silcrete flake	

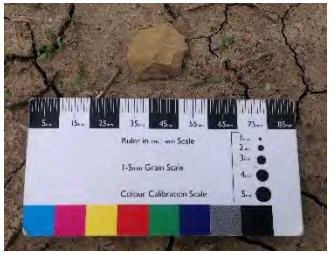
Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0542	KK-063	[redacted]	[redacted]	Artefact	Chert flake	
47-6-1082	KK-064	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1048	KK-065	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1049	KK-066	[redacted]	[redacted]	Artefact	Quartz fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0549	KK-067	[redacted]	[redacted]	Artefact	Quartz flake	
48-4-0550	KK-068	[redacted]	[redacted]	Artefact	2x quartzite flakes	
48-4-0551	KK-069	[redacted]	[redacted]	Artefact	Quartz and quartzite flakes	
47-6-1050	KK-070	[redacted]	[redacted]	Artefact	Quartz fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1051	KK-071	[redacted]	[redacted]	Artefact	Chert flake	
48-4-0552	KK-072	[redacted]	[redacted]	Artefact	Silcrete flake	
48-4-0553	KK-073	[redacted]	[redacted]	Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1052	KK-074	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1053	KK-075	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1054	KK-076	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1055	KK-077	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1056	KK-078	[redacted]	[redacted]	Artefact	Silcrete grindstone	
47-6-1058	KK-079	[redacted]	[redacted]	Artefact	Quartzite flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1058	KK-080	[redacted]	[redacted]	Artefact	Chert flake; quartz fragment	
47-6-1060	KK-081	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-1061	KK-082	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1062	KK-083	[redacted]	[redacted]	Artefact	Quartzite fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
TBC	KK-084	[redacted]	[redacted]	Artefact	Quartz fragment	*No photograph available*
TBC	KK-085	[redacted]	[redacted]	Not a Site	Duplicate/same site as KK-084	N/A
47-6-1032	KK-086	[redacted]	[redacted]	Artefact	Silcrete grindstone	
47-6-1031	KK-087	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1033	KK-088	[redacted]	[redacted]	Artefact	Quartz flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1034	KK-089	[redacted]	[redacted]	Artefact	Grindstone fragment	
47-6-1035	KK-090	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1036	KK-091	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1037	KK-092	[redacted]	[redacted]	Artefact	Quartz flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-6-1038	KK-093	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1041	KK-094	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1039	KK-095	[redacted]	[redacted]	Artefact	Grindstone	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1040	KK-096	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1042	KK-097	[redacted]	[redacted]	Artefact	Quartz flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1043	KK-098	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1044	KK-099	[redacted]	[redacted]	Artefact	Grindstone	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1045	KK-100	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0548	KK-101	[redacted]	[redacted]	Artefact	Quartzite flake	
48-4-0547	KK-102	[redacted]	[redacted]	Artefact	Quartz fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1046	KK-103	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1047	KK-104	[redacted]	[redacted]	Artefact	Chert flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1013	KK-105	[redacted]	[redacted]	Artefact	Quartzite fragment	
T47-6-1014	KK-106	[redacted]	[redacted]	Artefact	Quartzite fragment	
47-6-1015	KK-107	[redacted]	[redacted]	Artefact	Isolated artefact	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1016	KK-108	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-1017	KK-109	[redacted]	[redacted]	Artefact	Quartzite flake	
N/A	KK-110	[redacted]	[redacted]	Not a Site	Duplicate/same site as KK-123	N/A
N/A	KK-111	[redacted]	[redacted]	Not a Site	Duplicate/same site as KK-112	N/A

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0544	KK-112	[redacted]	[redacted]	Hearth		
47-6-1011	KK-113	[redacted]	[redacted]	Hearth		
47-6-1018	KK-114	[redacted]	[redacted]	Artefact	Quartzite flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1019	KK-115	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-1020	KK-116	[redacted]	[redacted]	Artefact	Quartzite flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1021	KK-117	[redacted]	[redacted]	Artefact	Silcrete flake, quartz flake	
47-6-1022	KK-118	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1023	KK-119	[redacted]	[redacted]	Artefact	3x silcrete flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1024	KK-120	[redacted]	[redacted]	Artefact	Silcrete flake - proximal fragment	
48-4-0545	KK-121	[redacted]	[redacted]	Artefact	Silcrete manuport	
47-6-1025	KK-122	[redacted]	[redacted]	Artefact	Quartz flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0546	KK-123	[redacted]	[redacted]	Artefact	Grindstone	
47-6-1026	KK-124	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1027	KK-125	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1028	KK-126	[redacted]	[redacted]	Artefact	Grindstone	
47-6-1029	KK-127	[redacted]	[redacted]	Artefact	Silcrete flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0994	KK-128	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-0996	KK-129	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-0995	KK-130	[redacted]	[redacted]	Artefact	Quartz fragment	
47-6-0997	KK-131	[redacted]	[redacted]	Artefact	Quartzite flake	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0998	KK-132	[redacted]	[redacted]	Artefact	Quartzite flake	
47-6-0999	KK-133	[redacted]	[redacted]	Artefact	Quartz flake	
47-6-1000	KK-134	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1001	KK-135	[redacted]	[redacted]	Artefact	Silcrete flake - proximal fragment	
47-6-1002	KK-136	[redacted]	[redacted]	Artefact	Quartz fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1003	KK-137	[redacted]	[redacted]	Artefact	Quartz core	
47-6-1004	KK-138	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1005	KK-139	[redacted]	[redacted]	Artefact	Chert flake	
47-6-0953	KK-140	[redacted]	[redacted]	Hearth	Oven stone	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1085	KK-141	[redacted]	[redacted]	Artefact	Chert flake	
47-6-1012	KK-142	[redacted]	[redacted]	Hearth	Oven stones	
47-6-0956	KK-143	[redacted]	[redacted]	Hearth	Oven stone	
47-6-1006	KK-144	[redacted]	[redacted]	Artefact	Green chert fragment	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-0954	KK-145	[redacted]	[redacted]	Hearth	Oven stone	
47-6-0955	KK-146	[redacted]	[redacted]	Hearth	Oven stones	
47-6-1007	KK-147	[redacted]	[redacted]	Artefact	Grindstone	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1008	KK-148	[redacted]	[redacted]	Artefact	Silcrete flake	
47-6-1009	KK-149	[redacted]	[redacted]	Artefact	Chert flake	
47-6-1010	KK-150	[redacted]	[redacted]	Artefact	Quartz flake	
48-4-0565	KK-151	[redacted]	[redacted]	Earth Mound, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0562	KK-152	[redacted]	[redacted]	Artefact	Silcrete flake	
48-4-0563	KK-153	[redacted]	[redacted]	Earth Mound, PAD		
48-4-0564	KK-154	[redacted]	[redacted]	Burial, Artefact	Quartz and quartzite fragments	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1130	KK-155	[redacted]	[redacted]	PAD, Artefact, Hearth	Quartz, quartzite and chert flakes, oven stones	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1131	KK-156	[redacted]	[redacted]	Artefact	Artefact Scatter – quartz and quartzite flakes	
N/A	KK-157	[redacted]	[redacted]	Not a Site	Bone recorded but verified as non-human	N/A
47-6-1132	KK-158	[redacted]	[redacted]	Earth Mound, PAD		
47-6-1133	KK-159	[redacted]	[redacted]	Burial, Artefact, Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1134	KK-160	[redacted]	[redacted]	Burial, Artefact, Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1135	KK-161	[redacted]	[redacted]	Artefact, Hearth, Historic	Artefact Scatter	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1136	KK-162	[redacted]	[redacted]	Earth Mound, Artefact, PAD		
47-6-1137	KK-163	[redacted]	[redacted]	Burial, Artefact	Grindstone	
48-4-0554	KK-164	[redacted]	[redacted]	Burial, Artefact, Shell, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0555	KK-165	[redacted]	[redacted]	Earth Mound, Artefact, PAD		*No photograph available*
48-4-0556	KK-166	[redacted]	[redacted]	Burial		
48-4-0557	KK-167	[redacted]	[redacted]	Burial, Artefact		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0558	KK-168	[redacted]	[redacted]	Burial, Artefact, Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1109	KK-169	[redacted]	[redacted]	Earth Mound, Artefact, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
48-4-0559	KK-170	[redacted]	[redacted]	Artefact, Hearth		
48-4-0560	KK-171	[redacted]	[redacted]	Artefact	Quartz and quartzite flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1110	KK-172	[redacted]	[redacted]	PAD		
48-4-0561	KK-173	[redacted]	[redacted]	Burial, PAD		
47-6-1111	KK-174	[redacted]	[redacted]	Artefact	Chert and silcrete flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1112	KK-175	[redacted]	[redacted]	PAD		
47-6-1113	KK-176	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1114	KK-177	[redacted]	[redacted]	Artefact, Hearth, PAD		
47-6-1115	KK-178	[redacted]	[redacted]	Artefact		
47-6-1116	KK-179	[redacted]	[redacted]	Artefact, Hearth, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1117	KK-180	[redacted]	[redacted]	PAD		
47-6-1118	KK-181	[redacted]	[redacted]	Artefact, PAD		*No photograph available*
47-6-1119	KK-182	[redacted]	[redacted]	Artefact	Silcrete flakes	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1120	KK-183	[redacted]	[redacted]	Artefact, PAD		
47-6-1089	KK-184	[redacted]	[redacted]	Artefact, Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1090	KK-185	[redacted]	[redacted]	Artefact, Hearth		
47-6-1091	KK-186	[redacted]	[redacted]	Earth Mound, Artefact, Hearth, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1092	KK-187	[redacted]	[redacted]	Earth Mound, Artefact, Hearth		
47-6-1094	KK-188	[redacted]	[redacted]	Artefact, Hearth		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1093	KK-189	[redacted]	[redacted]	Artefact, PAD		

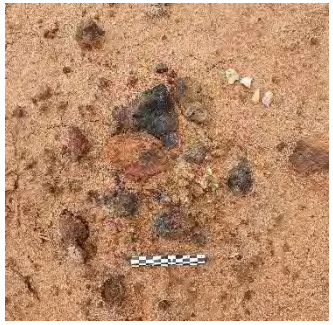
Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1095	KK-190	[redacted]	[redacted]	PAD		
47-6-1096	KK-191	[redacted]	[redacted]	Burial, Artefact	2 burials	
47-6-1097	KK-192	[redacted]	[redacted]	Hearth		*No photograph available*

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1098	KK-193	[redacted]	[redacted]	Burial, Artefact, Hearth		
N/A	KK-194	[redacted]	[redacted]	Not a Site	Bone recorded but verified as non-human	N/A
47-6-1099	KK-195	[redacted]	[redacted]	Burial	Potential burial but not yet verified	
47-6-1100	KK-196	[redacted]	[redacted]	Burial		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1101	KK-197	[redacted]	[redacted]	Burial, Artefact		
47-6-1129	KK-198	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD	Potential burial but not yet verified	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1102	KK-199	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1103	KK-200	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD		
47-6-1104	KK-201	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD	13 separate burials/human remains	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
						
47-6-1105	KK-202	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD		

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1106	KK-203	[redacted]	[redacted]	Burial, Artefact	3 individuals	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1128	KK-204	[redacted]	[redacted]	Artefact, PAD	Isolated artefact	
47-6-1127	KK-205	[redacted]	[redacted]	PAD		*No photograph available*
47-6-1126	KK-206	[redacted]	[redacted]	Artefact, Hearth		*No photograph available*
47-6-1107	KK-207	[redacted]	[redacted]	Burial, Earth Mound, Hearth, PAD	4 burials	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1125	KK-208	[redacted]	[redacted]	Earth Mound, Artefact, Hearth, PAD	Green chert	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1124	KK-209	[redacted]	[redacted]	Artefact, Hearth		
47-6-1121	KK-210	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD	Potential burial but not yet verified	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1108	KK-211	[redacted]	[redacted]	Burial, Earth Mound, Hearth, PAD		
47-6-1086	KK-212	[redacted]	[redacted]	Burial, Artefact, PAD		
47-6-1087	KK-213	[redacted]	[redacted]	Burial		*No photograph available*

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1088	KK-214	[redacted]	[redacted]	Burial, Artefact, Hearth	Hearthstone, 5 burials	

Site ID	Name	Easting	Northing	Site Type	Notes	Photograph
47-6-1122	KK-215	[redacted]	[redacted]	Burial, Earth Mound, Artefact, Hearth, PAD	Potential burial but not yet verified	
47-6-1123	KK-216	[redacted]	[redacted]	Earth Mound, PAD		

APPENDIX B AHIMS SEARCH RESULTS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Keri Keri Update

Client Service ID : 757675

Environmental Resources Management - Melbourne

Level 6 99 King Street
Melbourne Victoria 3000

[redacted]

Email: [redacted]

Date: 01 March 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.84, 143.85 - Lat, Long To : -34.68, 144.06, conducted by Elspeth Mackenzie on 01 March 2023.

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

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

[redacted]

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

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

Important information about your AHIMS search

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

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: [redacted]
Web: www.heritage.nsw.gov.au

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Keri Keri Update

Client Service ID : 757679

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
47-6-0384	North Impima 2	GDA	54	[redacted]	[redacted]	Open site	Valid	Burial : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0755	WA-OS5 (West Abercrombie Open Site 5)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0947	Millicent Burials	GDA	54	[redacted]	[redacted]	Open site	Valid	Burial : -		
	Contact	**Recorders**	Doctor.Colin Pardoe,Colin Pardoe Bio-Athropology & Archaeology					**Permits**		
48-4-0182	PTQ1	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : 1		
	Contact	**Recorders**	Mrs.Rebecca Newell					**Permits**		
48-4-0075	Back Baldon;Baldon;	AGD	55	[redacted]	[redacted]	Open site	Valid	Burial : -, Earth Mound : -, Hearth : -	Burial/s,Mound (Oven)	
	Contact	**Recorders**	Steven Meredith					**Permits**		
48-4-0317	WA-OS24 (West Abercrombie Open Site 24)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
48-4-0540	Lyntot Swamp Burial	GDA	55	[redacted]	[redacted]	Open site	Valid	Burial : -		
	Contact	**Recorders**	Doctor.Colin Pardoe,Colin Pardoe Bio-Athropology & Archaeology					**Permits**		
47-6-0952	WEP-M1	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Hearth : -		
	Contact	**Recorders**	Everick Heritage Pty Ltd,Mr.Jason Giang					**Permits**		
47-6-0771	WA-OS32 (West Abercrombie Open Site 32)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0766	WA-OS16 (West Abercrombie Open Site 16)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0388	North Impima 6	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0950	WEP-IA-12	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Everick Heritage Pty Ltd,Mr.Jason Giang					**Permits**		

Report generated by AHIMS Web Service on 01/03/2023 for Elspeth Mackenzie for the following area at Lat, Long From : -34.84, 143.85 - Lat, Long To : -34.68, 144.06. Number of Aboriginal sites and Aboriginal objects found is 36

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Keri Keri Update

Client Service ID : 757679

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
47-6-0759	WA-OS7 (West Abercrombie Open Site 7)	GDA	54	[redacted]	[redacted]	Open site	Valid	Burial : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
48-4-0465	KE-IF-001	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : 1		
	Contact	**Recorders**	Kayandel Archaeological Services,Mr.Stephen Russell					**Permits**		
47-6-0391	North Impima 9	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0383	North Impima 1	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0769	WA-OS18 (West Abercrombie Open Site 18)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Hearth : -		103811
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
48-4-0539	Keri Keri Burial 1 2021	GDA	55	[redacted]	[redacted]	Open site	Valid	Burial : -		
	Contact	**Recorders**	Doctor.Colin Pardoe,Colin Pardoe Bio-Athropology & Archaeology					**Permits**		
47-6-0951	WEP-AS-01	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Everick Heritage Pty Ltd,Mr.Jason Giang					**Permits**		
47-6-0389	North Impima 7	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0386	North Impima 4	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0768	WA-OS15 (West Abercrombie Open Site 15)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0745	WA-AS1 (West Abercrombie Artefact Scatter 1)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0760	WA-OS9 (West Abercrombie Open Site 9)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0747	WA-ST5 (West Abercrombie Scarred Tree 5)	GDA	54	[redacted]	[redacted]	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Keri Keri Update

Client Service ID : 757679

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
47-6-0811	Loorica – AWEP – Open Site 10 (LOO-AWEP-OS10)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	OzArk Environmental and Heritage Management - Dubbo,Doctor.Chris Lovell					**Permits**		
47-6-0390	North Impima 8	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0387	North Impima 5	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0948	WEP-IA-13	GDA	55	[redacted]	[redacted]	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Everick Heritage Pty Ltd,Mr.Jason Giang					**Permits**		
47-6-0770	WA-OS17 (West Abercrombie Open Site 17)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Burial : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0385	North Impima 3	GDA	54	[redacted]	[redacted]	Open site	Valid	Hearth : -		
	Contact Searle	**Recorders**	Mr.Michael Kelly					**Permits**		
47-6-0757	WA-OS8 (West Abercrombie Open Site 8)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
47-6-0756	WA-OS6 (West Abercrombie Open Site 6)	GDA	54	[redacted]	[redacted]	Open site	Valid	Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo					**Permits**		
48-4-0318	West Abercrombie – Open Site 23 (WA-OS23)	GDA	54	[redacted]	[redacted]	Open site	Valid	Artefact : -, Earth Mound : -, Potential Archaeological Deposit (PAD) : -		
	Contact	**Recorders**	Doctor.Jodie Benton,OzArk Environmental and Heritage Management - Dubbo,OzA					**Permits**		
48-4-0078	Back Baldon;Baldon;	AGD	55	[redacted]	[redacted]	Open site	Valid	Burial : -, Earth Mound : -, Hearth : -	Burial/s,Mound (Oven)	
	Contact	**Recorders**	Steven Meredith					**Permits**		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Keri Keri Update

Client Service ID : 757679

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
47-6-0949	WEP-ST-02	GDA	55	[redacted]	[redacted]	Open site	Valid	Modified Tree (Carved or Scarred) : -		

Contact **Recorders** Everick Heritage Pty Ltd,Mr.Jason Giang **Permits**

**** 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

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APPENDIX C ABORIGINAL CONSULTATION LOG

CONSULTATION LOG – 0617753 KERI KERI RENEWABLE ENERGY PROJECT

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
Preliminary consultation relating to identification of human remains						
24/11/2021	Phone	To whom it may concern	Balranald LALC	[redacted]	ERM	Voicemail left identifying the identification of suspected human remains.
24/11/2021	Email	To whom it may concern	Balranald LALC	[redacted]	ERM	Follow up email from voice message which was left on the Balranald LALC office number. Noted that ecologists had located suspected Aboriginal ancestral remains. Noted that there is no immediate impact or risks to site. Requested a call be set up with the client to discuss the project and next steps for the project.
24/11/2021	Phone	[redacted]	Balranald LALC	[redacted]	ERM	Discussion of identification of suspected AAR. DA stated he would have a look at the email sent through earlier that day.
24/11/2021	Email	[redacted]	ERM	[redacted]	Balranald LALC	DA response via email that he would pass on request for contact/meeting to BLALC Chairman Neville Murray.
26/11/2021	Phone	[redacted]	Balranald LALC	[redacted]	ERM	Follow-up direct call to assess availability to attend online meeting with Client. DA requested the meeting to be scheduled for Wednesday, 1 December.
30/11/2021	Email	Dam[redacted]	Balranald LALC	[redacted]	ERM	Provision of select project materials as background to scheduled meeting.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
1/12/2021	Online meeting	[redacted]	Balranald LALC	[redacted]	ERM	Scheduled meeting with Balranald LALC to discuss suspected remains. Was not attended by Balranald LALC representative
2/12/2021	Email	[redacted]	Balranald LALC	[redacted]	ERM	Email requesting advice from Balranald LALC regarding the management of suspected Aboriginal Ancestral remains at a property near the Willowvale Rest Area. Requested consideration of: 1) whether the LALC has a notification or memorandum of understanding in place for the identification of ancestral remains 2) whether the LALC prefer for the police to assess the site in the first instance or attend site with the police 3) if multiple remains are identified during a large scale survey is the preference to be notified along with the Poilice for each discovery or to attend site at the completion of the survey.
7/12/2021	Email		Heritage NSW	[redacted]	ERM	Provision of formal notification of identification of human remains to Heritage NSW

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
15/12/2021	Email	To whom it may concern [redacted]	Balranald LALC	[redacted]	ERM	Provided update on identified remains and police response. Confirmed NSW police were contacted on 2 December 2021 (Ref. CAD No 755477). The police noted that there was no imminent threat to site and that they would rely on the advice of cultural heritage experts. Email noted that Balranald Police had provided contact details for a forensic anthropologist who had been used in similar circumstance, Mr Colin Pardoe. Email confirmed that Heritage NSW were notified of the find on 8 December 2021. Email noted that a site visit to formally record the finds was proposed for 17 December. Email requested that Balranald LALC confirm if they were interested in participating in the site inspection on this date.
23/12/2021	Email	To whom it may concern [redacted]	Balranald LALC	[redacted]	ERM	Provided email update of results of formal site survey undertaken by Colin Pardoe (forensic anthropologist) and ERM sub-consultant Damian Wall.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Email confirmed the presence of three sites containing Aboriginal Ancestral remains and included detail of site condition. ERM noted that as a temporary measure that an exclusion zone had been established around each site with instructions not to undertake ground disturbing activities within these exclusion zones. ERM noted a request to discuss these findings in the new year and noted that the remains and in general the project would be subject to the formal consultation process (in accordance with the Aboriginal cultural heritage consultation requirements for proponents) in the new year
1/02/2022	Email	To whom it may concern	Balranald LALC	[redacted]	ERM	Provided update confirming sites had been registered on AHIMS and providing copy of site cards. Noted that formal consultation for the ACHAR had begun and reiterated that the project is interested in consulting with Balranald LALC or other stakeholders who Balranald LALC may identify.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Requested Balranald LALC contact ERM should they have any questions or wish to consult on the project
Formal consultation for ACHAR						
Agency Letters and Responses						
12/01/2022	email	[redacted]	Balranald LALC	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.
12/01/2022	email	[redacted]	Heritage NSW	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.
12/01/2022	email	[redacted]	Murray Local Land Services	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.
12/01/2022	email	[redacted]	Murray River Council	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
12/01/2022	email	[redacted]	NNTT	[redacted]	ERM	Your ref: *Keri Keri 0617753* - Our ref: *SR22/19* *All lots are free hold, no overlap*
12/01/2022	email	[redacted]	NTS corp	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.
12/01/2022	email	[redacted]	Office of the Registrar	[redacted]	ERM	Issued letter requesting the names of relevant stakeholders or Aboriginal parties who may hold an interest in the Keri Keri Locality.
13/01/2022	email	[redacted]	ERM	Kerry Richmond – Murray River Council [redacted]	Murray River Council	Responded recommending to contact Balranald LALC *blalc@bigpond.com.* Email sent to address which was no longer active. Postal follow up issued to address provided on 17 January 2022, Tracking number is TMP19 69100 40400 24364 03092.
13/01/2022	email	[redacted]	ERM	[redacted]	Cummeragunja LALC	Requested clarification of project area to see if project was within their boundaries.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Lorien responded 17/01/22: the project area is located off the Sturt highway at Keri Keri, NSW. Its approximately 80km west of Hay, and attached a location map. Leon responded to map details 17/01/22: this area is in the Deniliquin Local Land Council Boundary. No registration was received
13/01/2022	email	[redacted]	ERM		NNTT	Your ref: *Keri Keri 0617753* - Our ref: *SR22/19* *All lots are free hold, no overlap*
24/01/2022	email	[redacted]	ERM	[redacted]	Heritage NSW	Provided potential RAP list for projects in the Murray River LGA
Advert						
18/01/22			The Guardian Swan Hill			Advert placed on the 18th January 22 , with request for interest set as 1 Feb 22. No response received by the 1st Feb 2022.
Invitation to register						
01/02/2022	Email	Yorta Yorta Nation Aboriginal Corporation	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Follow-up phone call made on 16/02/2022. Yorta Yorta secretary 'Gypsy' answered and confirmed that the initial email has been received and forwarded on but no action has taken place. Gypsy will re-forward the initial email and follow-up. Email received 16/02/2022 'Unfortunately we won't be registering as it is not Yorta Yorta country'.
01/02/2022	Email	Yarkuwa Indigenous Knowledge Centre	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022 2/2/2022 Email received: delivery failed to address provided. Postal follow up issued 02/02/2022 Follow-up phone call made on 16/02/2022. The Yarkuwa secretary answered and provided an updated/ changed email address. Re-issued invitation to register an interest in community consultation on 16/02/2022

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
01/02/2022	Email	Bangerang Aboriginal Corporation	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022
01/02/2022	Email Phone	[redacted]	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022 Follow up email sent to John on 16/02/2022 as no response received.
01/02/2022	Letter	Pappin Family Aboriginal Corporation	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022. Postal issued to address provided on 2 Feb 2022. Follow-up phone call made on 16/02/2022. Phone number disconnected. 18/02/2022 and 21/02/2022 Lorien received a phone call from Darrel Pappin registering his interest to participate. Darrell and Jason are representing the Pappin Family Aboriginal Corporation.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Spoke to Jason Pappin on the phone 16/03/2022. Email sent to him requesting interest in participating in field work dates.
01/02/2022	Letter	[redacted]	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022. Postal issued to address provided on 2 Feb 2022. Letter not delivered, returned to sender. Follow-up phone call made on 16/02/2022. Phone number disconnected.
01/02/2022	Letter	Wakool Indigenous Corporation	[redacted]	[redacted]	ERM	Issued invitation to register an interest in community consultation, requested registration of interest by 16 February 2022. Email was sent to info@wakool.com.au but address is no longer active. Postal follow up issued to address provided on 2 Feb 2022. Letter not delivered, returned to sender. Follow-up phone call made on 16/02/2022. Phone number disconnected.
16/02/2022	Email phone	Balranald LALC	[redacted]	[redacted]	ERM	Phone call made on 16/02/2022. Issued invitation to register an interest in community consultation.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
16/02/2022	Email phone	Nari Nari Tribal Council and by associated Hay LALC	[redacted]	[redacted]	ERM	Phone call made on 16/02/2022 to Nari Nari Tribal Council as an Aboriginal organisation with controlling interest in portions of Adjacent Yanga Wetlands. Contact for Nari Nari Tribal Council is CEO of Hay LALC ERM issued an invitation to register an interest in community consultation given the projects proximity to Yanga Wetland.
Registration of Interest from advert or letter						
10/2/2022	Email	[redacted]	ERM		Bangerang	Email received from Vicki stating the Bangerang Aboriginal Corporation would like to register an EOI to participate on the project.
16/2/2022	Phone	[redacted]	ERM	[redacted]	[redacted]	John responded to missed call from Lorien on 16/02/2022. We discussed the general scope of the project and upcoming field work. John registered his interest in the project.
18/2/2022 and 21/2/2022	Phone	[redacted]	ERM	[redacted]	[redacted]	18/02/2022 and 21/02/2022 Lorien received a phone call from Darrel Pappin registering his interest to participate. Darrell and Jason are representing the Pappin Family Aboriginal Corporation.
23/2/2022	Phone	[redacted]	ERM	[redacted]	Balranald LALC	Confirmed registration of interest in project.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
Issue of Draft Project Methodology						
25/2/2022	Email	[redacted]	Balranald LALC	[redacted]	ERM	Issued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
25/2/2022	Email	[redacted]		[redacted]	ERM	Issued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
25/2/2022	Email	[redacted]	Nari Nari Tribal Council	[redacted]	ERM	Issued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
25/2/2022	Email	[redacted]	Hay LALC	[redacted]	ERM	Issued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
25/2/2022	Email	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	ssued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
25/2/2022	Letter	[redacted]	Pappin Family Aboriginal Corporation	[redacted]	ERM	Issued ACHAR methodology covering both Wind and Solar Farm assessments. Requested feedback by 25 March 2022
Section 4.1.6 Letter						
2/3/2022	Email	To whom it may concern	Heritage NSW	[redacted]	ERM	ERM provided Section 4.1.6 letter notifying of registered parties, note letter does not

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						include Yarkuwa who registered after issue of letter
2/3/2022	Email	[redacted]	Balranald LALC	[redacted]	ERM	ERM provided Section 4.1.6 letter notifying of registered parties, note letter does not include Yarkuwa who registered after issue of letter
Heritage Field Investigation Expression of Interest						
11/03/2022	Email	[redacted]	Nari Nari [redacted]	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
11/03/2022	Email	[redacted]	-	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
11/03/2022	Email	[redacted]	Balranald LALC	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
11/03/2022	Email	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
15/03/2022	Phone	[redacted]	ERM	[redacted]	-	Alyce missed a call from John,

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Lorien called John back to discuss, John noted difficulty in finding insurances but interest in participating in program.
16/03/2022	Email	[redacted]	Pappin Family Aboriginal Corporation	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
16/03/2022	Email	[redacted]	Yarkuwa	[redacted]	ERM	Requested expression of interest for field survey noting two possible field survey dates.
16/3/2022	Phone/ Email	[redacted]	ERM	[redacted]	Yarkuwa	Late Registration - Spoke to Jeanette Crew on the phone 16/03/2022. Jeanette expressed interested in being included within the project. Her response is outside of the allotted timeframe. Accoina the client approved her to be included and Email was sent to her requesting interest in participating in field work dates and a draft copy of the methodology.
17/03/2022	Email	[redacted]	ERM	[redacted]	Nari Nari Tribal Council	Ian registered interest in project on behalf of Nari Nari Tribal Council. Ian listed names of parties included under Nari Nari Tribal Council

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
17/03/2022	Email	[redacted]	ERM	[redacted]	Hay LALC	Ian registered interest in project on behalf of Hay LALC. Ian listed names of parties included under Hay LALC
18/03/2022	Email	[redacted]	ERM	[redacted]	Pappin Family Aboriginal Corporation	Confirmed availability and insurances
18/03/2022	Email	[redacted]	ERM	[redacted]	Bangerang Aboriginal Corporation	Expressed interest in participating in fieldwork and provided insurances
23/03/2022	Email	[redacted]	Pappin Family Aboriginal Corporation	[redacted]	ERM	Thanked Mary for expression of interest, requested copy of insurances and details for vendor set up form.
23/03/2022	Email	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	Thanked Bangerang for the expression of interest, requested outstanding vendor set up details
23/03/2022	Email	[redacted]	Nari Nari Tribal Council and Hay LALC	[redacted]	ERM	
24/03/2022	Email	[redacted]	ERM	[redacted]	Nari Nari Tribal Council and Hay LALC	Across several emails. Ian Woods contacted Alyce to confirm that they would not be available for fieldwork during the week and would only be available weekends. Ian noted that they charged set rates for the project and that it is not viable for their site officers to travel that distance

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						area. Ian demanded that they be provided the opportunity to survey the land council area only. Alyce responded to Ian noting the provided rates and availability. Alyce noted that none of the Project Area extended into the boundary of Hay LALC with the land completely within the boundaries of Balranald LALC. Alyce asked for confirmation of whether Hay LALC/ Nari Nari Tribal Council would still like to send site officers given that the Project Area was not within boundaries. Alyce included map showing where project is when compared to land council boundaries. Ian asked for confirmation that survey would only be across red bordered lands from image and clarity on the demarcation of the boundaries of LALC boundaries. Alyce provided additional map to show the basis of LALC boundary mapping.
30/03/2022	Phone	[redacted]	Balranald LALC	[redacted]	ERM	Phone call to confirm whether or not Keri Keri fieldwork documents had been received,

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						and to enquire about potential RAPs. No answer but left a message.
30/03/2022	Phone	[redacted]	Balranald LALC	[redacted]	ERM	Phone call to confirm whether or not Keri Keri fieldwork documents had been received, and to enquire about potential RAPs. No answer but left a message.
31/03/2022	Email	[redacted]	ERM	[redacted]	Pappin Family Aboriginal Corporation	Requested confirmation of how many RAPs would be needed for survey
31/03/2022	Email	[redacted]	Pappin Family Aboriginal Corporation	[redacted]	ERM	Alyce responded noted that ERM were currently in the process of arranging a third party to arrange logistics for field survey.
*NB Note that direct engagement and logistical organisation for RAP group was undertaken by Adam English Cultural Heritage Solutions and is not reproduced here.						
First field program 19/4/2022 – 29/04/2022						
19/4/2022 – 29/04/2022	Field survey	J[redacted]	Pappin Family Aboriginal Corporation			Participated in field survey
19/4/2022 – 29/04/2022	Field survey	[redacted]	Yarkuwa ALC			Participated in field survey

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
19/4/2022 – 29/04/2022	Field survey	[redacted]	Bangerang Aboriginal Corporation			Participated in field survey
19/4/2022 – 29/04/2022	Field survey	[redacted]				Participated in field survey
Project update and modified methodology issue, request for Expression of Interest in second field program						
05/09/2022	Email	[redacted]	Nari Nari Tribal Council Ltd and Hay Local Aboriginal Land Council	[redacted]	ERM	Lorien emailed Ian Woods for Nari Nari Tribal Council and Hay LALC to update him on the upcoming fieldwork, updated project footprint, and ask if any additional queries the RAPS may have.
05/09/2022	Email	[redacted]	Individual	[redacted]	ERM	Lorien emailed John Jackson to update him on the upcoming fieldwork, updated project footprint, and ask if had any additional queries about the upcoming field work.
05/09/2022	Email	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	Lorien emailed Vicki from Bangerang AC to update her on the upcoming fieldwork, updated project footprint, and ask if she had any additional queries about the upcoming field work.
05/09/2022	Email	[redacted]	Pappin Family	[redacted]	ERM	Lorien emailed Jason and Darryl Pappin to update them on the upcoming fieldwork,

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						updated project footprint, and ask if they had any additional queries about the upcoming field work.
05/09/2022	Email	[redacted]	Balranald LALC	[redacted]	ERM	Lorien emailed Damien Aidon from Balranald to update them on the upcoming fieldwork, updated project footprint, and ask if they had any additional queries about the upcoming field work.
05/09/2022	Email	[redacted]	Yarkuwa LALC	[redacted]	ERM	Lorien emailed Jeanette from Yarkuwa LALC to update them on the upcoming fieldwork, updated project footprint, and ask if they had any additional queries about the upcoming field work.
Responses/ registration from Expression of interest in participating in September/October fieldwork						
12/09/2022	Phone	[redacted]	Pappin Family	[redacted]	ERM	Lorien had a missed call and voice message from Jason Pappin over the weekend. Lorien called Jason on Monday morning to discuss the information in the email. Jason wanted to confirm how many RAPS he could have included per day. Lorien confirmed that there would be a total of 8 RAPS per day with 2 RAPS from the Pappin family included initially and if extra spaces were available and if he had available RAPS then there was the possibility for more RAPS

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						if no response was received from other registered parties. Jason agreed. Lorien also told him that Adam English from CHS would be in touch to confirm availability.
Second field program and focus group workshop – 19/09/2022 – 1/10/2022						
19/09/2022-1/10/2022	Field survey	[redacted]	Pappin Family Aboriginal Corporation			Participated in field survey
19/09/2022-1/10/2022	Field survey	[redacted]	Yarkuwa ALC			Participated in field survey
19/09/2022-1/10/2022	Field survey	[redacted]	Bangerang Aboriginal Corporation			Participated in field survey
19/09/2022-1/10/2022	Field survey	[redacted]	On behalf of John Jackson			Participated in field survey
21/09/2022	Workshop/ Meeting	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
		McKerral Pappin Neville Murray Tracey Hamilton Liticia Ross On behalf of John Jackson Yarkuwa Indigenous Knowledge Centre	Pappin Family Aboriginal Corporation			
Project Update Letter Feb 2023						
16/02/2023	Email	[redacted]	Balranald LALC	[redacted]	ERM	Project update and additional survey information
16/02/2023	Email	[redacted]	Hay LALC	[redacted]	ERM	Project update and additional survey information
16/02/2023	Email	[redacted]	NA	[redacted]	ERM	Project update and additional survey information
16/02/2023	Email	[redacted]	Bangerang Aboriginal Corporation	[redacted]	ERM	Project update and additional survey information
16/02/2023	Email	[redacted]	Pappin Family	[redacted]	ERM	Project update and additional survey information

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
16/02/2023	Email	[redacted]	Yarkuwa	[redacted]	ERM	Project update and additional survey information
Third field program and focus group workshop with Client (19 – 23 Feb 2023)						
19 – 22/02/2022	Field Survey	[redacted]	PFAC Yarkuwa Bangerang On behalf of John Jackson			Participated in field survey
23/02/2023	RAP/Client Workshop	[redacted]	PFAC Bangerang			Participated in workshop.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
RAP advice sought in relation to AAR photography in reporting						
21/03/2023	Phone	[redacted]	PFAC	[redacted]	ERM	Call to discuss permission to use AAR photography in reporting. Agreed it was reasonable if not provided to the public – client only.
21/03/2023	Phone	[redacted]	PFAC	[redacted]	ERM	Call to discuss permission to use AAR photography in reporting. Agreed it was reasonable if not provided to the public – client only.
27/03/2023	Email	[redacted]	NA	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.
27/03/2023	Email	[redacted]	Hay LALC	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.
27/03/2023	Email	[redacted]	Bangerang	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.
27/03/2023	Email	[redacted]	Pappin Family	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.
27/03/2023	Email	[redacted]	Balranald LALC	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.
27/03/2023	Email	[redacted]	Yarkuwa LALC	[redacted]	ERM	Email to discuss permission to use AAR photography in reporting provided to client.

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
Project Update Letter August 2023						
22/08/2023	Email	[redacted]	NA	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
22/08/2023	Email	[redacted]	Hay LALC	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
22/08/2023	Email	[redacted]	Bangerang	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
22/08/2023	Email	[redacted]	Pappin Family	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
22/08/2023	Email	[redacted]	Balranald LALC	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
22/08/2023	Email	[redacted]	Yarkuwa LALC	[redacted]	ERM	Email providing project status update. Still awaiting final wind farm layout from client following the conclusion of fieldwork.
Project Update Letter February 2024						
02/02/24	Email	[redacted]	NA	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks
02/02/24	Email	[redacted]	Hay LALC	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks
02/02/24	Email	[redacted]	Bangerang	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks
02/02/24	Email	[redacted]	Pappin Family	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks
02/02/24	Email	[redacted]	Balranald LALC	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						Email bounced back. Lorien Called Balranald LALC. They provided new email address as previous address is no longer valid. Lorien sent forwarded email to Louise at new address.
02/02/24	Email	[redacted]	Yarkuwa LALC	[redacted]	ERM	Email providing project status update (adding a biosecurity washdown to the new site access). Still awaiting final wind farm layout from client. Full RAP review of ACHAR due in the coming weeks
Final ACHAR for RAP review February 2024						
12/02/24	Email	[redacted]	NA	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. No comments have been received in the 28-day review period.
12/02/24	Email	[redacted]	Hay LALC	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. No comments have been received in the 28-day review period.
12/02/24	Email	[redacted]	Bangerang	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. Email

Date	Method	Addressee	Organisation	Sender	Sender Organisation	Details
						received from Vicky and Kevin on February 16th 2024 agreeing with report.
12/02/24	Email	[redacted]	Pappin Family	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. No comments have been received in the 28-day review period.
12/02/24	Email	[redacted]	Balranald LALC	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. No comments have been received in the 28-day review period.
12/02/24	Email	[redacted]	Yarkuwa LALC	[redacted]	ERM	Email providing RAPs with review of the Final project layout and ACHAR. Lorien requested comments back by 10th March 2024. No comments have been received in the 28-day review period.

APPENDIX D PUBLIC ADVERTISEMENT

Invitation to Register an Interest – Keri Keri Renewable Energy Project Aboriginal Cultural Heritage Assessment

Environmental Resources Management Australia Pty Ltd (ERM), on behalf of Acciona Energy Australia Global Pty Ltd (the proponent), is proposing to develop a series of Aboriginal Cultural Heritage Assessments, to support two Environmental Impact Statements (EIS) to assess the proposed construction and operation of a renewable energy development in the locality of Keri Keri, NSW. The proponents contact details are:

Acciona Energy
[redacted] - Project Developer
[redacted]

The proponent is inviting Aboriginal groups and individuals who hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the locality to register an interest in a process of community consultation. The purpose of community consultation is to assist the proponent in the preparation of the cultural heritage assessments. Consultation will also be utilised to aid in the development of protocols for the identification of Aboriginal objects including Aboriginal ancestral remains during the development of the EIS and as part of future use of the site for the Project.

ERM is seeking expressions of interest from any Aboriginal people who may have cultural knowledge relating to the project area who may be able to assist.

Interested Aboriginal parties wishing to be consulted for this assessment are invited to register a written expression of their interest by 1 February 2022.

Please respond in writing to:

[redacted]
Environmental Resources Management Australia Pty Ltd
Locked Bag 3012
Australia Square NSW 1215
Australia
[redacted]

Please note that the consultation guidelines require the proponent to provide details of registered Aboriginal parties to the Heritage NSW and the Balranald Local Aboriginal Land Council. In your response could you please advise if you would like your details to not be provided.

APPENDIX E EXAMPLE AGENCY LETTER

ERM

Level 15, 309 Kent Street
Sydney, NSW 2000
Australia

Locked Bag 3012
Australia Square, NSW 1215
Australia

Telephone: 02 8584 8828

[redacted]

www.erm.com

Heritage NSW

Via email: [redacted]

12 January 2022

Reference: 0617753 – Keri Keri

Dear Sir/Madam,

Subject: Keri Keri Renewable Energy Project - Aboriginal Cultural Heritage Assessment

Acciona Energy Australia Global Pty Ltd (Acciona Energy) (the proponent), is proposing to construct and operate a renewable energy development within the locality of Keri Keri, NSW (Figure 1). The development is proposed to comprise a 1000MW wind farm, a 400MW solar farm and a proposed battery storage facility. The Project will be assessed under multiple state significant development applications under the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The Secretary's Environmental Assessment Requirements for the Project have not yet been issued however it is understood an Aboriginal cultural heritage assessment would be required the support each of the project's Environmental Impact Statements (EIS).

Acciona Energy has engaged Environmental Resources Management Australia Pty Ltd (ERM) to complete a series of Aboriginal Cultural Heritage Assessment Reports in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (ACHAR Guide) (DECCW 2011) and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW) (Consultation Requirements). The assessments are intended to assess the Aboriginal cultural values of the Project Area.

The contact details for the proponent are:

Acciona Energy
[redacted]
Project Developer
[redacted]

The purpose of community consultation is to assist the proponent in the preparation of the cultural heritage assessments which would support the development of the project EISs. Consultation will also be utilised to aid in the development of protocols for the identification of Aboriginal objects including Aboriginal ancestral remains during the development of the EIS and as part of future use of the site for the Project.

While not anticipated, if required, the community consultation process would also be utilised to support any approvals and assessments required under the *National Parks and Wildlife Act*

A member of the

ERM Group

1974. In particular, the consultation process would be utilised to support the application for an Aboriginal Heritage Impact Permit (AHIP) and would support the Director General of Heritage NSW in their assessment of the application.

ERM is writing to fulfil Stage 1 of the consultation requirements - *project notification and identification of stakeholders*. As part of this step, ERM would like to obtain a list of Aboriginal people who may have an interest in this project and hold relevant knowledge about the cultural significance of the area.

Relevant stakeholder lists can be returned to Lorien Perchard (Project Archaeologist) at the below details.

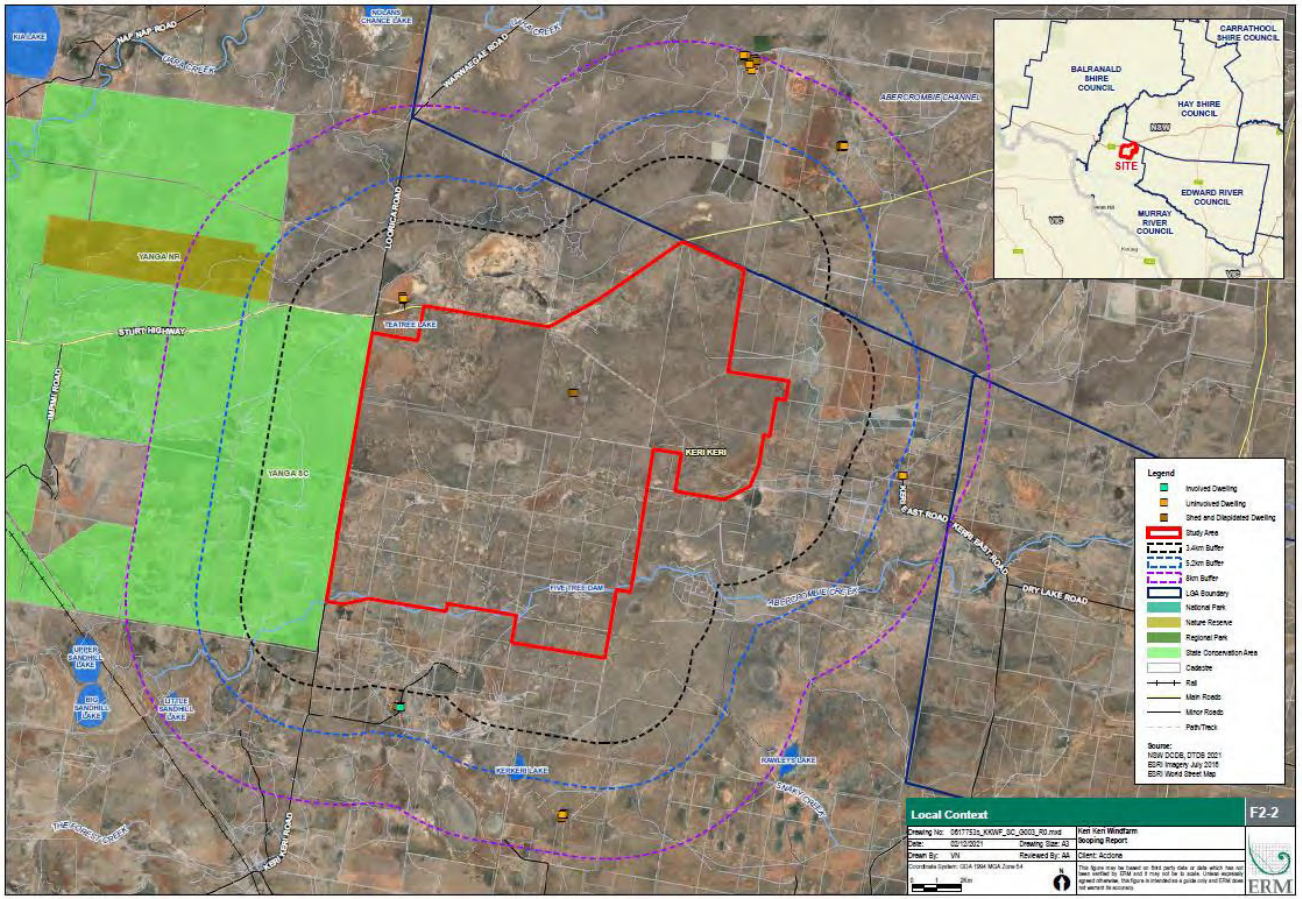
[redacted]
Environmental Resource Management Australia
Locked Bag 3012
Australia Square, NSW 1215
Australia
[redacted]

Yours sincerely,

For Environmental Resources Management Australia Pty Ltd

Lorien Perchard
Project Archaeologist

Figure 1: Project Area (shown in red)



APPENDIX F AGENCY RESPONSES

Premier & Cabinet

Our reference: Doc22/46035

[redacted]
Project Archaeologist
Environmental Resource Management Australia
Locked Bag 3012
Australia Square, NSW 1215

24/01/2022

Dear Lorien,

WRITTEN NOTIFICATION OF PROPOSAL AS REQUIRED UNDER DECCW ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

Subject: **Keri Keri Renewable Energy Project.**

Thank you for your correspondence dated 12 January 2022 to Heritage NSW (Department of Premier and Cabinet) regarding the above project.

Attached is a list of known Aboriginal parties for the proposed development at Murray River local Government Area that Heritage NSW considers likely to have an interest in the activity.

Please note this list is not necessarily an exhaustive list of all interested Aboriginal parties.

Receipt of this list does not remove the requirement of a proponent/ consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties, in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (April 2010).

Under Section 4.1.6. of the Consultation Requirements, you must also provide a copy of the names of each Aboriginal person who registered an interest to the relevant Heritage NSW office and Local Aboriginal Land Council (LALC) within 28 days from the closing date for registering an interest.

Please note that the contact details in the list provided by Heritage NSW may be out of date as it relies on Aboriginal parties advising Heritage NSW when their details need changing. If individuals/companies undertaking consultation are aware that any groups contact details are out of date, or letters are returned unopened, please contact either the relevant stakeholder group (if you know their more current details) and/or Heritage NSW. AHIP applicants should make a note of any group they are unable to contact as part of their consultation record.

If you have any questions about this advice, please email: [redacted]

Yours sincerely

[redacted]
Aboriginal Heritage Planner
Aboriginal Heritage Regulation Branch – South Heritage NSW

Attachment A:

Registered Aboriginal Interests DPC RAP List for the Murray River Local Government Area.

LIST OF ABORIGINAL STAKEHOLDERS FOR THE DEPARTMENT of PREMIER and CABINET (DPC) SOUTHERN REGION HELD BY DPC FOR THE PURPOSES OF THE OEH *ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010*

These lists are provided to proponents in accordance with section 4.1.2 of the *Aboriginal Cultural Heritage Consultation Requirements* for *Proponents 2010* (the "Consultation Requirements") which commenced on 12 April 2010.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

A copy of the Consultation Requirements can be found on the OEH website at:
http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements; a proponent is required to provide Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project.

The Consultation Requirements also state that:

> *Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:*
> - *continue to maintain a deep respect for their ancestral belief system, traditional lore and custom*
> - *recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country*
> - *have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.*

Please note: the placement of an organisation's name on any OEH Aboriginal stakeholder list for the Consultation Requirements does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 60 of the National Parks and Wildlife Regulation 2019.

How to use this list

1. **Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project**

Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.

Last updated 18 January 2022

Murray River Local Government Area

Organisation/ Individual	Contact Name	Email Address/ Fax / Phone	Postal Address	Additional information
Yorta Yorta Nation Aboriginal Corporation	[redacted]	[redacted]	[redacted]	
Yarkuwa Indigenous Knowledge Centre	[redacted]	[redacted]	[redacted]	
Bangerang Aboriginal Corporation		[redacted]	[redacted]	
Pappin Family Aboriginal Corporation		[redacted]	[redacted]	
Gary Pappin	[redacted]	[redacted]	[redacted]	
Wakool Indigenous Corporation	[redacted]	[redacted]	[redacted]	
John Jackson	[redacted]	[redacted]	[redacted]	

From: [redacted]
To:
Subject: FW: 0617753 Keri Keri Renewable Energy Project
Date: Thursday, 13 January 2022 4:25:16 PM
Attachments: image001.png
Keri Keri WF SF Agency letter_MRcouncil_220112.pdf

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon [redacted]

In response to the attached letter received by Council,

Council suggests you contact;

[redacted]

Our Senior town planner has suggested that you may want to check the Land Claim Register (Office of Registrar – Aboriginal Land Rights Act 1983) regarding any other parties who may have a claim on the site.

If any further information comes to hand I will certainly email that to you.

Regards,

[redacted]

From: [redacted]
Sent: Wednesday, 12 January 2022 4:53 PM
To: [redacted]
Subject: 0617753 Keri Keri Renewable Energy Project

To whom it may concern,
In accordance with Section 4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents 2010,* Please find attached letter requesting the names of Aboriginal parties who may hold an interest in the Keri Keri locality,
Please feel free to get in touch if you have any queries,

From: [redacted]
To:
Subject: RE: Keri Keri
Date: Monday, 17 January 2022 3:06:51 PM
Attachments: image003.png
image004.jpg
image005.png

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Hi [redacted]
I looked up that location on Google Maps and this area is in the Deniliquin Local Land Council Boundary.. I still have compiled all other LCs contacts as yet but I think they can be found online… hope this is of help to you

Cheers for now

[redacted]

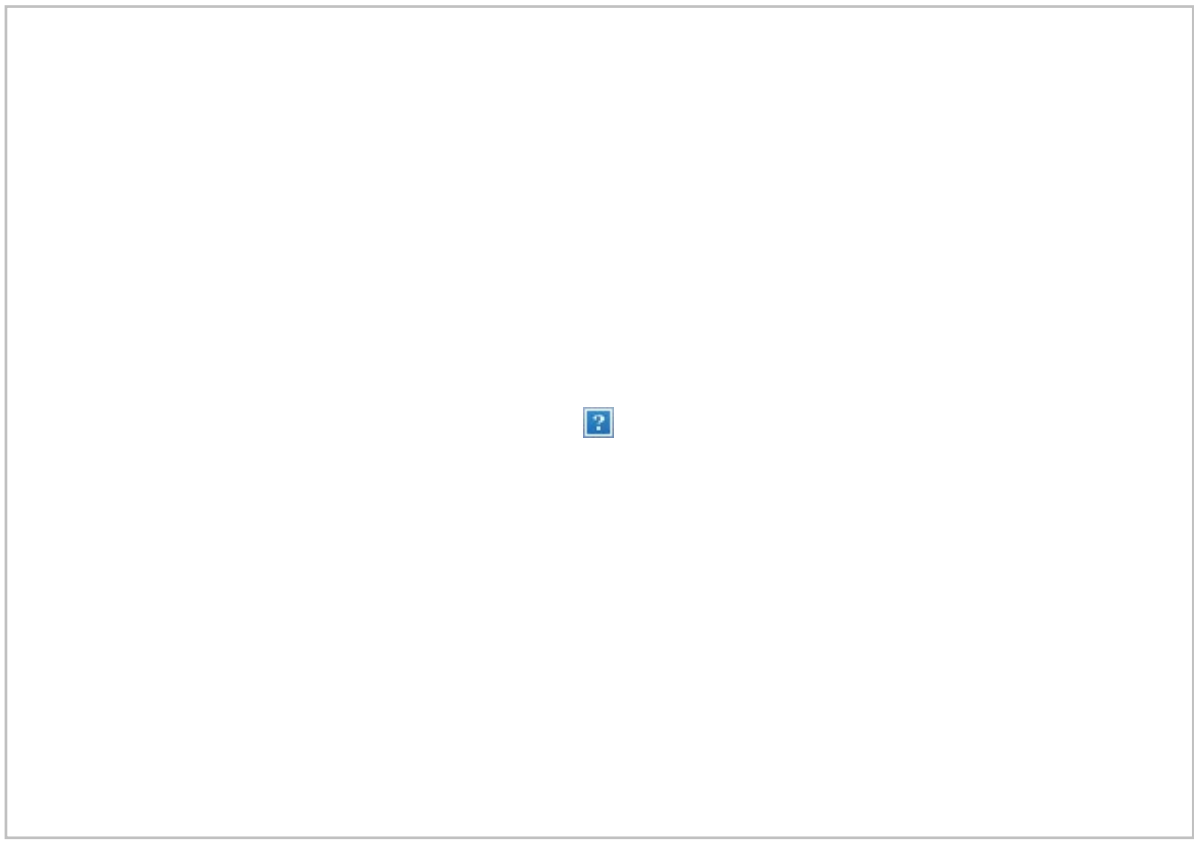
From: [redacted]
Sent: Monday, 17 January 2022 11:33 AM
To: [redacted]
Subject: RE: Keri Keri

Hi Leon

Absolutely, the project area is located off the Sturt highway at Keri keri, NSW. Its approximately 80km west of Hay.
I attached a location map below.

Let me know how you go. I look forward to hearing back from you.

Cheers, [redacted]



From: [redacted]
Sent: Thursday, January 13, 2022 1:57 PM
To: [redacted]
Subject: Keri Keri

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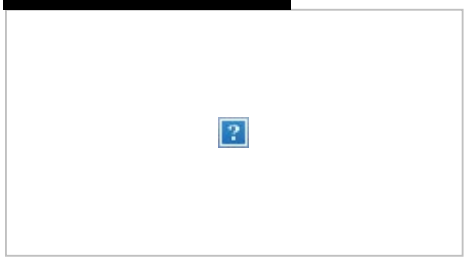
Hello [redacted]
I am new[6mths] to my role and unfortunately I have not been to all areas of the Cummeragunja Land Council Area,is this area close to a Town?,I can then look at my Boundary Map to see if it falls into this Boundary

Cheers for now

[redacted]



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Please visit ERM's web site: http://www.erm.com. To find out how ERM manages personal data, please review our Privacy Policy

[redacted]

From: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Sent: Thursday, 13 January 2022 3:59 PM
To: [redacted]
Cc:
Subject: RE: SR22/19 - 0617753 Keri Keri Renewable Energy Project - SR21/19 [SEC=OFFICIAL]

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OFFICIAL

Native title search – *NSW Parcels – Multiple*
Your ref: *Keri Keri 0617753* - **Our ref:** *SR22/19*

Dear [redacted]**,**

Thank you for your search request received on 12 January 2022 in relation to the above area, please find your results below.

Search Results
The results provided are based on the information you supplied and are derived from a search of the following Tribunal databases:

- Schedule of Native Title Determination Applications
- Register of Native Title Claims
- Native Title Determinations
- Indigenous Land Use Agreements (Registered and notified)

Feature ID	Tenure	As At	Feature Area SqKm	Overlapping Native Title	
1//DP751175	FREEHOLD	11/10/2021	10.7199	**NNTT File Number**	**Name**
				No overlap	
11//DP1120173	FREEHOLD	11/10/2021	10.2079	**NNTT File Number**	**Name**
				No overlap	
12//DP751231	FREEHOLD	11/10/2021	41.2857	**NNTT File Number**	**Name**
				No overlap	
13//DP751231	FREEHOLD	11/10/2021	14.7064	**NNTT File Number**	**Name**
				No overlap	
14//DP751231	FREEHOLD	11/10/2021	13.4691	**NNTT File Number**	**Name**
				No overlap	

19//DP751175	FREEHOLD	11/10/2021	22.1197	**NNTT File Number**	**Name**
				No overlap	
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				No overlap	
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				No overlap	
94//DP756546	FREEHOLD	11/10/2021	0.7178	**NNTT File Number**	**Name**
				No overlap	

For more information about the Tribunal's registers or to search the registers yourself and obtain copies of relevant register extracts, please visit our website.

Information on native title claims and freehold land can also be found on the Tribunal's website here: Native title claims and freehold land .

Please note: There may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed with the Federal Court may not appear on the Tribunal's databases.

The search results are based on analysis against external boundaries of applications only. Native title applications commonly contain exclusions clauses which remove areas from within the external boundary. To determine whether the areas described are in fact subject to claim, you need to refer to the "Area covered by claim" section of the relevant Register Extract or Schedule Extract and any maps attached.

Search results and the existence of native title
Please note that the enclosed information from the Register of Native Title Claims and/or the Schedule of Applications is **not** confirmation of the existence of native title in this area. This cannot be confirmed until the Federal Court makes a determination that native title does or does not exist in relation to the area. Such determinations are registered on the National Native Title Register.

The Tribunal accepts no liability for reliance placed on enclosed information
The enclosed information has been provided in good faith. Use of this information is at your sole risk. The National Native Title Tribunal makes no representation, either express or implied, as to the accuracy or suitability of the information enclosed for any particular purpose and accepts no liability for use of the information or reliance placed on it.

If you have any further queries, please do not hesitate to contact us via GeospatialSearch@NNTT.gov.au

Regards,

Geospatial Searches
National Native Title Tribunal | Perth
Email: [redacted]

From: [redacted]
Sent: Wednesday, 12 January 2022 1:41 PM
To: Geospatial Search Requests [redacted]
Subject: SR22/19 - 0617753 Keri Keri Renewable Energy Project

Caution: This is an external email. DO NOT click links or open attachments unless you recognise the sender and know the content is safe.

To whom it may concern,

In accordance with Section 4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents 2010,* Please find attached letter requesting the names of Aboriginal parties who may hold an interest in the Keri Keri Locality.

Please also find attached search form requesting a search of the registers for native title claims, native title determinations and Indigenous land use agreements across the identified project area

controllin	Lot/Plan
FREEHOLD	83/DP751231
FREEHOLD	76/DP756546
FREEHOLD	86/DP751231
FREEHOLD	48/DP756546
FREEHOLD	54/DP756546
FREEHOLD	62/DP756546
FREEHOLD	35/DP756546
FREEHOLD	81/DP756558
FREEHOLD	85/DP756558
FREEHOLD	54/DP751231
FREEHOLD	39/DP756546
FREEHOLD	80/DP756558
FREEHOLD	55/DP751231
FREEHOLD	75/DP756546
FREEHOLD	85/DP751231
FREEHOLD	82/DP756546
FREEHOLD	58/DP756546
FREEHOLD	32/DP756546
FREEHOLD	66/DP756546
FREEHOLD	64/DP756546
FREEHOLD	70/DP756546
FREEHOLD	84/DP751231
FREEHOLD	82/DP756558
FREEHOLD	69/DP756546

FREEHOLD	34/DP756546
FREEHOLD	49/DP756546
FREEHOLD	67/DP756546
FREEHOLD	68/DP756546
FREEHOLD	65/DP756546
FREEHOLD	72/DP756546
FREEHOLD	77/DP756546
FREEHOLD	52/DP756546
FREEHOLD	53/DP756546
FREEHOLD	74/DP756546
FREEHOLD	73/DP756546
FREEHOLD	37/DP756546
FREEHOLD	87/DP751231
FREEHOLD	33/DP756546
FREEHOLD	84/DP756546
FREEHOLD	56/DP756546
FREEHOLD	47/DP756546
FREEHOLD	71/DP756546
FREEHOLD	36/DP756546
FREEHOLD	56/DP751231
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FREEHOLD	93/DP756546
FREEHOLD	94/DP756546
FREEHOLD	55/DP756546
FREEHOLD	57/DP751231
FREEHOLD	40/DP756546
FREEHOLD	58/DP751231
FREEHOLD	9/DP751231
FREEHOLD	13/DP751231
FREEHOLD	11/DP1120173
FREEHOLD	14/DP751231
FREEHOLD	19/DP751175
FREEHOLD	1/DP751175
FREEHOLD	59/DP756546
FREEHOLD	38/DP756546
FREEHOLD	79/DP756558
FREEHOLD	78/DP756558
FREEHOLD	60/DP756546
FREEHOLD	61/DP756546
FREEHOLD	77/DP756558
FREEHOLD	12/DP751231

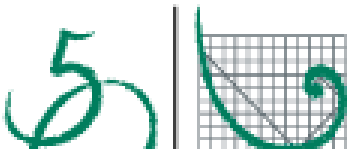
Please feel free to get in touch if you have any queries,

Kind regards,

[redacted]
Heritage Consultant

ERM
Level 15, 309 Kent Street │Sydney │NSW 2000

[redacted]
E lorien.perchard@erm.com │ **W** www.erm.com



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APPENDIX G EXAMPLE INVITATION TO REGISTER

ERM

Level 15, 309 Kent Street
Sydney, NSW 2000
Australia

Locked Bag 3012
Australia Square, NSW 1215
Australia

[redacted]

www.erm.com

Balranald Local Aboriginal land Council
[redacted]

16 February 2022

Reference: 0617753

Dear [redacted]

Subject: Keri Keri Renewable Energy Project - Aboriginal Cultural Heritage Assessment

Acciona Energy Australia Global Pty Ltd (Acciona Energy) (the proponent), is proposing to construct and operate a renewable energy development within the locality of Keri Keri, NSW (Figure 1). The development is proposed to comprise a 1000MW wind farm, a 400MW solar farm and a proposed battery storage facility. The Project will be assessed under multiple state significant development applications under the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The Secretary's Environmental Assessment Requirements for the Project have not yet been issued however it is understood an Aboriginal cultural heritage assessment would be required the support each of the project's Environmental Impact Statements (EIS).

Acciona Energy has engaged Environmental Resources Management Australia Pty Ltd (ERM) to complete a series of Aboriginal Cultural Heritage Assessment Reports in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (ACHAR Guide) (DECCW 2011) and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW) (Consultation Requirements). The assessments are intended to assess the Aboriginal cultural values of the Project Area.

ERM on behalf of Acciona Energy wishes to consult with any Aboriginal persons or organisations that hold cultural knowledge relevant to determining the significance of Aboriginal objects and places in the Keri Keri area.

The purpose of community consultation is to assist the proponent in the preparation of the cultural heritage assessments which would support the development of the project EISs. Consultation will also be utilised to aid in the development of protocols for the identification of Aboriginal objects including Aboriginal ancestral remains during the development of the EIS and as part of future use of the site for the Project.

While not anticipated, if required, the community consultation process would also be utilised to support any approvals and assessments required under the *National Parks and Wildlife Act 1974*. In particular, the consultation process would be utilised to support the application for an Aboriginal Heritage Impact Permit (AHIP) and would support the Director General of Heritage NSW in their assessment of the application.

A member of the

ERM Group

The contact details for the proponent are:

Acciona Energy
[redacted]

REGISTRATION

If you wish to formally register your interest in the process of community consultation can you please contact Lorien Perchard (Project Archaeologist) at the below details:

[redacted]
Environmental Resource Management Australia
Locked Bag 3012
Australia Square, NSW 1215
[redacted]

If you have any specific information concerning the cultural values of the Project Area, we would also be grateful if you could let us know. Any cultural knowledge provided will be treated in confidence and the information will be distributed according to the wishes of the Aboriginal stakeholders.

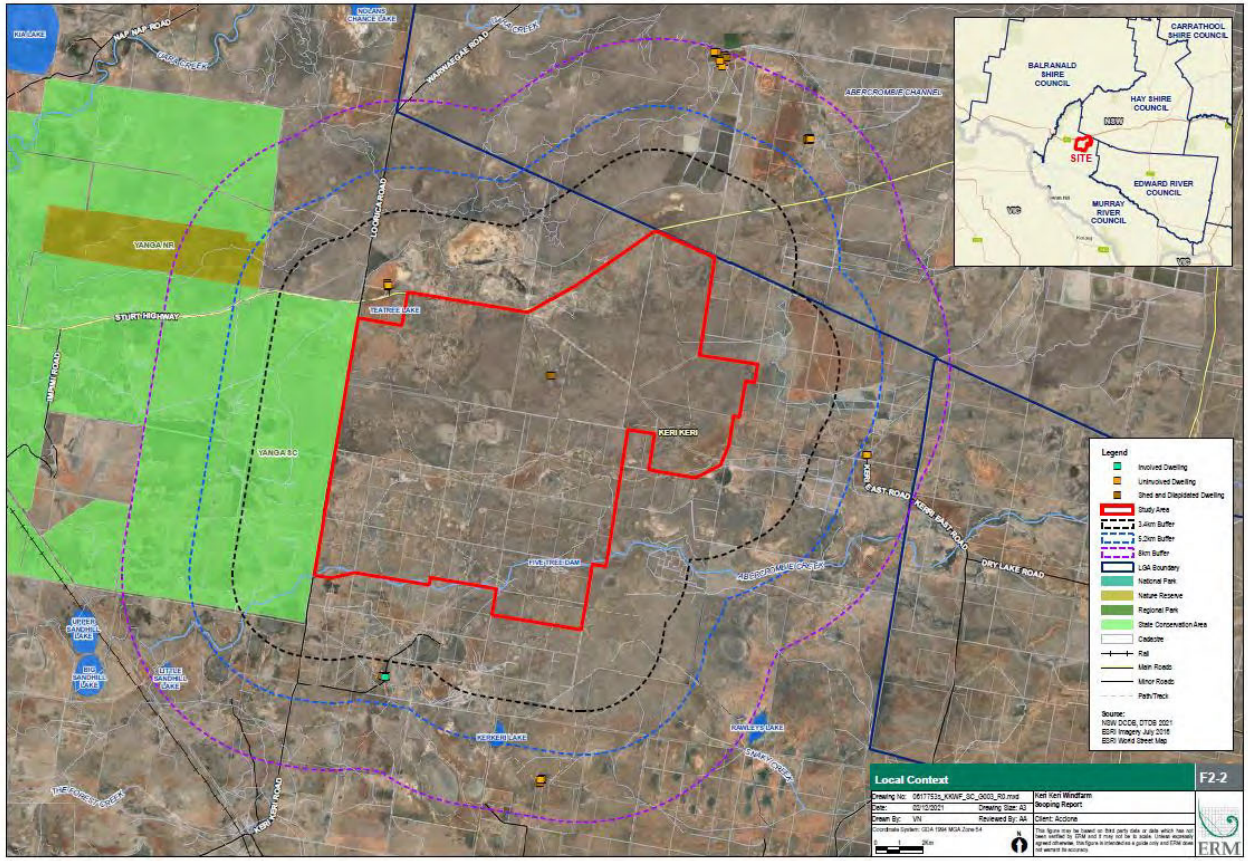
Please note that the consultation requirements require the proponent to provide details of registered Aboriginal parties to the Heritage NSW and the Balranald Local Aboriginal Land Council. In your response could you please advise if you would like your details to not be provided.

Yours sincerely,

For Environmental Resources Management Australia Pty Ltd

[redacted]
Project Archaeologist

Figure 1: Project Area (shown in red)



APPENDIX H RESPONSES TO INVITATION TO REGISTER

Date: 10 February 2022 at 2:31:56 pm
Subject: Re: Invitation to register – Keri Keri Renewable Energy Project Aboriginal Cultural Heritage Assessment

hi [redacted], hope you are keeping well.

on behalf of the Bangerang Aboriginal Corporation, i would like to register an EOI to participate on the Keri Keri Renewable Energy Project.

please don't hesitate to contact me if you need anything else from me.

kind regards

[redacted]
Secretary
Bangerang Aboriginal
Corporation
[redacted]

From: [redacted]
Date: 1 February 2022 at 4:40:02 pm AEDT
[redacted]
Subject: Invitation to register – Keri Keri Renewable Energy Project Aboriginal Cultural Heritage Assessment

Dear [redacted]

In accordance with Section 4.1.3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010,* please find attached an Invitation to Register an interest to participate in Aboriginal community consultation for the Keri Keri Renewable Energy project located in the Keri Keri locality.

Please feel free to get in touch if you have any queries,

[redacted]
Heritage Consultant

Mon Tue Wed Thu Fri
✓ ✓ ✓ ✗ ✗

ERM
Level 15, 309 Kent Street │Sydney │NSW 2000

[redacted] │ **W** www.erm.com

From: [redacted]
To:
Subject: Keri Keri Energy Project
Date: Thursday, 17 February 2022 8:46:14 AM
Attachments: image003.jpg

WARNING: The sender of this email could not be validated and may not match the person in the "From" field.

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi [redacted],
The Hay Local Aboriginal Land Council would like to register an interest on behalf of our members.
The following:
Ian Woods
[redacted]

As well as the Hay Local Aboriginal Land Council would you please register the above names for Nari Nari Tribal Council LTD.
If you need any other information contact me by email or phone.

[redacted]

Flag logo

Hay Local Aboriginal Land Council
[redacted]

Hay LALC acknowledges the traditional custodians of the lands across Australia, and pays respects to Elders, past, present and emerging.

APPENDIX I PROPOSED SURVEY AND ASSESSMENT METHODOLOGY

Keri Keri Renewable Energy Project

Aboriginal Cultural Heritage Assessment and Survey Methodology

25 February 2022

Project No.: 0617753

The business of sustainability

ERM

Document details	The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.
Document title	Keri Keri Renewable Energy Project
Document subtitle	Aboriginal Cultural Heritage Assessment and Survey Methodology
Project No.	0617753
Date	25 February 2022
Version	1.0
Author	Lorien Perchard, Alyce Haast
Client Name	Acciona

Document history

				ERM approval to issue		
Version	Revision	Author	Reviewed by	Name	Date	Comments
Draft 1	01	Lorien Perchard, Alyce Haast	Erin Finnegan	Murray Curtis	17.02.2022	Draft for client review
Draft 2	02	Lorien Perchard, Alyce Haast	Alyce Haast	Murray Curtis	25.02.2022	Draft for RAP review

Signature Page

25 February 2022

Keri Keri Renewable Energy Project

Aboriginal Cultural Heritage Assessment and Survey Methodology

DRAFT	DRAFT
Lorien Perchard Heritage Consultant	Erin Finnegan Principal Heritage Consultant
DRAFT	DRAFT
Amanda Antcliffe Consultant Manager	Murray Curtis Partner

Environmental Resources Management Australia Pty Ltd
Level 15 309 Kent Street
Sydney NSW 2000

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CONTENTS

1. INTRODUCTION 1
1.1 Project Area 1
1.2 Proposed Development 4
1.2.1 KKREP – Wind Farm 4
1.2.2 KKREP – Solar Farm 4
2. HERITAGE BACKGROUND 8
2.1.1 Aboriginal Land Use 8
2.1.2 Previous Archaeological Assessments 9
2.1.3 Existing Predictive Models 10
2.1.4 Preliminary Field Assessment – Aboriginal Ancestral Remains 11
2.1.5 AHIMS Search 12
3. FIELD INVESTIGATION METHODOLOGY 14
3.1 Field Survey for Solar Farm 14
3.2 Field Survey for Wind Farm 15
3.3 Sites containing Human Remains 15
3.4 Test Excavation 16
3.4.1 Site Recording 16
3.4.2 Archaeological Reporting 16
3.5 Aboriginal Stakeholder Involvement 16
4. ACHAR METHODOLOGY 17
4.1 Background research and predictive modelling 17
4.2 Aboriginal Community Consultation 17
4.3 Identification and Assessment Cultural Values 17
4.4 Assessment of Harm 18
4.5 Assessment timeframes 18
5. FEEDBACK 19
REFERENCES 20

List of Tables

Table 1-1: Wind Farm Project Area lot and DP details 2
Table 1-2: Solar Farm Project Area lot and DP details 2
Table 2-1 AHIMS Database Search Details 12
Table 4-1: Assessment Timeframes 18

List of Figures

Figure 1.1: Project Area 3
Figure 1.2: Proposed Wind Farm Development 6
Figure 1.3: Proposed Solar Farm Development 7
Figure 2.1: Cultural heritage sensitivity mapping and AHIMS sites 13

1. INTRODUCTION

Acciona Energy Australia Global Pty Ltd (Acciona Energy; 'the Proponent'), is proposing to construct and operate a renewable energy development within the locality of Keri Keri, NSW. The proposed Keri Keri Renewable Energy Project (KKREP) comprises a 1,003.2 MW wind farm, a 400MWn/500MWp solar farm and a battery storage facility ('the Project').

The Project will be assessed under two State Significant Development (SSD) applications under the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The development applications will focus on the KKREP Wind Farm component and the KKREP Solar Farm component which are separated into two distinct Project Areas. The boundary of the two Project Areas is shown in Figure 1.1.

The Secretary's Environmental Assessment Requirements for the Projects have not yet been issued, however it is understood an Aboriginal Cultural Heritage Assessment Report (ACHAR) would be required the support both the KKREP Wind Farm and KKREP Solar Farm Environmental Impact Statement(s) (EIS). Acciona Energy has engaged Environmental Resources Management Australia Pty Ltd (ERM) to complete a series of two ACHARs which will consider the Wind Farm and Solar Farm components of the Project respectively.

Each ACHAR will be completed in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (ACHAR Guide) (DECCW 2011) and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW) (Consultation Requirements).

Each ACHAR will be prepared to identify, assess, and develop management recommendations for any identified Aboriginal Cultural Heritage within their respective Project Areas. Preparation of both ACHARs will include Aboriginal community consultation which will be undertaken with the Registered Aboriginal Parties (RAPs) who have expressed interest in the overall Project.

This document provides details of the proposed assessment and survey methodology for both Wind Farm and Solar Farm components of the Project. This document will be provided to all RAPs who have registered interest in the Project for their review and comment. Any comments received will be considered and incorporated into the assessment methodologies where practicable.

1.1 Project Area

The Project Area for the Project is comprised of the boundaries of both the Wind Farm and Solar Farm and is located near the town of Balranald, in the Riverina Murray Region of NSW. The Project Area is situated approximately 820 kilometres (by road) west of Sydney, and 31 kilometres east of Balranald. The Project Area is located entirely within the Murray River Local Government Area (LGA) and to the south of the Sturt Highway, on land that is currently predominately used for sheep grazing.

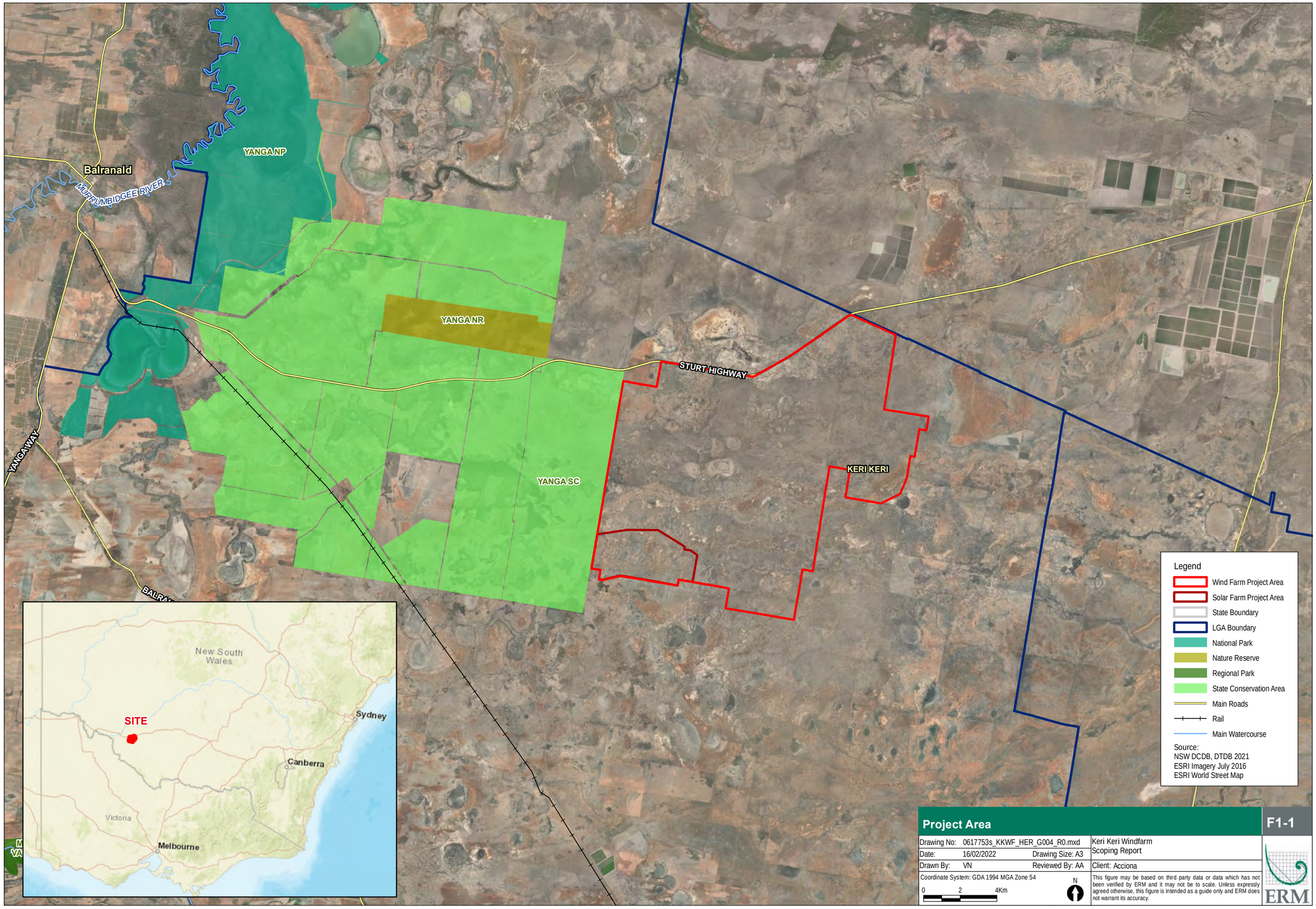
The overall Project Area, which encompasses both the KKREP Wind Farm and KKREP Solar Farm, is approximately 18,055.1ha hectares (ha). Land parcels encompasses by the Wind Farm Project Area are shown in Table 1-1. The Solar Farm Project Area comprises an area of approximately 1,322 ha. Land parcels encompassed by the Solar Farm Project Area are shown in Table 1-2.

Table 1-1: Wind Farm Project Area lot and DP details

Lot	DP
9, 12, 13, 14, 54, 55, 56, 57, 58, 83, 84, 85, 86, 87	751231
32, 33, 34, 35, 36, 37, 38, 39, 40, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 82, 84, 93, 94	756546
77, 78, 79, 80, 81, 82, 85	756558
11	1120173
1, 19	751175

Table 1-2: Solar Farm Project Area lot and DP details

Lot	DP
35, 36, 38, 57, 58, 59, 60, 61	756546
77, 78, 79, 80, 81	756558



Project Area

F1-1

Drawing No:	0617753s_KKWF_HER_G004_R0.mxd		Keri Keri Windfarm Scoping Report
Date:	16/02/2022	Drawing Size: A3	
Drawn By:	VN	Reviewed By: AA	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 54

0 2 4Km

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ERM

1.2 Proposed Development

A summary of the proposed development associated with both the Wind Farm and Solar Farm components of the Project is provided below.

1.2.1 KKREP – Wind Farm

The KKREP – Wind Farm is a proposed wind farm that will consist of up to 176 wind turbine generators (WTGs) (Figure 1.2). The wind turbines will have a proposed hub height of 200 m and tip height of 291.5 m.

Large-scale battery storage is also proposed to support stabilising the supply of electricity to the National Electricity Market. This will involve the construction of a Battery Energy Storage System (BESS) facility with a capacity of up to 200 MW/800 MWh within the Wind Farm footprint. It will be located across an area of approximately 3 ha.

In addition, the Wind Farm Project will include the following Project infrastructure and associated works:

- One (1) operations and maintenance facility (located at either North, South, Centre substation);
- up to three (3) substations (North, South, Centre);
- up to two (2) temporary concrete batching plants (North, Centre);
- temporary onsite crushing facilities;
- One (1) switching station;
- Four (4) temporary and four (4) permanent meteorological monitoring masts with a height of 160 m;
- overhead and underground 33kV reticulation electrical cabling;
- construction laydown areas and compounds;
- security fencing;
- internal access tracks and road upgrades along the haulage route (as required);
- ancillary activities including gravel pits, water sourcing, visual screening (as required); and
- One (1) temporary workers' accommodation camp.

1.2.2 KKREP – Solar Farm

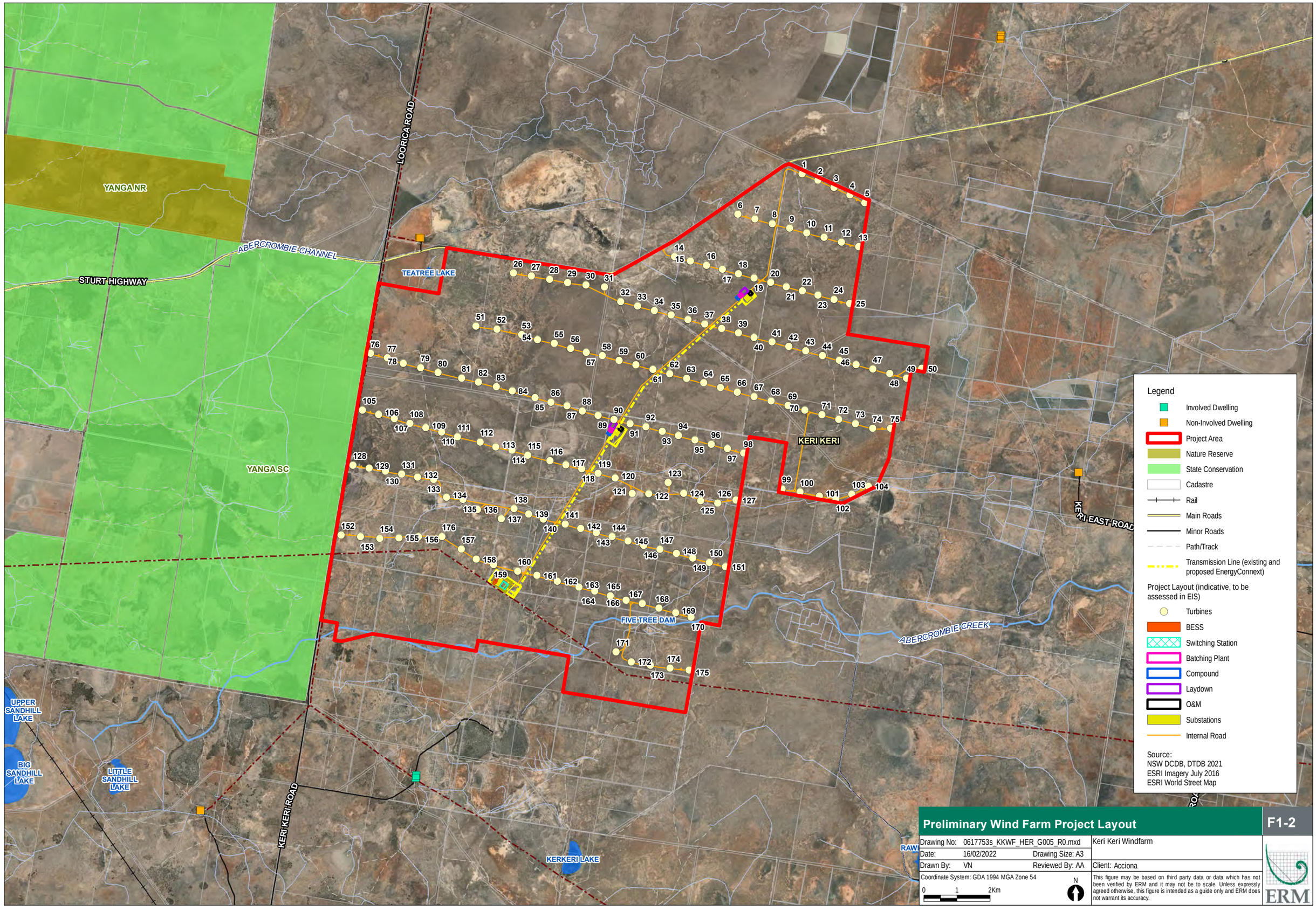
The KKREP – Solar Farm is a proposed solar farm consisting of solar photovoltaic panels with a maximum installed capacity of up to 400MWn/500 MWp. The solar arrays will be mounted to steel structures which are pile driven or screwed into the ground, with a maximum height of 3 metres when horizontal. The Project will involve the use of a single axis tracking system.

In addition, the Project will include the following Project infrastructure and associated works:

- underground and overhead electrical reticulation network and switchyard;
- power conversion units (inverters, transformers and ring main unit);
- temporary construction compounds;
- internal access tracks and road upgrades along the haulage route (Keri Keri Road) (as required); and
- a potential temporary construction accommodation camp.

The proposed layout of the Solar Farm is shown in Figure 1.3.

The KKREP - Solar Farm is subject to a separate SSD application, however it will share ancillary infrastructure to be constructed and operated under the KKREP – Wind Farm project, including substation, road access, internal road network, and operations and maintenance facilities.



Preliminary Wind Farm Project Layout

F1-2

Drawing No:	0617753s_KKWF_HER_G005_R0.mxd		Keri Keri Windfarm
Date:	16/02/2022	Drawing Size: A3	
Drawn By:	VN	Reviewed By: AA	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 54

0 1 2Km

N

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ERM

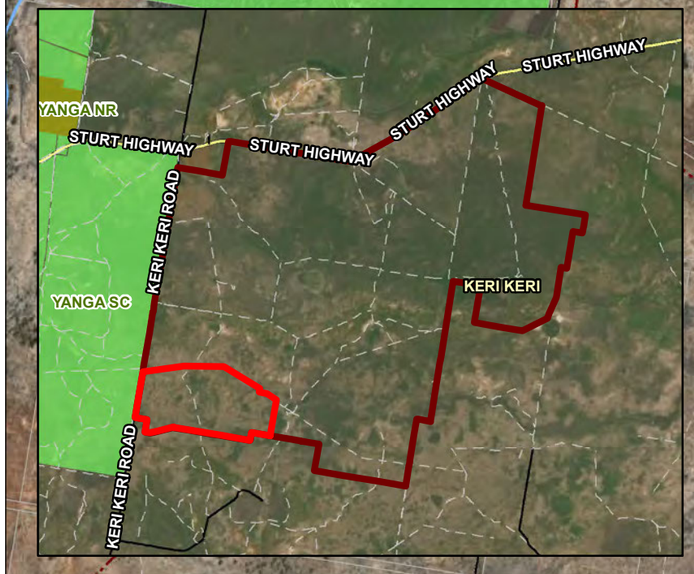
YANGA SC

KERI KERI ROAD

ABERCROMBIE CREEK

93

62



Legend

- Involved Dwelling
- Solar Layout (indicative, to be assessed in EIS)
- Keri Keri WF (indicative, to be assessed in separate SSD application)
- State Conservation
- Cadastre
- Minor Roads
- Path/Track

Solar layout (label as indicative, to be assessed in EIS)

- Internal Roads
- Solar Panels

Keri Keri WF (indicative, to be assessed in

- Transmission Line (existing and proposed EnergyConnext)
- BESS
- Switching Station
- Substations
- Substations Micro Siting

Source:
NSW DCDB, DTDB 2021
ESRI Imagery July 2016
ESRI World Street Map

Preliminary Solar Farm Project Layout

F1-3

Drawing No:	0617753s_KKWF_HER_G006_R0.mxd		Keri Keri Solar Farm Scoping Report
Date:	16/02/2022	Drawing Size: A3	
Drawn By:	VN	Reviewed By: AA	Client: Acciona

Coordinate System: GDA 1994 MGA Zone 54

0 0.5 1Km

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ERM

2. HERITAGE BACKGROUND

ERM recognises that the primary source of information regarding the Aboriginal cultural values and significance of a place is Aboriginal knowledge holders. The following background has been prepared as a summary of the current understanding of the environmental, historical and archaeological background of the Project Areas. This information has been used to develop an understanding of the potential cultural heritage values and sites which may be present which will be utilised in conjunction with RAP feedback to develop the proposed assessment approach.

2.1.1 Aboriginal Land Use

The following section is based on the Aboriginal land use summary provided in the Preliminary Cultural Heritage Study: Keri Keri Renewable Energy Project (NGH 2020)

Aboriginal people have occupied the Australian continent for at least 40,000 years, with some disputed reports of 60,000 years and beyond. There have been no dated excavations in the Keri Keri area, however it is located around 126 km south-east of Lake Mungo, one of the most famous archaeological sites in Australia that has been dated back as far as 40,000 years (Hiscock 2000:21-22).

Several ethnographic accounts of Aboriginal people are available for the region, however as noted by Barber (2015), these ethnographies provide only a glimpse of a way of life which had already been impacted by disease and colonialism. Consequently, it is noted that the ethnographic record cannot provide a detailed and accurate understanding of how Aboriginal groups of the region inhabited the landscape without the influence of European arrival.

Ethnographic histories, may however provide some insight into Aboriginal land use and culture at the time of colonisation. For example, Beveridge (1884) describes the communities of the Lower Murray, Murrumbidgee, Lachlan, and Darling areas as family oriented. Daily life often consisted of hunting or gathering, cooking or preparing food, preparing tools and canoes, and telling stories or playing games. Beveridge notes that these groups had substantial commercial networks, with trade suggested to extend up to far north Queensland.

Items that were described as tradable goods were reeds for spears, red ochre, chalk for painting, stone for tools, fibre for nets and cord, opossum cloaks, wood for weapons, etc. Trade for certain items would have been vital for the communities of this area as some resources, such as that used for the stone tool production that took place, was difficult or impossible to source locally (Barber 2015; NGH 2021). Beveridge describes the importance of trade despite the noted difference in languages across the local Aboriginal communities. To this end he identified the importance of particular members of society known as *Ngalla Wattow*. These men were reportedly able to communicate in the languages of the surrounding communities and provided the means to transport goods from community to community. So respected were these men that Beveridge writes that even hostile communities would do no harm to the *Ngalla Wattow* of their rival community (NGH 2020).

The Aboriginal communities themselves were reportedly slightly different from others across Australia as researchers such as Pardoe (1988) and Martin (2006) argue that the mounds of the plains represent territorial markers. Within these communities Beveridge reports that they were a patriarchal society led by the elder generations of the community. Utilised food resources were reported to consist primarily of fish but also other animals such as Kangaroo, Wallaby, Emu, and Opossum. What was eaten was dependant on the time of year and availability in the region. These resources were typically available in abundance for some eight months of the year, where the rivers and creeks of the region would fill with water and often flood the surrounding areas; Beveridge states that there was more than the Aboriginal community could conceivably eat during these times. However, during the remaining four months of the year it was substantially more difficult to forage for food.

During the summer, when the river systems are teeming with life, Beveridge notes that the banks were completely filled by the Aboriginal communities who would remain there for weeks or even months; this behaviour extended to the lakes too, which could be as heavily populated during these periods of time (Barber 2015) (NGH 2020).

NGH (2021) report that one of the major features of these campsites were the ovens and/or mounds that were left behind. These features often formed central components within an Aboriginal campsite, their true purpose has been debated for some time, but the most accepted theories suggest that they were the areas were food was cooked (ovens) and potentially grown (mounds). Beveridge describes coming across mounds that had dozens of Aboriginals buried within them, while others believe they will simply used as ovens; Martin (2006) suggests that these mounds were used to grow crops.

The effect of European settlement was heavily felt through the spread of disease which had originally spread from the colonial holdings along the coastline. By the time European explorers had reached the interior, disease had ravaged the Aboriginal population. Beveridge made note that some mounds discovered in the area contained several and even dozens of burials within. The situation grew more direr as the true effects of colonialism reached the region and the traditional lands of the communities were possessed by settlers who used them for farming or herding. During this time resistance by Aboriginal people was more often than not met with retaliatory acts of violence against them. Those who had survived both these conditions were forced to adapt to a different world, as their access to their traditional way of life was blocked by Europeans. During this period, many had no other choice except to integrate into the new European settlements, as a result, the traditional way of life, along with the acts of hunting, gathering, religious life, marriage links, and ceremonial sites were disrupted or destroyed.

2.1.2 Previous Archaeological Assessments

Several archaeological surveys and reports have been conducted within the Project Area and the surrounding landscape for renewable energy projects and other land management programs. These are briefly discussed below:

NGH Environmental (2016) surveyed 800 ha of land for the proposed Sunraysia Solar Farm near Balranald, located approximately 30 km from the current Project Area. The survey recorded three sites comprising two clusters of burnt clay recorded as ovens and a site complex of seven stone artefacts and three hearths. NGH noted that lack of scarred trees in the assessment area was likely due to historic clearance across the assessment area and the lack of permanent water within the assessment area. NGH interpreted the nature of the archaeological material within this landscape to suggest that Aboriginal use of the landscape was intermittent.

Another survey undertaken in the area was by Anderson (2015) for the Balranald Mineral Sands Project located approximately 70 km from the Project Area. For this assessment, a total of 1,125 ha of the 3,300-ha project area was surveyed with a total of 548 Aboriginal sites identified over the course of the surveys. The overwhelming majority of these sites (89.8%) were composed of a single site element, with the remaining 10.2% having two or more. Isolated and open scatters of stone artefacts were the most common site type throughout the area. Hearths were the second most common with scarred trees, PADs, and shell following in frequency. The assessment noted areas of high and moderate cultural value were associated with the Box Creek distributary streams as well as relict lake fringes and depressions.

A total of two former heritage investigations have been undertaken within the Keri Keri Project Area itself. These investigations highlight the sensitivity of the Project Area with the variety in site types found throughout the Keri Keri area suggesting that the region was seasonally inhabited by Aboriginal people.

Between 2014 and 2016, OzArk Environmental & Heritage Management Pty Ltd (OzArk) (OzArk, 2017) conducted surveys and assessments of the Abercrombie Water Efficiency Project (AWEP), which consisted of a 10 m wide corridor along approximately 276 kilometres of pipeline as well as small areas of ancillary water infrastructure. Parts of the AWEP area was within the Keri Keri property. Initial investigation by OzArk had identified seven sites, three of which being open campsites. An Aboriginal Heritage Impact Permit (AHIP) application was recommended for two isolated finds (WAIF1, a grinding stone fragment, and WA-IF3, a flaked piece of silcrete) but was refused based on lack of survey coverage. Re-assessment was undertaken including pedestrian transects and an AHIP application was subsequently approved by the OEH, allowing for the harm (removal) to the two previously mentioned objects and the management of a further 42 Aboriginal objects or 'no harm' areas.

NGH Environmental (NGH, 2020) completed a Preliminary Cultural Heritage Study on behalf of Acciona for the current KKREP. The desktop report investigated the preliminary issues relating to cultural heritage potential opportunities and constraints relevant to the Project Area. Several Aboriginal sites were assessed and sensitive landscape mapping identified that further archaeological assessment would be required during the development pathway. Preliminary assessment suggested that Aboriginal use of the landscape was seasonally intermittent. The results of these surveys in the landscape immediately adjacent to and within Keri Keri was considered by NGH to suggest that the region of the Hay Plain was extremely sensitive due to its proximity to major regional (and seasonal) waterways along with other landscape features including ancient palaeochannels and relict lake features including lunettes.

2.1.3 Existing Predictive Models

The overarching Project Area is located within the Murrumbidgee Province of the Riverina Bioregion. The Murrumbidgee Province is generally comprised of a natural flat landscape largely consisting of clays, silts and sands which historically has been subject to a consistent cycle of annual flooding. Environmental influences on this landscape have varied dramatically over time with post glacial climate changes in the Holocene reducing flood peaks and sediment load. Over time this has resulted in modern watercourses crossing and cutting through earlier palaeochannels.

A localised landscape based predictive model was developed by Colin Pardoe for the 'Murrumbidgee Province' as part of the Murrumbidgee Province Aboriginal Cultural Heritage Study (Pardoe & Martin, 2011). This predictive model has focused on the localised landform features and their relationship to site identification and includes assessment of the Project Area. Pardoe's assessments considered the relationship between landform features and the location of archaeological sites making the following conclusions.

- Water – The pattern of site distribution was identified as having its greatest concentration within close proximity to watercourses. Pardoe and Martin (2011) found some variation in site distribution based on water source type was also noted:
  - Major Streams – No site was located more than 12 km from a major river channel with most sites found with a short distance of this channel (75% of sites were within 3.3 km of a major stream).
  - Minor Streams – No site was located more than 12 km from a minor stream (75% were within 2.2 km).
  - Lakes – More than 82% of sites are found within 8 km of a lake.
  - Swamps – No obvious pattern of distribution was identified which was attributed to variations in the way swamps are described in official mapping data.
- Landforms – Plains made up 93% of the Province, and as such minor variations in landform were noted to be significant as an impetus to the flow of water and location of resources.

While sites were identified across most landforms patterns; channelled plain and confined trace landforms were identified as containing a disproportionate number of sites. These landforms were most often associated with the modern active floodplain. Comparatively, burials were most often associated with scalded, channelled and depressed plains associated with paleo environments.

- Soils – Soil type was noted for its association with water resources and vegetation communities. Based on this association, particular soil types were identified to be associated more closely with site features (burials, hearths, mounds etc).
- The vast majority of the Overarching Project Area is comprised of landform type which were identified by Pardoe as having the potential to contain Aboriginal sites. A number of significant watercourses in proximity to the Project Area including the Murrumbidgee River, Uara Creek, Forest Creek and Abercrombie Creek. Several lakes were also identified in proximity to the Project Area including Dry Lake and a number of unnamed lakes which are located along Abercrombie Creek. Based on Pardoe's modelling, the land surrounding these features was identified as archaeologically sensitive.

Soil mapping of the region (DECCW, 2002, pp. 104-105) shows that the Project Area is largely made up of grey, brown, and red clays; siliceous sands; and red and brown earths. Soils are closely related to the current and previous hydrological regimes, with areas of lower relief typically comprised of grey cracking clays associated with flood environments. The majority of the Project Areas are comprised of level plains of Quaternary alluvium of sands and clays.

As part of their preliminary constraints assessment for the current project, NGH (2020) utilised these soil profiles to build predictions on the sensitivity of the landscape. NGH assessed that the areas high in clays and alluvial fill were associated with lower elevations and characterised as a depositional environment of lower archaeological potential. Comparatively, areas of siliceous sands were associated with elevated landforms assessed to be an erosional landscape demonstrating high archaeological potential. NGH further noted that the majority of the subject site was characterised as a plain with areas of red and brown earths with a higher silt content that are commonly surrounding the siliceous sands soils, these areas were assessed to have high archaeological potential for containing archaeological deposits, including burials.

Preliminary cultural heritage sensitivity mapping has been developed based on the predictions developed from both Pardoe's and NGH's predictions. This mapping will be utilised as a guide during survey with areas of high cultural heritage potential which overlap with either Project Footprint a particular focus of ground survey (see Section 3.0).

Ground survey in consultation with RAP participants is also anticipated to identify additional environmental or landscape features (including palaeochannels) which may also be archaeologically sensitive, as well as historic land uses which may have disturbed or otherwise modified the archaeological sensitivity of an area.

2.1.4 Preliminary Field Assessment – Aboriginal Ancestral Remains

Preliminary biodiversity assessment undertaken by ERM in November and December 2021 for the current Project has confirmed the sensitivity of the landscape through the identification of three sites containing Aboriginal ancestral remains (burial sites) within the Project Area. Preliminary management of this identification has included liaison with NSW Police, initial consultation with Balranald Local Aboriginal Land Council and notification of the discovery to Heritage NSW.

Following preliminary identification, the three sites were subsequently visited by Colin Pardoe (Forensic Anthropologist) who recorded a detailed description of each site and confirmed that the remains were comprised of Aboriginal ancestral remains. These sites have subsequently been registered on the AHIMS database (AHIMS ID 48-4-0540, 48-4-0539 and 47-6-0947). At present an exclusion zone has been placed around these finds with long-term management of these sites to be subject to comprehensive consultation as part of the ACHAR assessments.

2.1.5 AHIMS Search

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database was conducted on 22 December 2021, using the following details:

Table 2-1 AHIMS Database Search Details

Item	Detail
Client Service ID	649010
Datum	GDA Zone 56
Latitude	-34.84 to -34.68
Longitude	143.85 to 144.06
Buffer	1 km

The AHIMS Search Area encompassed a search area as bound by the above latitude and longitude details with an additional 1 km buffer. Review of the AHIMS search results identified 28 sites registered within the search area, 6 of which are located within the Wind farm Project Area boundaries. No sites are currently registered within the Solar Farm Project Area.

The sites are varied in type, consisting of Burials, Earth Mounds, Potential Artefact Deposits (PADS), Hearths and Oven Mounds, Artefacts, and Modified Trees. Many of the registered sites contain multiple site types in one location (e.g. Artefact and Earth Mounds and PADS). There are at least four burial sites recorded on the AHIMS search results, with one of the burial sites located within the Project Area. The potential for further burials sites will be assessed during the survey.

It is noted that the current AHIMS search results predate the completion of the biodiversity survey and consequently the Aboriginal ancestral remains identified during that survey are not represented in above discussion or Figure 2.1.

F 2.1 Cultural Heritage Sensitivity Mapping and AHIMS Sites

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3. FIELD INVESTIGATION METHODOLOGY

The following field investigation methodology has been developed to further assess the significance of the Wind Farm and Solar Farm Project Areas. Field investigation is proposed to be undertaken over a 15-day period in late March to mid-April 2022.

Due to the varying density in layout differing layout and infrastructure proposed for the Solar Farm and Wind Farm two separate field survey strategies have been identified as necessary to capture as much information as possible over the landscape and adequately assess the potential harm to Aboriginal objects associated with each individual Project Area.

The survey area of both the Solar Farm and Wind Farm components would be limited to the impact footprint of the current design as well as a 100m buffer surrounding all design elements to assess the potential impact of future design modifications associated with micro-siting. These areas will be referred to as the Solar Farm survey area and the Wind Farm survey area respectively.

3.1 Field Survey for Solar Farm

An archaeological survey of the Solar Farm will aim to identify all Aboriginal sites and areas of cultural significance present within the Solar Farm survey area. Survey would include the identification of any areas of Potential Archaeological Deposit (PAD) and would ground truth the locations of any previously registered Aboriginal sites within the survey area.

ERM proposes to undertake the survey with the following conditions:

- A sample survey would be undertaken across the full extent of the Solar Farm survey area.
- The Solar Farm survey area would be delineated into landforms with survey including investigation of each individual landform across the survey area; Survey would also include investigation of varying soil landscapes, varying distances from watercourses and areas of intact vegetation where they overlap with the survey area.
- The survey will consist of all participants traversing the impact footprint using transects. Transects will include a sample of each individual landform across the survey area. Transect spacing will vary across the survey area based on the level of archaeological potential identified during predictive modelling (see Figure 2.1), level of ground surface visibility and feedback provided by the RAPs. Areas of high archaeological potential and/or higher levels of ground surface visibility would be subject to a more detailed ground survey.
- A site meeting will be held with the RAPs at the commencement of the field survey to refine the proposed survey sampling strategy, to discuss sensitive landforms or locations, proposed targeted survey areas, and any relevant cultural information.
- The survey will be undertaken on foot, with two teams comprised of one archaeologist and up to four RAPs per team. Survey will be limited to areas that can be traversed on foot.
- Identified objects will be recorded onsite and will remain onsite.
- Any cultural heritage information for the study area shared by the RAPs will be recorded during the field survey. Any cultural knowledge provided will be treated in confidence and the information will be distributed according to the wishes of the provider.

3.2 Field Survey for Wind Farm

The archaeological survey of the Wind Farm will aim to identify all Aboriginal sites and areas of cultural significance present within the Wind Farm survey area and consequently would be comprised of a linear survey focused on the proposed wind turbine locations, proposed access tracks as well as associated infrastructure.

Survey would include the identification of any areas of Potential Archaeological Deposit (PAD) and would ground truth the locations of any previously registered Aboriginal sites within the Wind Farm survey area.

Sample survey within the Wind Farm survey area would include investigation of all individual landforms. Due to the limited variation in landform across the survey area, survey would also ensure investigation of representative samples of varying soil landscapes and land parcel (as delineated by the boundaries of the current grazing paddocks within the overarching Project Area).

The field survey for the Wind Farm would be completed utilising the following method:

- A sample survey would be undertaken across the full extent of Wind Farm survey area.
- The Wind Farm footprint would be delineated into landforms with survey including investigation of each individual landform across the Wind Farm survey area; Survey would also include investigation of varying soil landscapes, varying distances from watercourses and areas of intact vegetation where these elements overlap with proposed areas of impact.
- Survey would also include inspection of previously registered AHIMS sites as well as burial sites recently identified during biodiversity survey. Survey of these areas would be undertaken to ensure that the site extent of these sites are adequately captured by the assessment.
- The survey will consist of all participants traversing the Wind Farm Survey Area using transects. Transect spacing will vary across the survey area based on the level of archaeological potential identified during predictive modelling (see Figure 2.1), level of ground surface visibility, and feedback provided by the RAPs. Areas of high archaeological potential and/or higher levels of ground surface visibility would be subject to a more detailed ground survey.
- A site meeting will be held with the RAPs at the commencement of the field survey to refine the proposed survey sampling strategy, to discuss sensitive landforms or locations, proposed targeted survey areas, and any relevant cultural information.
- The survey will be undertaken on foot, with two teams comprised of one archaeologist and up to four RAPs per team. Survey will be limited to areas that can be traversed on foot.
- Identified objects will be recorded onsite and will remain onsite.
- Any cultural heritage information for the study area shared by the RAPs will be recorded during the field survey. Any cultural knowledge provided will be treated in confidence and the information will be distributed according to the wishes of the provider.

3.3 Sites containing Human Remains

Preliminary biodiversity assessment and AHIMS site information has confirmed the presence of Aboriginal ancestral remains within the overarching Project Area. It is anticipated that further ancestral remains may be identified during the survey.

Where potential ancestral remains are identified they would be subject to a non-invasive recording via photograph and GPS. The extent of the potential remains and an appropriate buffer zone to avoid potential impact to the remains during the remainder of the survey program would be discussed with the RAPs and marked on field maps. Identified potential ancestral remains would not be touched during the recording process.

Preliminary discussions with the RAPs would also be held to discuss potential mechanisms to manage the remains during construction and operational phases of the project. Identified buffer zones would be provided to the proponent to be incorporated into detailed design considerations.

As part of the preliminary recording, recommendations for long term management of the remains would also be sought from the RAPs.

At the end of the survey program, all potential ancestral remains would be reported to NSW Police and subject to inspection by a forensic anthropologist in accordance with the *Coroners Act* 2009. Heritage NSW would also be notified of the finds with all confirmed ancestral remains registered on the AHIMS database.

3.4 Test Excavation

At present, test excavation has not been incorporated into the current methodology.

Areas of Potential Archaeological Deposit (PAD) will be recorded during the survey and assessed to confirm if they would be subject to impact by the Project. Where impact cannot be avoided, mechanisms to further investigation these sites through archaeological excavation will be recommended.

Any test excavation program would be subject to a separate test excavation methodology which would be subject to consultation with the RAPs.

3.4.1 Site Recording

All Aboriginal objects and sites would be recorded and registered on the AHIMS database at the end of the field survey.

Feedback from the RAPs would be sought to identify any culturally sensitive or gendered sites which may need to be registered as a restricted site.

3.4.2 Archaeological Reporting

The results of the archaeological field investigation would be documented in an ACHAR for each component of the Project. The report would detail the results of the field investigation and would be completed in accordance with the Code of Practice.

3.5 Aboriginal Stakeholder Involvement

It is proposed that the survey would consist of two survey teams. Each survey team is proposed to be comprised of one archaeologist and up to four RAPs per day. It would be the site archaeologist's responsibility to perform all photographic tasks and site recording and ensure adequate site recording in undertaken in accordance with the requirements of the Code of Practice and this methodology.

A copy of this proposed sampling strategy has been sent to all RAPs to provide any comments.

4. ACHAR METHODOLOGY

Individual ACHAR's would be prepared for both the Wind Farm and Solar Farm components. Each ACHAR would include the steps outlined in Section 4.1 – Section 4.4.

Each ACHAR would be prepared in accordance with the Heritage NSW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (the Guidelines), and the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW 2010* (Code of Practice) and would include the following steps:

4.1 Background research and predictive modelling

A background assessment will review and analyse existing background information to gain a contextual understanding of the cultural landscape associated with the Project Area. Review of background information will include assessment of environmental information, former historic land use, available ethnographic information, as well as existing registered Aboriginal heritage sites and reports.

This stage is ongoing, with preliminary information identified throughout this phase summarised in Section 2 above.

4.2 Aboriginal Community Consultation

Aboriginal community consultation for the project is proceeding in accordance with the consultation requirements for proponents which involved the following four key steps:

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

- **Stage 1** has been completed and included the following steps:
  - Placement of a public advertisement in the Guardian, Swan Hill;
  - Liaison with relevant legislative bodies to identify potentially interested parties; and
  - Liaison with potential interested parties identified to invite them to register an interest in the project.
- **Stage 2** and **Stage 3** is currently underway and includes the preparation of the current document to present information regarding the proposed project and assessment methodology. This document also requests information regarding the cultural significance of the Project Area. Feedback on this document will be requested within 28 days of its issue to RAPs.
- **Stage 4** would involve the provision of the Draft ACHAR for review. The Draft ACHAR would provide a summary of the identified Aboriginal heritage values identified and the assessed impacts associated with the development. The report would also identify mitigation and management measures. The review of the Draft ACHAR would request feedback to confirm that the cultural values of the Project Area have been adequately identified and that the proposed management and mitigation measures for any impacts are appropriate.

4.3 Identification and Assessment Cultural Values

- The identification and assessment of cultural values would be completed using a combination of consultation with RAPs and field investigation:
  - Field investigation for both the Wind Farm and Solar Farm Project is proposed to involve field survey component as detailed above;

- Identification of cultural values will be undertaken in consultation with the RAPs. Where possible, information on identified cultural values will be supplemented by the identification of cultural values through the review of previous reporting and publically available information; and
- Assessment of cultural values will include consideration of Social, Historical, Aesthetic and Scientific values within each Project Area.

4.4 Assessment of Harm

Following the identification of Aboriginal cultural values for the respective Project Area, an impact assessment will be completed to identify whether any Aboriginal Objects, Places or cultural values will be harmed by the proposed works.

Where harm is identified which cannot be avoided, recommendations to manage and mitigate the harm will be proposed.

Harm would only be authorised as part of the projects Conditions of Approval.

4.5 Assessment timeframes

Proposed timing for completion of tasks associated with both field investigation and the ACHAR are provided below.

It is noted that timing for field investigations would be subject to health advice in accordance with NSW COVID restrictions.

Table 4-1: Assessment Timeframes

Assessment step	Description	Indicative timing	Proposed timeframe
Stage 1 – consultation process	Development of RAP list through: ■ Feedback from government bodies; ■ Placement of adverts in The Guardian Swan Hill; and ■ Contacting parties identified by government bodies.	January 2022	6 weeks (minimum 14 days from placement of adverts and timeframe
Stage 2 and Stage 3 – consultation process	Development and review by RAPs of project information and proposed assessment methodology. Provision of RAP list to LALC and Heritage NSW.	Late February 2022	28 days
Revision of assessment methodology based on RAP comments	Updates to methodology based on feedback received during RAP review.	Late March 2022	1 week
Field program	Combined Wind Farm and Solar Farm Field survey.	Late March – Mid April	15 Days
Post field recording and reporting	Drafting of Wind Farm ACHAR and Solar FARM ACHAR.	Mid April – End May 2022	6 weeks
RAP review of draft ACHARs	Review of both Wind Farm ACHAR and Solar Farm ACHAR.	June 2022	28 days
Finalisation of ACHARs		July 2022	2 weeks

5. FEEDBACK

ERM requests that you review and provide feedback on this information package and express your interest in participating in the fieldwork program by **25 March 2022.**

As part of your response ERM asks you to consider:

a) whether there are any Aboriginal objects of cultural value to Aboriginal people in the Project Area or surrounds; and

b) whether there are any places of cultural value to Aboriginal people in the Project Area or surrounds.

Any cultural knowledge provided by Aboriginal Stakeholders will be treated in confidence and the information will be distributed according to their wishes.

If you wish to be involved in the field investigation program, please include copies of any insurances you or your corporation hold to undertake field activities. Potential insurances include public liability, worker's compensation and/or personal accident insurance.

Please provide feedback to **Lorien Perchard** at the following contact details:

Post: Locked Bag 3012, Australia Square, NSW 2000

Phone: 0430 984 798

Email: lorien.perchard@erm.com

Yours sincerely,

For Environmental Resources Management Australia Pty Ltd

Lorien Perchard
Senior Heritage Consultant

REFERENCES

Anderson (2015) *Balranald Mineral Sands Project Aboriginal Cultural Heritage Assessment.* Consulting report to Iluka Resources Limited.

Barber (2015) *Nimmie-Caira Aboriginal Cultural Heritage Survey*. Consulting report to NSW Department of Trade and Investment, Regional Infrastructure and Services.

Beveridge, P. & Royal Society of New South Wales (1884) *Of the Aborigines inhabiting the Great Lacustrine and Riverine Depression of the Lower Murray, Lower Murrumbidgee, Lower Lachlan and Lower Darling,* Govt. Printer, Sydney.

Department of Environment, Climate Change and Water (2010b) *Code of Practice for archaeological investigation of Aboriginal Objects in New South Wales*

Department of Environment, Climate Change and Water (2010c) *Aboriginal cultural heritage consultation requirements for proponents 2010*

DECCW. (2010). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. Retrieved from https://www.environment.nsw.gov.au/~/media/A567FCA5C9BA450B9E14F90D04464101.ash

DECCW (2010b) Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales

DECCW (2010) The Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010

Feldtmann (1976) The Balranald Story, (a souvenir of the 'Back to Balranald' celebrations -28 Septemeber to 5 October 1976.

Hiscock, P (2000) Lake Mungo, Early Australia. 21-22

Keats, S. and Markham, A. (2018) Limondale Sun Farm Pty Ltd. Consulting report to Limondale Sun Farm Pty Ltd.

Martin (2006) *Inscribing the plains: constructed, conceptualised and socialized landscapes of the Hay Plain, South Eastern Australia*. Unpublished PhD Thesis UNE.

NGH (2016) Aboriginal Cultural Heritage Assessment Balranald Solar Farm. Consulting report to Maoneng Australia Pty Ltd.

NGH (2020). Preliminary Constraints Assessment: Keri Keri Renewable Energy Project. NGH

OzArk Environmental & Heritage Management Pty Ltd (2017) *Post-AHIP Report: Abercrombie Water Efficiency Project Balranald, Murray River and Hay LGAs.* Consulting report to NSW Department of Primary Industries, Water

OEH (2011). Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW Office of Environment and Heritage. Retrieved from https://www.environment.nsw.gov.au/research-and-publications/publications-search/guide-to-investigating-assessing-and-reporting-on-aboriginal-cultural-heritage-in-nsw

Pardoe (1988) *The cemetery as symbol. The distribution of prehistoric Aboriginal burial grounds in southeastern Australia.* Archaeology in Oceania, 23: 1-16. doi:10.1002/j.1834-4453.1988.tb00178.x

Pardoe and Martin (2011), *Murrumbidgee Province Aboriginal Cultural Heritage Study*. Report to New South Wales National Parks and Wildlife Service and Aboriginal Communities of the Region.

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APPENDIX J EXAMPLE PROJECT UPDATES

Damien Aidon
Balranald Local Aboriginal Land Council
ceo.blalc@gmail.com

5 September 2022

Reference: 0617753

Dear Damien

Subject: Keri Keri Renewable Energy Project

Acciona Energy Australia Global Pty Ltd (Acciona Energy; 'the Proponent'), is proposing to construct and operate a renewable energy development within the locality of Keri Keri, NSW. The proposed Keri Keri Renewable Energy Project (KKREP) comprises a 1,000 MW wind farm, a 400 MW solar farm and a battery storage facility ('the Project'). The Wind Farm and Solar Farm Projects are being assessed under two State Significant Development (SSD) applications under the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). Under the SSD framework each project must prepare an Environmental Impact Statement which assessed the potential impact of the Project on a number of environmental factors. As part of this assessment Acciona Energy has engaged Environmental Resources Management Australia Pty Ltd (ERM) to complete a series of two Aboriginal Cultural Heritage Assessment Reports for the Project which will consider the potential impact of the Wind Farm and Solar Farm components of the Project on Aboriginal cultural heritage values.

We are contacting you as a registered Aboriginal party (RAP) for the Project to provide an update on the current progress of the Aboriginal heritage assessments and provide detail on additional heritage assessment and consultation proposed to be undertaken over the coming months.

1.1 Previously complete works

At present, assessment has involved several steps in accordance with the Project Methodology issued in February 2022. Completed activities have included:

Assessment step	Description	Timing	Complete?
Background research and predictive modelling	■ Background research has included review of existing environmental and archaeological data to understand the nature of the landscape associated with the Project Area to build predictions and help guide interpretations of	Ongoing	Ongoing

Assessment step	Description	Timing	Complete?
	the Aboriginal heritage values present across the Project Area.		
Stage 1 – consultation process	Development of RAP list through: ■ Feedback from government bodies; ■ Placement of adverts in The Guardian Swan Hill; and Contacting parties identified by government bodies.	January 2022	Complete
Stage 2 and Stage 3 – consultation process	Development and review by RAPs of project information and proposed assessment methodology. Provision of RAP list to LALC and Heritage NSW.	Late February 2022	Complete
Revision of assessment methodology based on RAP comments	Updates to methodology based on feedback received during RAP review.	Late March 2022	1 week
Preliminary field program	Combined Wind Farm and Solar Farm Field survey.	19- 29 April 2022	Complete

1.2 Preliminary survey results

The preliminary field program was undertaken in April 2022 which included pedestrian survey of a variety of landscapes associated with the Project Area.

- Survey was undertaken over a two week period between 19 April and 29 April 2022;
- Survey was undertaken by 3 archaeologists and between 3 and 9 RAP representatives per day. Transect spacing averages 20m;
- Survey covered 1176 hectares (31.6%) of the original Project Footprint;
- Survey resulted in the identification of 319 new individual site features including 43 suspected ancestral remains;
- Based on the high density of identified sites, survey procedure shifted to focus on delineating different landform types and ground truthing predictive modelling as opposed to covering the entire landscape as part of the preliminary survey;
- All landform types were subject to some level of survey, with areas of high potential (referred to as the red soils by the field team) the focus of investigation. Preliminary feedback from RAPs during this survey noted that the grey soils (areas of lower potential) were considered ‘deadlands’ and were noted to not have significant heritage values associated with them;

At the end of the Survey the Project Area was broken up into a series of landforms with the archaeological potential of each assessed based on the results of the preliminary survey. The archaeological potential of each landform is summarised in Table 1 below.

Table 1: Summary of landforms identified during preliminary survey

Landform	Assessed Archaeological Potential	Recorded Sites	Survey Coverage (Ha)	Site / Ha
Source Bordering Dune (Lunette)	Very High	8	19	0.42
Prior Stream (Palaeochannel Landform)	Very High	257	515	0.50
Murray Pine on Elevated Plain	High	1	1	1.00
Blackbox Woodland (Low Lying)	Moderate	0	0	0.00
Source Bordering Aeolian Dunefield	Moderate	21	96	0.22
Palaeochannel Rangelands	Moderate	22	343	0.06
Ancient Dune Landform	Low	0	10	0.00
Ancient Lake (Depression)	Low	1	6	0.17
Former Swamp (Low Lying)	Low	6	154	0.04
Rangeland Plain	Low	3	32	0.09

Feedback received from the RAP group during survey included:

- That preservation of ancestral remains in-situ was the highest priority;
- That RAP monitoring of any ground disturbance works within landforms likely to contain human remains should be undertaken;
- That landscapes associated with the 'red soil' landscapes should be preserved in-situ (areas flagged as high to very high in landscape mapping);
- That there may be the potential for burials to be actively managed through the placement of sand/ matting to stop further erosion;
- Noted some willingness to consider temporary/ low impact facilities in high potential areas where adequate protection measures to the insitu deposit could be developed;
- Requested hearths, mounds and larger camp sites were managed in situ and not disturbed wherever possible;
- Noted willingness for impact/ movement of sites within the grey soil areas generally.

1.3 Design Updates

Following completion of the preliminary survey ERM recommended that Acciona consider options to redesign to avoid areas of high and very high potential (red sand) landscapes.

Acciona has subsequently undertaken a substantial re-design program which removes the vast majority of Project Infrastructure from the red sand landscapes. The change in design is illustrated below.

Note: the below illustration indicates an infrastructure footprint inclusive of a micro-siting buffer. This buffer is intended to allow movement of the design within this buffer in response to localised constraints. Actual impacts associated would the footprint would be significantly smaller then indicated by this footprint.

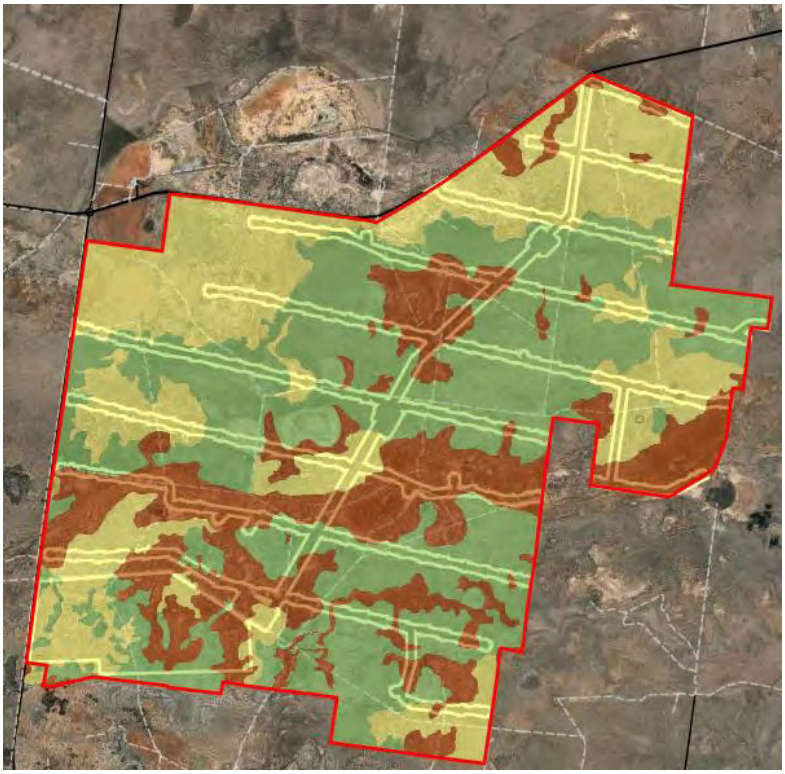

Figure 1: Original micro-siting footprint showing significant overlap with areas of high and very high potential.

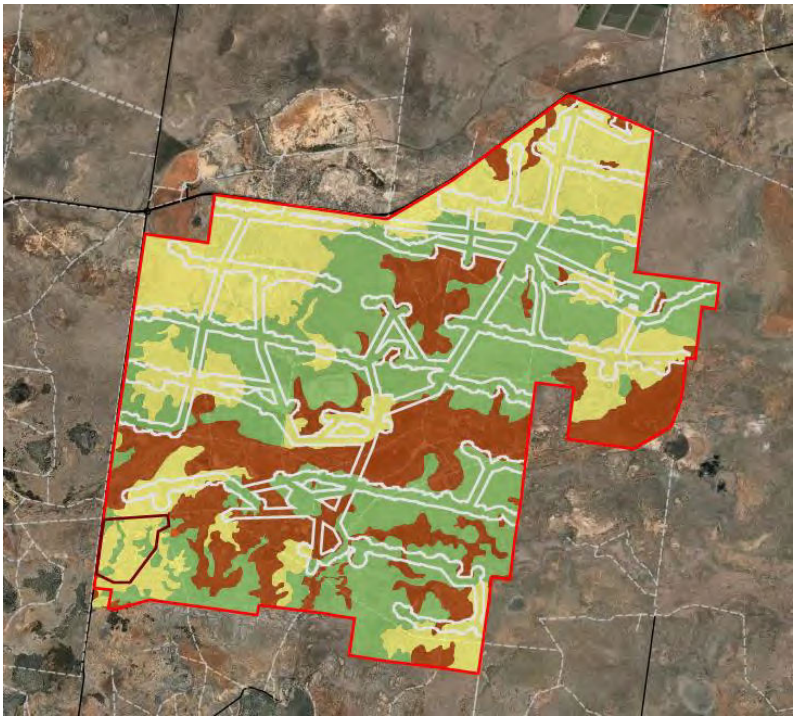

Figure 2: Updated design showing avoidance of majority of red (high and very high potential areas)

1.4 Next Steps

Following re-design it is proposed to undertake a supplementary field survey program. The supplementary field program will have two components.

1. Field Survey – The field survey would involve pedestrian transects of the new development footprint. It is proposed that survey would include 50% coverage of landscapes with low to moderate potential. Field survey would also include 100% coverage of areas of high and very high potential.

2. Forensic Survey – The forensic survey would involve re-inspection of the suspected ancestral remains by forensic anthropologist Colin Pardoe. Re-inspection would also be attended by either Damian Wall or an ERM archaeologist who would be seeking feedback from the RAP group regarding management of the remains.

Both survey options will include opportunities for RAPs to participate.

3. Workshop – In addition to the field survey program it is proposed to host a workshop in Balranald at the end of the Week 2 of the Field Survey program. This workshop will summarise the findings to date and provide an opportunity to discuss cultural values and procedures for managing Aboriginal Cultural Heritage Values as part of the Project. It is intended that this workshop would also be attended by a representative of Acciona so that any questions more broadly about the project can be discussed.

1.5 Fieldwork Dates

The following field survey dates are proposed for the next date of survey.

The available number of RAPs have been developed based on the number of RAPs which are able to be comfortable transported in available field vehicles.

Field component	Dates	Available roles
Field Survey Week 1	Monday 19 September 2022 – Saturday 24 September 2022	8 RAP positions per day available
Field Survey Week 2	Tuesday 27 September 2022 – Friday 30 September 2022	8 RAP positions per day available
Field Survey Week 3	Monday 17 October 2022 – Friday 21 October 2022 **(Date to be confirmed)**	5 RAP positions per day available
Forensic Survey	Monday 17 October 2022 – Friday 21 October 2022 **(Date to be confirmed)**	3 RAP positions per day available
Workshop	Friday 30 September or Saturday 1 October	All RAPs provided an opportunity to attend.

1.6 Engagement

As with the previous field program, direct engagement for field survey works will be managed by **Cultural Heritage Solutions.** Cultural Heritage Solutions will be in touch to confirm availability and schedule site officers over the coming days.

Following feedback from the previous field survey, the standard set day rate for the project has been increased to $1200 per day. This rate is inclusive of all travel and accommodation expenses and any administration fees for your respective organisations.

If you have any feedback on the above update or any questions regarding the program moving forward please contact me via phone or email.

Yours sincerely,

Lorien Perchard
Heritage Consultant.
Lorien.perchard@ERM.com
02 8584 8828 or 0430 984 798

Damien Aidon
Balranald Local Aboriginal Land Council
ceo.blalc@gmail.com

16 February 2023

Reference: 0617753

Dear Damien

Subject: Keri Keri Renewable Energy Project

As you are aware, Acciona Energy Australia Global Pty Ltd (Acciona Energy; 'the Proponent'), is proposing to construct and operate a renewable energy development within the locality of Keri Keri, NSW. The proposed Keri Keri Renewable Energy Project (KKREP) comprises a wind farm, a solar farm and a battery storage facility (the Project).

The wind farm and solar farm projects will be assessed as two separate State Significant Development (SSD) applications under the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). Under the SSD framework each project must prepare an Environmental Impact Statement which assesses the potential impact of the respective projects on several environmental aspects. As part of this assessment Acciona Energy has engaged Environmental Resources Management Australia Pty Ltd (ERM) to complete of two Aboriginal Cultural Heritage Assessment Reports for both the wind farm and solar farm projects. The Aboriginal Cultural Heritage Assessment Reports will consider the potential impact of the respective projects on Aboriginal cultural heritage values.

We are contacting you as a registered Aboriginal party (RAP) for the Project to provide an update on the current progress of the Aboriginal heritage assessments and provide detail on additional heritage assessment and consultation proposed to be undertaken during the week commencing 20 February 2023.

1.1 Previously complete works

To date, assessment has involved several steps in accordance with the Project Methodology issued in February 2022. Completed activities have included:

Assessment step	Description	Timing	Complete?
Background research and predictive modelling	■ Background research has included review of existing environmental and archaeological data to understand the nature of the landscape associated with the Project Area to build predictions	Ongoing	Ongoing

A member of the
ERM Group

Assessment step	Description	Timing	Complete?
	and help guide interpretations of the Aboriginal heritage values present across the Project Area.		
Stage 1 – consultation process	Development of RAP list through: ■ Feedback from government bodies; ■ Placement of adverts in The Guardian Swan Hill; and Contacting parties identified by government bodies.	January 2022	Complete
Stage 2 and Stage 3 – consultation process	Development and review by RAPs of project information and proposed assessment methodology. Provision of RAP list to LALC and Heritage NSW.	Late February 2022	Complete
Revision of assessment methodology based on RAP comments	Updates to methodology based on feedback received during RAP review.	Late March 2022	Complete
Preliminary field program	Combined Wind Farm and Solar Farm Field survey.	19- 29 April 2022	Complete
Project update	Provision of update to RAPs.	5 September 2022	Complete
Second field program	Combined Wind Farm and Solar Farm Field survey. Preliminary discussion regarding management recommendations.	19 September – 1 October 2022	Complete

1.2 Preliminary Survey Results

The preliminary field program was undertaken in April 2022 which included pedestrian survey of a variety of landscapes associated with the Project Area.

- Survey was undertaken over a two-week period between 19 April and 29 April 2022;
- Survey was undertaken by 3 archaeologists, accompanied by between 3 and 9 RAP representatives per day. Transect spacing averaged 20 m;
- Survey covered 1176 hectares (31.6%) of the original Project Footprint;
- Survey resulted in the identification of 319 new individual site features including 43 suspected ancestral remains;
- Based on the high density of identified sites, survey procedure shifted to focus on delineating different landform types and ground truthing predictive modelling as opposed to covering the entire landscape as part of the preliminary survey; and
- All landform types were subject to some level of survey, with areas of high potential (referred to as the red soils by the field team) the focus of investigation. Preliminary feedback from RAPs during this survey noted that the grey soils (areas of lower potential)

were considered ‘deadlands’ and were noted to not have significant heritage values associated with them.

At the end of the Survey the Project Area was broken up into a series of landforms with the archaeological potential of each assessed based on the results of the preliminary survey.

Feedback received from the RAP group during survey included:

- That preservation of ancestral remains in-situ was the highest priority;
- That RAP monitoring of any ground disturbance works within landforms likely to contain human remains should be undertaken;
- That landscapes associated with the ‘red soil’ landscapes should be preserved in-situ (areas flagged as high to very high in landscape mapping);
- That there may be the potential for burials to be actively managed through the placement of sand/ matting to stop further erosion;
- Noted some willingness to consider temporary/ low impact facilities in high potential areas where adequate protection measures to the in-situ deposit could be developed;
- Requested hearths, mounds and larger camp sites were managed in-situ and not disturbed wherever possible;
- Noted willingness for impact/ movement of sites within the grey soil areas generally.

1.3 Second Survey Results

The second field program was undertaken in September 2022 which included a continuation of pedestrian survey of a variety of landscapes associated with the Project Area.

- Based on the high density of identified sites, and following discussion with Heritage NSW, survey procedure shifted from attempting 100% coverage to instead cover 100% of the micro-siting corridor in areas of high archaeological potential, and 50% of the micro-siting corridor in areas of moderate and low archaeological potential;
- Survey was undertaken between 19 September and 1 October 2022;
- Survey was undertaken by 3 archaeologists, accompanied by between 3 and 9 RAP representatives per day. Transect spacing averaged 20 m;
- Survey covered 2,236 hectares;
- Survey resulted in the identification of 148 new individual site features including 19 suspected ancestral remains;
- All landform types were subject to some level of survey, with areas of high potential (referred to as the red soils by the field team) the focus of investigation.

During a period of rain delay during the fieldwork program, which occurred on 12 September, a preliminary discussion was held with the attending RAP regarding management recommendations and other concerns. Feedback received from the RAP group during this discussion included:

- That the group desired cultural access to areas of the site during the operational life of the Project;
- That there should be no movement of Aboriginal Ancestral Remains, and no construction on these locations even if buried;
- That Aboriginal Ancestral Remains should be fenced and covered with Geo-Fab and buried with sediment to prevent further erosion and disturbance from stock;
- That collection of surface artefacts impacted by works from areas of low and moderate cultural sensitivity and moving of these artefacts to an area outside of development area was an appropriate mitigation measure; and
- That monitoring of works, particularly those occurring in areas of high cultural sensitivity, should occur.

1.4 Design Updates

Following completion of the preliminary survey ERM recommended that Acciona consider options to redesign the Project layout to avoid areas of high and very high potential (red sand) landscapes.

Acciona undertook a substantial redesign of the Project layout which removed the majority of Project Infrastructure from the red sand landscapes. Acciona undertook another redesign following the second survey to avoid areas of high site density identified during that fieldwork program.

1.5 Next Steps

It is now proposed to undertake a final field survey program to capture the remainder of the required survey coverage. This final field program will have two components.

1. Field Survey – The field survey would involve pedestrian transects of the new development footprint. It is proposed that survey would include enough coverage of landscapes with low to moderate potential to reach a total of 50% of these areas intersecting with the micro-siting corridor. Field survey would also include the remainder of areas of high and very high potential within the redesigned micro-siting corridor.

2. Forensic Survey – The forensic survey would involve re-inspection of the suspected ancestral remains by forensic anthropologist Colin Pardoe. Re-inspection will also be attended by Damian Wall who would be seeking feedback from the RAP group regarding management of the remains.

Both survey options will include opportunities for RAPs to participate.

3. Workshop – In addition to the field survey program it is proposed to host a workshop in Balranald on the afternoon of 23 February 2023. This workshop will summarise the findings to date and provide an opportunity to discuss cultural values and procedures for managing Aboriginal Cultural Heritage Values as part of the Project. Representative of Acciona will also be in attendance so that any questions more broadly about the project can be discussed.

1.6 Fieldwork Dates

The following field survey dates are proposed for the next date of survey.

The available number of RAPs have been developed based on the number of RAPs which are able to be comfortable transported in available field vehicles.

Field component	Dates	Available roles
Field Survey	Monday 20 February 202 – Friday 24 February 2023	6 RAP positions per day available
Forensic Survey	Monday 20 February 202 – Friday 24 February 2023	2 RAP positions per day available
Workshop	Thursday 23 February 2023 3:00pm	All RAPs provided an opportunity to attend.

1.7 Engagement

As with the previous field program, direct engagement for field survey works will be managed by **Cultural Heritage Solutions.** Cultural Heritage Solutions will have already been in touch to confirm availability and schedule site officers.

If you have any feedback on the above update or any questions regarding the program moving forward please contact me via phone or email.

Yours sincerely,

Maggie Cronin
Heritage Consultant
maggie.cronin@erm.com
(07) 3002 8414

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