

Aboriginal Cultural Heritage Assessment Report

Proposed Sandigo Solar Farm Aboriginal Cultural Heritage Assessment Report

Sandigo, New South Wales

By: Dr Shaun Canning and Anna RaudinoDate: 16 April 2018

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Spatial Data

Spatial data captured by Australian Cultural Heritage Management (Victoria) Pty Ltd in this document for any newly recorded sites has been obtained by using hand held or differential GPS units using the GDA94 co-ordinate system.

Abbreviations

Term	Meaning
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ATSIHP	Aboriginal and Torres Strait Islander Heritage Protection Act 1984
CATSI Act	Corporations (Aboriginal and Torres Strait Islander) Act 2006
DA	Development Application
DEC	Department of Environment and Conservation (now OEH)
DECC	Department of Environment and Climate Change (now OEH)
DECCW	Department of Environment, Climate Change and Water (now OEH)
Development Site	The 231ha of land within the wider Study Area where the ground disturbing infrastructure development will occur.
DP&I	New South Wales Department of Planning and Infrastructure
DUAP	Department of Urban Affairs and Planning
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ICOMOS	International Council on Monuments and Sites
JRAHS	Journal of the Royal Australian Historical Society
LEP	Local Environment Plan
MNES	Matters of National Environmental Significance
NP&W Act	National Parks and Wildlife Act 1974 (Amendment 2010)
NPWS	National Parks and Wildlife Service
NSW	New South Wales
OEH	Office of Environment and Heritage
PEA	Preliminary Environmental Assessment
РОМ	Plan of Management
RAP	Registered Aboriginal Party
SEPP	State Environmental Planning Policy
Study Area	The 608ha of land assessed in this ACHAR
TSC Act	Threatened Species Conservation Act 1995

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Allison Hawke (ESCO Pacific) Cedric Berge (ESCO Pacific) Fatma Ipek (Accent Environmental) Mark Saddler (RAP) Michael Cramer (Accent Environmental)

Executive Summary

The Sandigo Solar Project (the Project) is a utility scale renewable energy development with a capacity of up to 100 MW proposed by ESCO Pacific Pty Ltd (the Applicant) that would generate clean and renewable electricity from the power of the sun. Sandigo has been chosen due to the relatively high solar irradiance in the region, and the available capacity on the TransGrid electricity networks.

The solar farm operation will comprise up to 310,000 solar photovoltaic (PV) modules, known more commonly as 'PV Modules' or 'solar panels'. The solar panels use the same type of technology as commonly used in residential scale solar installations throughout Australia but are larger in size to those used residential applications.

The solar farm is a large infrastructure project that is expected to create up to 150 jobs during construction and up to 4 full-time and 8 part-time positions when operational.

The solar panels will generate direct current ("DC") electricity that will be inverted to alternating current ("AC") via Power Conversion Units (PCUs). Output from then solar farm would then be connected to the TransGrid supply network by underground or above ground high voltage cable to the TransGrid 132kV transmission line.

The Project is located approximately 22 km southeast of Narrandera, and 114 km and 122 km north of Albury, within the Narrandera Local Government Area (LGA). Narrandera Shire is in the Riverina region of southwestern New South Wales and is crossed by the Sturt and Newell Highways.

The Study Area for this ACHAR is 608ha.

The <u>Development Site</u> where ground disturbing works will occur is 231ha (located within the wider Study Area).

The Development Site was chosen by the Applicant as the primary location to construct the Project, however the 608ha Study Area has been assessed to understand the opportunities and constraints across that larger area in order to facilitate planning for a possible future expansion of the Project.

Consultation

The key stages of the cultural heritage assessment process used for the Project are derived from the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).

The stages of consultation and assessment, as described in the Guide to Investigating, assessing, and reporting on Aboriginal Cultural Heritage in New South Wales (2010) include:

- Undertaking a preliminary assessment to determine if the Project is likely to have an impact on Aboriginal cultural heritage (ACHM, 2017).
- Identifying the Aboriginal cultural heritage values associated with the area through consultation with Aboriginal people with cultural knowledge or responsibilities for country in which the proposed project occurs, written and oral research and field investigations
- Understanding of the significance of any identified Aboriginal cultural heritage values
- Assessing the impacts of the proposed development on any Aboriginal objects and Aboriginal places
- Describing and justifying the proposed outcomes and alternatives, and
- Documenting the Aboriginal cultural heritage impact assessment and the conclusion and recommendations to afford appropriate protection to any identified Aboriginal cultural values

Archaeological Assessment

An archaeological assessment of the Study Area was undertaken as a component of this project, which included a field survey. The field survey resulted in the identification and recording of 6 new archaeological sites, all of which were of low scientific significance.

Recommendations

A series of management recommendations have been proposed to (a) manage materials likely to be harmed by the project and (b) manage any unplanned discoveries should they occur on site.

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1 Introduction

The Sandigo Solar Project (the Project) is a utility scale renewable energy development with a capacity of up to 100 MW that would generate clean and renewable electricity from the power of the sun. Sandigo has been chosen due to the relatively high solar irradiance in the region, and the available capacity on the TransGrid electricity networks.

The solar farm operation will comprise up to 310,000 solar photovoltaic (PV) modules, known more commonly as 'PV Modules' or 'solar panels'. The solar panels use the same type of technology as commonly used in residential scale solar installations throughout Australia but are larger in size to those used residential applications.

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The solar panels will generate direct current ("DC") electricity that will be inverted to alternating current ("AC") via Power Conversion Units (PCUs). Output from then solar farm would then be connected to the TransGrid supply network by underground or above ground high voltage cable to the TransGrid 132kV transmission line.

The Project is further described in Chapter 2, below.

1.1 Roadmap of the Report

For ease of reference, the following table provides page numbers and reference points to key issues in this report.

Key Item	Chapter
Project Overview	Chapter 2
SEAR's	Chapter 2
Consultation Processes	Chapter 4
Archaeological Values and Significance Assessment	Chapter 5
Cultural Values	Chapter 6
Significance Assessment	Chapter 5
Recommendations	Chapter 9

Table 1-1: Report Roadmap

1.1.1 Aboriginal Cultural Heritage Assessment Approach and Objectives

The cultural values and archaeological assessments culminating in the preparation of this Aboriginal Cultural Heritage Assessment Report (ACHAR) have been undertaken to ensure:

- 1. Extensive and meaningful opportunities for engagement and consultation with Registered Aboriginal Parties (RAPs) for the Project;
- 2. Full compliance with the Secretary's Environmental Assessment Requirements (SEARs) listed in Chapter 2.2;
- 3. Full compliance with the OEH (2010) Aboriginal cultural heritage consultation requirements for proponents;
- 4. Full compliance with the OEH (2011) Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW;
- 5. An Objective archaeological assessment to determine the presence/absence and scientific significance of the archaeological places within the Study Area; and
- 6. The identification of cultural values and the determination of cultural significance which are consistent with the guidance provided in the Burra Charter and Indigenous Cultural Heritage Management Practice Note (Australia ICOMOS, 2013).

The objectives of this report are to:

- 1. Present the Project's consultation methodologies and processes as agreed with the Registered Aboriginal Parties (RAPs) and utilised in this Project; and
- 2. Ensure that Aboriginal people have the opportunity to participate in and improve the outcomes of the assessment by:
- (a) Providing relevant information about the cultural significance and values of the Aboriginal object(s) and/or place(s) within the Study Area,

- (b) Influencing the design of the method to assess cultural and scientific significance of Aboriginal object(s) and/or place(s) within the Study Area;
- (c) Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal object(s) and/or place(s) within the Study Area and the wider Study Area; and
- (d) Commenting on draft assessment reports before they are submitted by the proponent to the OEH.

1.2 Authorship

The following individuals have written this report.

1.2.1 Dr Shaun Canning

Dr Shaun Canning is General Manager – Victoria and the Principal Heritage Advisor of Australian Cultural Heritage Management (Vic) Pty Ltd. (ACHM), which specializes in cultural heritage assessment, expert advice, management of complex and large-scale cultural heritage management projects (primarily in relation to Australian Indigenous culture and heritage), native title advice and research, Indigenous community consultation and development matters, geographic information systems, cartography and analysis. Shaun has been involved extensively in the completion of over 500 cultural heritage management projects nationally.

Shaun holds a Bachelor of Arts degree majoring in Cultural Heritage Studies and Anthropology, a Bachelor of Applied Science (Hons) degree in Parks, Recreation and Heritage, and a PhD in Australian Indigenous Archaeology (La Trobe), specialising in predictive modelling and cultural heritage management in southern Victoria. Shaun was the recipient of a 3-year Australian Postgraduate Award Scholarship to complete his PhD. Shaun has extensive experience in Indigenous cultural heritage management in the resources, urban development, infrastructure and public land management sectors, alongside considerable experience in community consultation and Aboriginal education. Shaun has particular expertise in complex project management, and the use of GIS and predictive modelling in archaeological, cultural and natural heritage management contexts.

Shaun is a Fellow of the Australian Anthropological Society (F.AAS), a member of the International Council on Monuments and Sites (M.ICOMOS), a full member of the Australian Association of Consulting Archaeologists (M.AACAI) and a Certified Environmental Practitioner (CenvP) through the Environment Institute of Australia and New Zealand (EIANZ).

Shaun is an '*Expert Member*' of the ICOMOS International Committee on Archaeological Heritage Management (ICAHM), an Honorary Research Associate of the Archaeology Program at La Trobe University, a member of the Indigenous Relations Working Group committee of the Minerals Council of Australia, and a member of the EnviroDevelop Technical Standards Development Taskforce for the Urban Development Institute of Australia(UDIA).

1.2.2 Anna Raudino

Anna began her archaeological career in Italy after completing postgraduate degrees in Archaeology and master's degrees in Prehistoric Archaeology and Museology. She has worked on a variety of prehistoric and historical sites throughout Italy before coming to Australia. Over the last seven years, she has worked extensively as a heritage consultant in Western Australia and Victoria. Anna is currently completing her PhD in the Archaeology Department at La Trobe University, Bundoora.

1.3 Archaeological Fieldwork

Anna Raudino and Madeleine Kelly completed the archaeological survey of the Study Area between 11-13 December 2017 and 21-24 January 2018. Anna and Maddy were accompanied during the survey by Wiradjuri RAP, Mark Saddler.

2 Description of the Study Area and Development Site

This section outlines the proposed activity and provides background information about the Study Area and the Development Site.

2.1 Site Information

Table 2-1: Site Information

Address	174 Mitchells Road, Sandigo, New South Wales, 2700
Applicant	ESCO Pacific Pty Ltd
Council	Narrandera Shire Council
Titles	Lot 33, 35, 55, 108, 109 on Plan 754550
	Lot 4 on Plan 607982
	Lot 70, 71 on Plan 754559
	Lot 1 on Plan 802754
Total Study area	608ha
Land Use	Cropping, grazing – high level of ground disturbance
Zoning	RU1

The Project is located approximately 22 km southeast of Narrandera, and 114 km and 122 km north of Albury, within the Narrandera Local Government Area (LGA) (See Map 2-1). Narrandera Shire is in the Riverina region of southwestern New South Wales and is crossed by the Sturt and Newell Highways.

The Study Area for this ACHAR is 608ha (See Map 2-2).

The <u>Development Site</u> where ground disturbing works will occur is 231ha (located within the wider Study Area).

The Development Site was chosen by the Applicant as the primary location to construct the project, however the 608ha Study Area has been assessed to understand the opportunities and constraints across that larger area in order to facilitate planning for a possible future expansion of the Project.

2.2 The Proposed Activity

The Project would be built as a utility scale solar PV plant, with the solar panels mounted in rows on horizontal tracking or fixed tilt systems.

The rows of solar panels are electrically connected into arrays before being inverted from DC to AC electricity, which is the standard form of electricity used throughout Australia. Electricity is then fed, via an on-site high voltage power reticulation system, into the local electricity network through the TransGrid 132kV transmission line.

Key infrastructure items to be constructed for the Project include:

- Installation of approximately 310,000 solar panels in regular arrays;
- Each solar panel would be fixed to a metal mounting structure secured with ground piles;
- Aboveground and underground DC cabling;
- Central inverters, step up transformers, and switchgear (known as PCUs);
- Underground AC cabling would run from the PCUs to the solar substation;
- A main step up transformer and associated equipment;
- Internal vehicle access tracks;
- Perimeter safety fencing and security system;
- Supervisory control and data acquisition (SCADA) control systems;
- Site office and staff amenities, and maintenance shed;

- A permanent staff and contractor car parking area;
- A permanent all-weather access and access road; and
- Temporary site compound, lay-down area, and equipment storage areas during construction.

The following section outlines details of each of the items noted above.

2.2.1 Solar Arrays.

Solar arrays would be comprised of up to 310,000 individual solar panels which would either be multicrystalline, monocrystalline, or thin film technology. Each solar panel would be fixed to a metal mounting structure that would be piled or screwed into the ground without the need for any excavation work or use of concrete. This technique is used to minimise ground disturbance. The PV mounting structure would slowly track (in a single axis) the horizontal movement of the sun using an automated tracker unit. Alternatively, fixed tilt mounting structures may also be used. Under both scenarios the height of the fixing systems and modules would not exceed 4m in height. Figure 2-1 (below) shows a typical solar array.



Figure 2-1: Typical PV panels at a solar farm grouped in solar arrays.

2.2.2 DC Cabling

DC cabling will be utilised to connect each PV module in a string (up to 310,000 modules) to field DC boxes mounted near the solar panels. The DC boxes will be located approximately 1m off the ground between the PV arrays. DC cabling will be installed underground at a minimum depth of 1m between the DC boxes and the PCUs. DC cabling will be installed in accordance with Australian Standards and also with the requirements of Primefact 1063: Infrastructure Proposals on Rural Land (DPI, 2013).

2.2.3 Power Conversion Unit

Within each array block is a PCU which contains the central inverters, step-up transformers, and switchgear which convert DC electricity collected from the PV panels into AC electricity for connection and distribution via the TransGrid 132kV Transmission Line. The PCU (and associated equipment) is typically designed to be housed within a shipping container for easy transport and installation onsite. A PCU is typically 13m long, 2.5m wide, and 3m high. Plate 12 below shows a typical PCU with the relevant power conversion equipment installed.



Figure 2-2: Typical Power Conversion Unit.

2.2.4 AC Cabling

From the PCUs within each array block underground or above ground AC cabling will be installed to a minimum depth of 1m (if underground) and connect with the step-up transformer in the solar substation. AC cabling would be installed in accordance with Australian Standards and with the requirements of Primefact 1063: Infrastructure Proposals on Rural Land (DPI, 2013).

2.2.5 Step-up Transformer and Substation

A main step-up transformer and associated equipment in a solar substation would convert the on-site AC reticulated 33 kV electricity to 132 kV electricity. The up-converted 132kV supply would then be connected via high voltage cable to the TransGrid 132kV Transmission line where it would enter the local electricity network. High voltage cabling would be installed in accordance with Australian standards.

2.2.6 Local Transmission Network

The proposed connection point for the solar farm to the Transmission Network Service Provider (TNSP) is the 132 kV Transmission Line owned and operated by TransGrid. From the TransGrid Transmission Line, power is distributed to the national electricity grid via the Essential Energy local power network.

2.2.7 Battery Storage

The proposal will also include the potential for battery storage to be installed on site.

Solar Farms are an intermittent source of energy. Battery storage systems can be used either to smooth the fluctuating energy produced by the solar farm or to store the excess energy during low demand periods which can be subsequently used during higher demand periods or when solar energy is unavailable (e.g. at night).

The batteries can also compensate for frequency variations in the electricity grid which are caused by intermittent renewable generators as well as fluctuations in consumption. Batteries can store electricity from the grid or feed electricity into the grid in a matter of seconds and compensate for the fluctuations caused by renewables or resulting from power plant outage or irregularities in consumption.

In addition to the shifting of electricity output, energy storage on the site can contribute to:

- Improved reliability of the electricity network and reduced electricity costs associated with grid upgrades to deal with peak energy demand
- Improved sustainable outcomes by combining clean energy generation with clean energy storage.

2.2.8 System Monitoring

The entire solar farm will be monitored through a supervisory control and data acquisition (SCADA) system that will monitor the performance of all the solar equipment onsite. The SCADA system will also be capable of notifying staff onsite and remotely of system issues and failures.

2.2.9 Internal Roads

Internal vehicle access tracks would be constructed to each PCU and to the solar substation to allow for site maintenance. Onsite tracks would be constructed of compacted gravel and, where required, geotextile fabric would be laid between the soil and the gravel. Internal access tracks would be up to 5m wide to allow for the safe delivery, unloading and installation of key components such as the PCUs, PV panels, and switch equipment.

The exact position of access tracks would be determined during the detailed design phase when the solar array design in finalised. Internal access tracks are private roads designed and constructed only for construction, operation and maintenance purposes.

2.2.10 Site Office and Staff Amenities

A site office and staff amenities building will be constructed or installed at the site. Its dimensions would be approximately 16m long, 10 m wide, and 6m high. All visitors and contractors will be required to report to the site office upon entry to the site. Office features will include staff offices and control room. Staff amenities will include toilets, showers, a lunch room, and first aid room.

2.2.11 Maintenance Building

A maintenance building will be established adjacent to the site office and will provide storage for spare parts, maintenance equipment, and a workshop. The maintenance shed will be approximately 16m long, 10m wide, and 6m high.

2.2.12 Site Power

Diesel generators will be available for power supply through the construction period. Should low voltage power be available in the vicinity, the Project may utilise power from the existing network. Once operational, it is anticipated that the Project will utilise power generated from the solar farm rather than a grid connected service.

2.2.13 Water and Sewerage Supply

Temporary toilets will be available throughout the construction period for use by contractors. These toilets will be pumped out by a local licenced waste contractor. Once operational, it is anticipated that the development will collected water from building roofs and utilise onsite water storage tanks. Water would be trucked in during periods when there is insufficient rainfall to fill onsite water tanks. Sewage generated during operations will be treated by an onsite bio-cycle system, installed to comply with Narrandera Shire Council regulations and Building Code of Australia (BCA) requirements.

2.2.14 Communications

It is anticipated that the development will use both the mobile and fixed line networks for communication purposes. Where a connection is made to the fixed line network cabling will following existing access tracks and road reserves to minimise ground disturbance.

2.2.15 Construction Materials

Most of the construction materials and components are likely to be sourced from overseas due to the specialised nature of the equipment. Materials will be transported by road from port facilities in either Sydney or Melbourne in 12-meter shipping containers. Civil materials such as aggregates, and concrete will be sourced from local suppliers. The main construction materials will include:

- Aggregates, road base, and concrete;
- Steel fencing materials;
- Steel piles and ground screws;
- Steel mounts and bolts;
- Cabling, conduit, and weather proof junction boxes;
- PV modules and mounting structures;
- Shipping containers to house central inverters;
- Weatherproof DC boxes and steel posts;
- Steel framing and colorbond sheeting for maintenance shed and site office; and
- Timber and fixtures for building fit-out.

2.2.16 Site Preparation

Site preparation will commence immediately across the Development Site to allow for the timely installation of roads, drainage, solar equipment, cabling, and infrastructure. Site preparation activities will generally involve the following:

• Slashing and/or removal of areas of vegetation;

- Removal of existing fencing and establishment of boundary fencing;
- Establish access points and main entry roads for delivery of machinery and equipment;
- Undertake land survey, geotechnical and other preliminary investigations; and
- Establishment of ancillary facilities including the site compound, laydown areas, and temporary contractor facilities.

2.2.17 Infrastructure Installation

The installation of infrastructure will commence directly after site preparation works are finalised. The key infrastructure activities will include:

- Levelling of dams (where required);
- Installation of internal roads and access tracks;
- Installation of drainage works and regrading of surface features (where required);
- Construction of the permanent site office, maintenance shed, and switchyard;
- Installation of the mounting structures foundations by driving steel piles pneumatically into the ground using specialist equipment (dependant on ground conditions ground screws may be used);
- Attachment of steel mounting structures to the ground piles;
- Installation of the solar panels onto the mounting structures, including tracker units;
- Installation and connection of the solar panels to the DC boxes with aboveground cabling;
- Installation of the PCUs;
- Connection of the DC boxes to the PCUs by trenching and underground cabling, and connection of the PCUs to the onsite power reticulation system and step-up transformer;
- Grid connection through the installation of underground mains from the step-up transformer to the TransGrid transmission line; and
- Commissioning and testing of PV strings, central inverters, switch equipment, step-up transformer, monitoring systems, and electrical protection systems.

2.2.18 Construction Equipment

Construction equipment required for the establishment of the solar farm will be limited to heavy machinery and plant generally used across the wider construction industry. It is envisaged that all of this machinery and plant will be able to be sourced locally. Construction equipment to be utilised onsite will include:

- 1 x Truck and dog for civil works;
- 1 x D6 dozer or equivalent for levelling and road development;
- 1 x 24 tonne excavator for earthworks
- 1 x grader for road development and levelling activities
- 1 x mulcher for the mulching and re-use of vegetation material onsite;
- 1 x 7 tonne vibrating roller for road construction;
- 1 x front end loader for the movement and loading of soil and aggregate materials;
- 1 x water cart for road construction and dust suppression;
- 1 x piling rig for installing PV piles;
- 1 x Franna crane for the lifting of loads, erection of steel, and movement of heavy plant;
- 2 x trenchers for the installation of underground conduits and cabling;
- 1 x portable generator for temporary site power;
- Hand power tools and equipment.

2.2.19 Disturbance Footprint

The size of the disturbance footprint is 231 ha.



Map 2-1: Regional Location of the Study Area



Map 2-2: The 608 ha Study Area for this ACHAR

2.3 Project justification

Since 2001, the Commonwealth Government has mandated the use of energy from renewable resources in electricity generation. In 2009, the RET scheme mandated that 20% of Australia's electricity supply was to come from renewable sources by 2020 (DoEE 2018b). In 2011, the RET was split into two parts comprising a large-scale RET scheme and a small-scale renewable energy scheme. The large scale RET scheme created a financial incentive to establish and expand renewable power stations such as solar farms, wind farms and hydro-electric power stations and deliver the majority of the 2020 target. The target has since been adjusted and the current RET is 33,000 GWh by 2020 (DoEE 2018b).

The RET scheme sits within the broader context of Australia's need to reduce greenhouse gas emissions to meet its commitments under the 1997 Kyoto Protocol and revised emissions target under the 2015 Paris Agreement (DoEE 2018b). The Project would contribute Australia's greenhouse gas commitments by reducing emissions associated with energy use and contributing to the achievement of the RET. The solar farm would also be part of the transition away from fossil fuel reliance to cleaner electricity generation, and the transition to increased energy security through a more diverse energy mix.

At a State level, the Project proposal is consistent with current goals and targets for renewable energy generation in NSW. These include (DoEE 2018b):

- Supporting the achievement of the RET;
- Attracting renewable energy investment and projects;
- Building community support for renewable energy; and
- Attracting and growing expertise in renewable energy.

Other project benefits are expected to include:

- Employment opportunities during construction, including engagement of local contractors and materials and service providers;
- Long-term local employment opportunities over the life of the project;
- Contributions to local infrastructure improvements;
- Education and training of contractors and residents; and
- Rent received from workers accommodated in the area.

2.4 Construction Environmental Management Plan (CEMP) and Decommissioning Management Plan (DMP)

The Construction Environmental Management Plan (CEMP) and Decommissioning Management Plan (DMP) for the Project will include appropriate Aboriginal cultural heritage management and mitigation measures to the satisfaction of OEH. This will include an appropriate unexpected finds protocol (as detailed in this ACHAR) and clear marking and protection of any Aboriginal cultural heritage constraints, within or near to, any proposed Project activities.

2.5 Project Alternatives

The Applicant has undergone a process of constraints and opportunities analysis to identify potential project sites in NSW and other States. The Applicant originally contemplated a larger project; hence some 608 ha was archaeologically surveyed (the Study Area). The final Development Site is 231ha, which is entirely contained within the 608 ha.

This process has included consideration of factors such as:

- Regulatory settings for renewable energy projects;
- Access to and capacity of existing energy grids;
- Solar irradiation levels;
- Potential for land acquisition;
- Land suitability (topography, existing land use, flood risk, zoning etc.); and
- Need to minimise environmental and social impacts (e.g. avoiding sensitive environments or areas of cultural heritage value).

The proposed locations for the Projects emerged as highly prospective sites for the development of a solar project, particularly due to the proximity of the two 132 kV TransGrid transmission lines and the 330 kV TransGrid transmission line. Accordingly, a decision was made to initiate pre-development investigations and activities.

2.6 Environmental Overview

A preliminary biodiversity site assessment was undertaken in October 2017 by two qualified ecologists from Ecolink Consulting. The Study Area was walked and/or driven to assess the location and quality of habitats that were present. The Study Area includes a mixture of grazed and cropped paddocks with houses and supporting infrastructure. Native vegetation is largely absent, with scattered paddock trees the only remnants of the historic vegetation communities that once covered the Study Area. Where more intact native vegetation does occur, it is largely restricted to the boundaries of the Study Area.

Dominant crops within the Study Area include Wheat *Triticum aestivum*, Barley *Hordeum spp*. and Canola *Brassica napus*, grown in rotation, interspersed with years in which the paddocks are sowed with Rye-grass *Lolium spp*. and Lucerne *Medicago sativa subsp. sativa* for grazing. Dams occur and appear to have been lined with clay and this, in combination with regular grazing by sheep and crop rotation, has resulted in the absence of fringing or aquatic native vegetation and low ecological values are attributed to them. These dams are of low ecological value and do not provide significant habitat for any threatened species.

A number of fauna species were recorded during the field assessment, comprising native and introduced birds and mammals. No amphibians or reptiles were observed during the assessments. The state significant Greycrowned Babbler *Pomatostomus temporalis* and White-fronted Chats *Epthianura albifrons*, which are listed as Vulnerable were the only threatened species recorded during the assessments. All the other species recorded in the Study Area are considered common to the Riverina and agricultural landscapes in southern Australia. The remnant woodlands and derived grasslands that are largely confined to the perimeters of the Study Area provide low to medium quality habitat for a range of common species. The Grey-crowned Babbler was recorded in these patches of vegetation and there is the potential that other threatened species occur in smaller numbers, at different times of the year.

Crops accounted for a large portion of the sites and provided very low-quality habitat for native flora and fauna. Grazed pasture was dominated by a range of pasture grasses and environmental weeds and accounted for most of the remaining portion of the Study Area. The grazed pasture provided low quality habitat for grassland adapted species, including White-fronted Chats, and potentially for Plains-wanderer *Pedionomus torquatus* and Spotted Harrier *Circus assimilis*, which were not recorded during the current assessment, but which may occur. However, this type of habitat is widespread within the landscape and unlikely to be limiting for any species.

Scattered paddock trees were observed throughout the Study Area which are likely to provide foraging and breeding habitat for a variety of species. These trees comprised a mixture of White Cypress Pine *Callitris columellaris*, Western Grey Box *Eucalyptus microcarpa*, Buloke *Allocasuarina luehmannii* or Yellow Box *Eucalyptus melliodora* (in descending order of dominance), over a highly modified and predominantly exotic understorey. Some of these trees are likely to possess hollows. Hollows are generally a limited resource within the landscape, however the disturbed nature of the Study Area and broader landscape means that it is unlikely that these trees support any threatened species. The species that are likely to nest in these trees are likely to be generally common within the landscape, because the removal of other ecological values in the landscape has reduced the diversity of species that persist near the Study Area.

2.6.1 Geology

The Riverina is dominated by river channels, floodplains, swamps, lakes and lunettes of Quaternary age. Modern river channels of the Riverina consist mostly of sandy soils with more saline heavy grey and brown clays towards the outer perimeter of the floodplains on the higher rarely flooded terraces (Eardley 1999). The Study Area features red-brown clays and sandy clays.

2.6.2 Topography / Landforms and Drainage

The Study Area is situated within the Murray-Darling Basin, located approximately:

- 14 km southwest of the Murrumbidgee River
- 0.3 km north of Sandy Creek
- 6 km southwest of Old Man Creek.

The Study Area is located within the Murrumbidgee Irrigation Area which is managed by Murrumbidgee Irrigation Limited.

The Study Area comprise low-lying land crossed by many ephemeral watercourses and containing constructed farm dams. The site is gently sloping, with ~20 m increase in elevation from north to south, rising away from the main watercourses. The land is in a relatively stable condition, with some evidence of erosion.

2.7 Post -Contact Land Use and Approvals History

2.7.1 Land Use

The Study Area is cleared farmland; the region having been first taken up as grazing runs in the 1840's. Today, the Study Area is used for a range of mixed farming activities, particularly broadacre cropping and grazing.

2.8 Secretary's Environmental Assessment Requirements (SEAR's)

The Project is a State Significant Development as defined under State Environmental Planning Policy (State and Regional Development) 2011 and will require development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

2.8.1 Secretary's Environmental Assessment Requirements (SEARs)

Specific to the assessment of cultural heritage impacts, the SEAR's require that the EIS must include:

- An assessment of the likely impacts of the development on Aboriginal heritage (cultural and archaeological), including consideration of the significance of these objects or declared places to Aboriginal people and having regard to the OEH's requirements;
- An assessment of the likely impacts of the development on non-Aboriginal heritage, paying particular attention to its settlement by Europeans and pastoral history and having regard to the OEH's requirements; and
- Evidence of consultation.

The archaeological and cultural values assessments presented in this ACHAR have been prepared in accordance with the SEARs (See Table 2-2) requirements, the requirements of the Guide to Investigating, assessing, and reporting on Aboriginal Cultural Heritage in New South Wales (OEH, 2010), the Community Consultation guidelines of the current Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010a), and the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011a). It also been prepared in accordance with, and it also complies with the intent, requirements and assessment methodologies outlined in the Burra Charter (1999).

Item	Requirement	Where in this Report
Aboriginal cultural heritage	The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010) and should also be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEH regional officers.	Chapter 5
	Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.	The ACHAR has been prepared to comply with the current Aboriginal cultural heritage consultation requirements for proponents (DECCW 2010a) and the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2010) to inform consultation and assessment, and complies with the intent, requirements and assessment methodologies in the Burra Charter (1999).
	Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.	Chapters 5, 6, 7 and 9
Historic heritage	The EIS must provide a heritage assessment including but not limited to an assessment of impacts to State and local heritage including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings,	Chapter 8

Table 2-2: Secretary's Environmental Assessment Requirements (SEAR's) for the Project (SSD 8872).

works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall:
 outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996),
 be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),
 include a statement of heritage impact for all heritage items (including significance assessment),
 consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historica arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and
5. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

2.9 Statement of Compliance

This ACHAR has been prepared in accordance with the SEAR's and in accordance with current NSW guidelines and standards.

3 Legislative Context

The following sections present the Commonwealth and State statutory controls that provide legal protection for Aboriginal cultural heritage in NSW, and that identify the approval processes for any proposed project that seeks to impact Aboriginal cultural heritage places and objects.

3.1 Legislative Environment

The following sections present the Commonwealth and State statutory controls that provide legal protection for Aboriginal cultural heritage in NSW, and that identify the approval processes for any proposed Project that seeks to impact Aboriginal cultural heritage places and objects.

3.1.1 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) protects matters of national environmental significance. The EPBC Act lists nine Matters of National Environmental Significance (MNES), which include world heritage sites and national heritage places, and provides for the establishment and maintenance of the National Heritage List (a list of Australia's most valued natural, Indigenous and historic heritage sites) and the Commonwealth Heritage List (a list of places of natural and cultural significance located on lands owned or controlled by the Australian Government).

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (the ATSIHP Act) provides for the declaration by the Minister for the protection of Aboriginal cultural heritage of significance to Indigenous Australians, generally in circumstances where State or Territory laws fail to do so. The power to make declarations is meant to be used as a last resort, after the relevant processes of the state or territory have been exhausted; no declarations have been made under the ATSIHP Act in relation to the Study Area.

Native Title Act 1993

The *Native Title Act 1993* (NT Act) provides for the recognition and determination of native title in Australia, processes for how future activity can proceed on native title land, and to provide compensation where native title is impaired or extinguished.

Native Title Act processes for the purposes of the Project are not dealt with in this report, as Native Title has been extinguished in the Study Area.

Protection of Movable Cultural Heritage Act 1986

The *Protection of Movable Cultural Heritage Act 1986* (the PMCH Act) implements Australia's obligations under the UNESCO Pacific Convention on the Means of Prohibiting the Illicit Import, Export and Transfer of Ownership of Cultural Property. Under the PMCH Act it is unlawful to export a 'protected object' from Australia without a certificate or permit from the Environment Minister. This Act is not directly relevant to this report.

3.1.2 State Legislation

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the main piece of legislation regulating land use in NSW.

The *EP&A* Act is administered by the Department of Planning and Infrastructure (DP&I) and guides the process of land development, including the assessment and management of cultural heritage impacts.

National Parks & Wildlife Act 1974

The *National Parks & Wildlife Act 1974* (NP&W Act) is the primary law in NSW that provides protection for Aboriginal cultural heritage. The Act is administered by the Office of Environment and Heritage (OEH), which is within the Department of Premier and Cabinet NSW.

Under section 86(1) and 86(4) of the NP&W Act, it is an offence to harm an Aboriginal objector an Aboriginal place. The NP&W Act provides for a number of defences to prosecution for harming Aboriginal objects or places including that the person harmed the object or place in accordance with an Aboriginal Heritage Impact Permit (AHIP) or that the person exercised due diligence.

Under section 89J of the EP&A Act, an AHIP is not required, and the NP&W Act provisions prohibiting harm to Aboriginal objects and places are not applicable, to State Significant Development that is authorised by development consent.

Heritage Act 1977

The *Heritage Act 1977* provides for the protection of natural, cultural and built heritage that are of State or local heritage significance in NSW, through the register of heritage places or items on the State Heritage Register and the making of interim heritage orders and emergency orders to protect heritage items or places at risk.

The registration on the State Heritage Register or the making of interim register order places limits on what can be done to the heritage, although interim heritage orders do not apply to State Significant Development under the EP&A Act.

Archaeological relics are protected under Division 9 of the Act, which also prescribes the requirement for permits issued under sections 140 and 141 of the Act for the disturbance of relics, or under sections 60 and 63 of the Act, in cases where 'relics' are situated within sites or places listed on the State Heritage Register. Permits are issued in accordance with Heritage Council policies which ensure that disturbance of sites and 'relics' occurs in accordance with appropriate professional assessment, standards and procedures.

4 Aboriginal Consultation

Aboriginal people have rights and interests in the assessment and control of cultural heritage objects and places. In recognising these rights and interests, all parties concerned with identifying, conserving and managing cultural heritage should acknowledge, accept and act on the principles that Aboriginal people:

- Are the primary source of information about the value of their heritage and how this is best protected and conserved;
- Must have an active role in any Aboriginal cultural heritage planning process;
- Must have early input into the assessment of the cultural significance of their heritage and its management so they can continue to fulfil their obligations towards their heritage; and
- Must control the way in which cultural knowledge and other information relating specifically to their heritage is used, as this may be an integral aspect of its heritage value.

Consultation with Aboriginal people about cultural heritage places and the way they should be managed is required under Part 6 of the NP&W Act. The processes of consultation are specifically outlined in the Department of Environment, Climate Change and Water publication 'Aboriginal cultural heritage consultation requirements for proponents 2010'.

This project has followed these guidelines and has also been consistent with the Guide to Investigating, assessing, and reporting on Aboriginal Cultural Heritage in New South Wales (OEH, 2010) guidelines.

4.1 Consultation Objectives and Approaches

'Consultation with Aboriginal people is an integral part of the process of investigating and assessing Aboriginal cultural heritage. Aboriginal people who hold cultural knowledge about the area, objects and places that may be directly or indirectly affected by the proposed activity must be given the opportunity to be consulted. This is done through the process of investigating, assessing and working out how to manage the harm from the proposed activity. Consultation must adhere to the requirements set out in Clause 80C of the NPW Regulation' (OEH 2011:2).

'Conservation, interpretation and management of a place should provide for the participation of people for whom the place has special associations and meanings, or who have social, spiritual or other cultural responsibilities for the place' (Australia ICOMOS 1999).

Based on the SEAR's and OEH guidelines for Aboriginal cultural heritage assessment in NSW, Aboriginal participation and involvement of in all stages of cultural heritage assessment and management has been fundamental to the Project's ACHAR.

The consultation steps employed in the cultural heritage assessment for the Project include(d):

- Advertising for Registered Aboriginal Parties in local media;
- Participation in the archaeological assessment of the Study Area;
- Facilitation of RAPs consultation on the cultural values of the Study Area, and where required, Walks on Country to identify and record Aboriginal cultural heritage values;
- Archival investigation;
- Consultation with OEH as required; and
- Assessment of the key cultural heritage issues for the Project, considering relevant guidelines, policies and plans and input from RAP(s).

As an outcome of this process, this ACHAR presents a combined understanding of Aboriginal cultural heritage values of the Study Area, as identified by RAP(s), historical research and the archaeological assessment.

This ACHAR also presents an impact assessment that incorporates the views of all RAP(s) and presents a series of management measures and recommendations that have been prepared in consultation with the RAP(s).

4.2 Cultural Heritage Assessment Process for the Project

The key stages of the cultural heritage assessment process used in the Project are derived from the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).

The stages of consultation and assessment, as described in the Aboriginal cultural heritage consultation requirements for proponents (DECCW 2010) include:

- Undertaking a preliminary assessment to determine if the Project is likely to have an impact on Aboriginal cultural heritage (ACHM, 2017);
- Identifying the Aboriginal cultural heritage values associated with the area through consultation with Aboriginal people with cultural knowledge or responsibilities for country in which the proposed project occurs, written and oral research and field investigations;
- Understanding of the significance of any identified Aboriginal cultural heritage values;
- Assessing the impacts of the proposed development on any Aboriginal objects and Aboriginal places;
- Describing and justifying the proposed outcomes and alternatives; and
- Documenting the Aboriginal cultural heritage impact assessment and the conclusion and recommendations to afford appropriate protection to any identified Aboriginal cultural values.

4.2.1 Four Stages of Consultation and Assessment

Consultation consistent with the DECCW (2010) and DECCW (2010a) guidelines and in accordance with the principles of The Burra Charter (Australia ICOMOS, 2013) has involved four consultation stages as detailed in the DECCW (2010a) guidelines outlined below.

Stage 1: The Applicant initiated formal notification of the proposed Project and the ACHAR process, and the opportunity for Aboriginal parties to formally register their interest in the Project via local media;

Only one individual (Mr Mark Saddler) registered for the Project.

Stage 2: The Applicant and ACHM conducted initial Project description consultation, which included presenting information on the proposed Project to the RAP who registered an interest in Stage 1. Initial consultation was followed by the Draft Aboriginal Heritage Survey Methodology for 28-day review. Consultation with the RAP involved a combination of phone, email and person-to-person consultation.

Stage 3: During Stage 3, ACHM conducted extensive archaeological fieldwork across the Study Area with the involvement of the RAP. The approach taken actively involved the RAP in the assessment of the cultural heritage values of the Study Area, the likely Project impacts, if approved, and the development of management measures.

The RAP was asked to provide comment on site specific and cultural, social, historic and aesthetic values, including the significance of archaeological and cultural sites, and values associated with flora and fauna and landscape features to inform the assessment and management measures.

Stage 4: The RAP reviewed the draft ACHAR and provided feedback, which has been incorporated into this final ACHAR and discussed further in Section 4.6.1.

4.3 Stage 1 Consultation – Notification and Registration of Interest

Stage 1: The Applicant conducted consultation via formal notification of the proposed Project and the ACHAR process, and the opportunity for Aboriginal parties to formally register their interest in the Project.

Stage 1 of the DECCW (2010) consultation process aims 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'.

4.3.1 Agency Notification

In accordance with Section 4.1.2 of DECCW (2010), The Applicant notified the following organisations on 18th October 2017 about the Project, and sought information on any Aboriginal people or organisations who may hold cultural knowledge relevant to determining the cultural significance associated with the Study Area:

- Office of Environment and Heritage (who responded on 24th October with a list of four Aboriginal parties);
- Narrandera Shire Council (who responded on the 18th October with a list of 1 RAP);
- Office of the Registrar of Aboriginal Land Rights (who responded on 26th October identifying that there were no Registered Aboriginal Owners for the Study Area);
- National Native Title Tribunal (who responded on 31st October 2017 with no further information);
- NTSCorp (who did not respond);
- Narrandera Local Aboriginal Land Council (who responded on 25th October, declining to participate in the ACHAR process due to prior commitments);

- Wagga Wagga Local Aboriginal Land Council (who did not respond);
- Leeton and District Local Aboriginal Land Council (who did not respond), and
- Griffith Local Aboriginal Land Council (who did not respond).

4.3.2 Public Notification

Advertisements were placed in the following publications seeking registrations of interest for the Project:

- Narrandera Argus: Tuesday 24th October & Tuesday 31st October
- The Area News: Monday 23rd October & Monday 30th October
- The Daily Advertiser: Monday 23rd October & Monday 30th October
- The Riverine Grazier: Wednesday 25th October and Wednesday 1st November
- The Southern Riverina: Wednesday 25th October and Wednesday 1st November

A copy of these advertisement is provided in Appendix 11.3.

4.3.3 Written Notification to invite Participation in the ACHAR Process

Following the newspaper advertisements and correspondence mentioned above, only one person registered for the Project on 24th October. No further registrations were forthcoming, despite advertising in all local media twice.

The RAP was forwarded hard copies of the Project Information and archaeological survey methodology on 21st November 2017.

4.4 Stage 2 - Further Consultation and Methodology Review

on 27th November, the RAP provided comments on the proposed survey methodology developed for the Study Area. The RAP commented that:

"The area of the proposed solar farm is an area that I have already recorded many scar trees and items in. This area is a traditional Wiradjuri walking track. Also, the fact that several old wet lands are about, and the adjacent creek is very important to my people." (Mark Saddler, Pers Comm, 2017).

4.5 Stage 3 Consultation – Cultural Values / Impact Assessment and Development of Management Measures

Stage 3 of the DECCW (2010a) consultation process relates to gathering information about the cultural significance values of an assessment area, to seek Aboriginal registrant information that will enable the cultural significance of the place to be determined, and to provide Aboriginal registrants with the opportunity to provide input on cultural heritage management options.

The RAP was provided with numerous opportunities to participate in the Stage 3 consultation program between March and September 2015.

During Stage 3 activities included:

- Archaeological Surveys of the Study Area between 11-13 December 2017 and 22-24 January 2018.
- Comments were received back from the RAP on the survey results on the 9th February 2018.

4.6 Stage 4 Consultation – Draft ACHAR Review

Stage 4 of the DECCW (2010a) consultation process relates to RAPs reviewing the draft ACHAR and providing feedback.

The Draft ACHAR was sent out to the RAP for 28-day review on the 22nd February 2018.

4.6.1 Aboriginal Cultural Values Assessment Feedback

The following details any submissions received during the 28-day review period for the cultural values assessment.

Table 4-1: Table of Stage 4 ACHAR Comments

RAP	Comments
Mark Saddler	The RAP commented on the draft on the 26th March requesting advice about the procedure for artefact storage and repatriation should the solar farm development proceed. ESCO responded to the request for information. The RAP was satisfied with the response and advised that he was happy for the ACHAR to be finalised.

5 Aboriginal Cultural Heritage Context

This section of the ACHAR documents the results of the Aboriginal cultural heritage survey undertaken by ACHM and the one RAP for the Project.

5.1 AHIMS Search

A "Detailed" AHIMS search was undertaken on 12th October 2017.

No Aboriginal sites or places are known to exist within 5 km of the Study Area prior to the survey(s) discussed below.

5.2 Local Aboriginal Heritage Studies

A search of the AHIMS database showed that there have been no Aboriginal cultural heritage studies undertaken within 10km of the Project property.

The following reports were provided by OEH and have been completed within the wider Narrandera region.

Year	Authors	Title	Distance from Study Area	Findings
2004	Navin Officer	Proposed Replacement of Five Bridges and Culverts on the Newell and Sturt Highways, near Narrandera, NSW	>25km	2 Scarred Trees
1999	Central West Archaeological and Heritage Services	An archaeological survey of the proposed Colombo Creek Bridge and Colombo Creek Floodway Channel Bridge widening, 33.3 kilometres South of Narrandera	> 25km	1 Isolated Artefact
1999	Oppose Central West Archaeological and Heritage Services An archaeological survey of the proposed Gum Creek Bridge Widening, 75 kilometres west of Narrandera on the Sturt Highway		>25km	1 Scarred Tree
1998	Central West Archaeological and Heritage Services	5 7 1 1 1		No Sites

Table 5-1: Project reports held by OEH within the wider Narrandera region.

5.3 Predictive Model

Generally, higher density concentrations of Aboriginal archaeological objects can be expected within proximity to larger waterways. In this case, the areas closest to Sandy Creek would be expected to have the highest density of archaeological sites and/or objects. Areas in proximity to the ephemeral waterways will have lower density. Other stone artefacts can be expected to be distributed at lower density across the Study Area. The type(s) of archaeological sites and/or objects predicted to occur within the Study Area is as follows:

Site Type	Highly Likely	Likely	Unlikely	Highly Unlikely
Artefact Scatters	Х			
Isolated Artefacts	Х			
Grindstones		Х		
Scarred Trees		Х		
Shell Middens			х	
Earth Mounds			х	
Human Remains			Х	

Table 5-2: Likelihood of particular site types occurring in the Study Area

5.4 Sampling Strategy

100% of the Study Area was surveyed using standard pedestrian archaeological survey techniques as described in Burke and Smith (2001).

5.5 Archaeological Survey

RAP Mark Saddler and Two ACHM archaeologists completed a pedestrian archaeological survey over two separate field trips.

A total of 608 ha was surveyed.

Trip 1 - 11-13th December 2017

Trip 2 - 21-24th January 2018



Figure 5-1: Photograph of the survey area, showing the generally good visibility.

5.5.1 Aims

The aim of the archaeological assessment was to survey the landscape to determine the extent of the disturbance and identify whether Aboriginal cultural heritage or any areas sensitivity were present with the Study Area.

5.5.2 Methodology

The assessment conducted for this ACHAR involved an archaeological surface survey. The specific aims of the survey were as follows:

- To determine if any Aboriginal Places were located within the Study Area, and
- To identify areas of Aboriginal archaeological sensitivity across the Study Area.

5.5.3 Obstacles and/or Limitations

Some variation in surface visibility was noted across the survey areas, however surface visibility was generally between 30 and 70% across the Study Area.

5.5.4 Archaeological Survey Summary

A pedestrian archaeological survey of the proposed Study Area (608 hectares) was completed. The survey was conducted over two separate trips to the Study Area. The first survey period was between 10th and 14th December 2017 and the second period were between 21st and 24th January 2018.

The survey crew comprised one RAP representative (Mark Sadler) and two archaeologists from ACHM (Anna Raudino and Madeleine Kelly). The Study Area consists of four parcels (231ha; 251ha; 66ha and 60ha) which have all been surveyed. The survey was undertaken by the survey team walking linear transects (north/south – east/west) over 100% of the Study Area.

The landform within the proposed Study Area consists of predominantly flat plain, which has been disturbed by past agricultural land use. As such, few artefact concentrations and isolated artefacts were recorded during the survey. Vegetation in the area is dominated by a ground cover of native and introduced grasses, native pine trees and eucalyptus.

5.5.5 Results

The Study Area has been extensively grazed and cropped. This has resulted in extensive disturbance to the land surface and sub-surface sediments.

Six discrete archaeological sites were identified, with an additional ~20 isolated artefacts recorded within the Study Area. The artefacts identified are predominantly made from quartz with other raw materials represented in small numbers - namely silcrete and crystal quartz. A relative high proportion of artefacts were broken flakes (60%) and cores (40%). Most of the cores are rather small quartz cobbles possessing only one or two flakes removals. These technical characteristics may also suggest that only initial stages of core reduction are represented. There were no retouched tools.

It was noted during the survey that quartz pebbles and cobbles are common components of stony gravels lying on the ground surface. Therefore, these gravels are a likely source material for the quartz artefacts.

Most of the artefacts, especially the larger scatters tend to be located closest to water resources.

A total of six archaeological sites were recorded during the survey;

Table 5-3: Archaeological Sites recorded during the surveys. Sites 1 and 4 are items which were recorded, but are located outside the Project area.

Site Number	Description
Sandigo 02	Grindstone
Sandigo 03	Grindstone
Sandigo 05	Artefact scatter
Sandigo 06	Artefact scatter
Sandigo 07	Artefact scatter
Sandigo 08	Artefact scatter

5.5.6 Archaeological Site Recording Method

The method employed to record archaeological sites was to identify the presence / absence of culturally modified materials across the Study Area. Isolated artefacts are individual pieces with no associated materials. Artefact scatters have been identified as multiple artefacts within proximity. The boundaries of artefact scatters were delineated by a decrease in artefact occurrence and density. Cultural materials were recorded using standard digital photography, estimates of artefact numbers and densities across the site(s), sampling of artefact attributes to gauge their diversity and complexity and finally recording boundary co-ordinates with a Garmin GPS MAP 64 unit. Notes on surrounding vegetation, sediments, ground visibility, landform, water sources and irrigation channels as well as the condition of the site were also recorded.

5.5.7 Site Descriptions

The following descriptions are for the six sites located within the Project Area. Sandigo 01 and Sandigo 04 were also recorded during the survey, but these two sites are located outside the Project Area, so are not detailed in this ACHAR.

Site	Sandigo 02
	This site includes one grindstone made from sandstone with dimensions of 6.8 cm x 4.2 cm. The grindstone is in a flatter area situated on a floodplain landform with high to moderate surface visibility (65%-70%).
	The grindstone has plough damage in the centre of one surface. It was recorded in proximity to Sandigo 03 and several other isolated artefacts.

Site	Sandigo 03
Descriptior	This site includes one grindstone with dimensions of 7.5 cm x 4.1 cm with a cracked surface. The grindstone is in a flatter area situated on a floodplain landform with high to moderate surface visibility $(65\%-70\%)$.
Comments	This item recorded in proximity to Sandigo 02 and several other isolated artefacts.

Site	Sandigo 05
Description	The site is a flat-lying area situated on a floodplain landform with moderate surface visibility (65%- 70%). Ground visibility is affected by seasonal flooding and agricultural land use. The surrounding landscape is flat with gentle gullies. Vegetation in the area is dominated by a ground cover of native and introduced grasses. Sandigo 05 is a stone tool assemblage consisting of at least 20 artefacts mainly quartz broken flakes, crystal quartz, siltstone quartz and small quartz core/ cobbles. The largest percentage of flaked and broken flake artefacts are formed on quartz (90%) siltstone (5%) and crystal quartz (5%). The largest percentage of flaked and broken flake artefacts are formed on quartz (100%).
Comments	Site has been impacted by farming activities.

Site	Sandigo 06
Description	Sandigo 06 is a small site situated on a floodplain landform with low to moderate surface visibility (30- 50%). Ground visibility is affected by seasonal flooding and agricultural land use. The surrounding landscape is flat. Sandigo 06 is a stone tool assemblage consisting of >5 artefacts; mainly quartz broken flakes and small quartz cores. The largest percentage of flaked and broken flake artefacts are formed on quartz (100%)
Comments	Site impacted by farming activities.

Site	Sandigo 07
Descripti on	The site is a flat-lying area situated on a floodplain landform with low to moderate surface visibility (30- 50%). Ground visibility may be affected by seasonal flooding and agricultural land use. Sandigo 06 is a stone tool assemblage consisting of > 5 artefacts mainly quartz broken flakes and a silcrete flake with dorsal flake scars. The largest percentage of flaked and broken flake artefacts are formed on quartz (90%), siltstone quartz (5%) and silcrete (5%).
Commen ts	Site impacted by farming activities.

Site	Sandigo 08
Descripti on	The site is a flat-lying area situated on a floodplain landform with low surface visibility (30%). Ground visibility may be affected by seasonal flooding and agricultural land use. The surrounding landscape is flat. Sandigo 08 is a stone tool assemblage consisting of >5 artefacts mainly quartz broken flakes and a silcrete flake small quartz and cores. The largest percentage of flaked and broken flake artefacts are formed on quartz (80%), crystal quartz (15%) and silcrete (5%).
Comment s	Site impacted through farming activities.
	Quartz flakes



Map 5-1: Location of the 6 archaeological sites recorded during the surveys (without isolated artefacts shown).

5.6 Significance Assessment

Assessing the cultural significance of places or objects is central to both understanding and managing heritage places and is a requirement of the Aboriginal Cultural Heritage Assessment reporting process. This section briefly describes the process and presents the cultural significance assessment for the Aboriginal heritage places in the Project Disturbance Area.

This section of the ACHAR specifically recognises that Aboriginal people are the primary determinants of information in regard to the significance of cultural heritage objects, places or values. Indeed, this primacy is explicitly recognised by the Office of Environment and Heritage:

OEH recognises and acknowledges Aboriginal people as the primary determinants of the cultural significance of their heritage. In recognising these rights and interests, all parties concerned with identifying, conserving and managing cultural heritage should acknowledge, accept and act on the principles that Aboriginal people:

- Are the primary source of information about the value of their heritage and how this is best protected and conserved,

- Must have an active role in any Aboriginal cultural heritage planning process,

- Must have early input into the assessment of the cultural significance of their heritage and its management so they can continue to fulfil their obligations towards their heritage, and

- Must control the way in which cultural knowledge and other information relating specifically to their heritage is used, as this may be an integral aspect of its heritage value.

5.7 Definition of Cultural Significance

Cultural significance can be associated with or attached to any place, concept or object by any group or groups of people and is embodied in the place itself (i.e. its fabric, use, associations, and meanings, relationship to other concepts, places or objects). Place means any geographically defined area, and may include features, elements, objects, spaces and views. The place may have tangible (physically identifiable) or intangible (conceptual ideas or spiritual beliefs) values or a combination of both, or a range of values held by different individuals or groups. Places can be large or small, discrete or widespread. The concept of place can embody all the physically identifiable elements of a landscape (i.e. historical, indigenous or natural heritage values). Place may also exist in the intangible realm, where conceptual or spiritual values are held over places or landscapes with little observable physical evidence or fabric (Australia ICOMOS, 2013).

5.8 Nature of Cultural Significance

The nature of cultural significance is determined by understanding the interrelationship of the following core values, and the constituent factors assessed. These values are:

5.8.1 Aesthetic Value

A concept, place or object can have cultural significance if it is significant in exhibiting particular aesthetic characteristics. Such as:

- Importance to a community for aesthetic characteristics.
- Importance for its creative, design or artistic excellence, innovation or achievement.
- Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or
- Otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located.

5.8.2 Historic Value

A concept, place or object can have cultural significance if it is significant in exhibiting particular historic characteristics. Such as:

- It is significant in the evolution or pattern of the history of a locality, region, state, nation or people.
- Importance for the density or diversity of cultural features illustrating the human occupation and evolution of the locality, region, state or nation.
- Importance in relation to an event, phase or activity of historic importance in the region, state or nation
- Importance for close association with an individual or individuals whose life, works or activities have been significant within the history of the region, state or nation
- Importance as an example of technical, creative, design or artistic excellence, innovation or achievement in a period.

5.8.3 Scientific Value

A concept, place or object can have cultural significance if it is significant in exhibiting scientific characteristics. Such as:

- It has demonstrable potential to yield information that will contribute to an understanding of the natural or cultural history of the region, state or nation
- Importance for information contributing to a wider understanding of natural or cultural history by its use as a research site, teaching site, type locality, reference or benchmark site.
- Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the locality, region, state or nation.
- It is significant in demonstrating a high degree of technical innovation or achievement.

5.8.4 Social Value

A concept, place or object can have cultural significance if it is significant in exhibiting social characteristics. Such as:

- Association with a community or cultural group for social, cultural, educational or spiritual reasons.
- Importance as a concept, place or object highly valued by a community or cultural group for reasons of social, cultural; religious, spiritual, aesthetic or educational associations.
- Importance in contributing to a community's sense of place and/or identity.

5.8.5 Spiritual Value

The Draft 2013 ICOMOS practice note 'Understanding and Assessing Cultural Significance' defines 'spiritual value' as the 'intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related physical structures' (ICOMOS, 2013: 1).

The physical qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place and purpose in the world, particularly in relation to the spiritual realm. The term spiritual value was recognised as a separate value in the 1999 Burra Charter (ICOMOS, 1999). It is still included in the definition of social value in the Commonwealth and most state jurisdictions. Spiritual values may be interdependent on the social values and physical properties of a place and its surrounding landscape.

A place may exhibit spiritual values if:

- The place contributes to the spiritual identity or belief system of a cultural group
- The place is a repository of knowledge, traditional art or lore related to spiritual practice of a cultural group
- The place is important in maintaining the spiritual health and well-being of a culture or group
- The physical attributes of the place play a role in recalling or awakening an understanding of an individual or group's higher purpose and place in relation to the spiritual realm.
- The spiritual values of the place find expression in cultural practices or human-made structures, or inspire creative works.

5.8.6 Degree of Cultural Significance

Once the nature of the cultural significance of a place or object is understood, it is essential to understand the extent or degree of that cultural significance. This is typically established by considering:

Rarity

A concept, place or object can have cultural significance if it:

• Demonstrates or possesses rare, uncommon or endangered aspects of the cultural heritage of a locality, region, state or nation.

- Demonstrates or possesses rare, endangered or uncommon structures, landscapes or phenomena.
- Demonstrates or possesses a distinctive way of life, custom, process, land-use, function or design no longer practiced in, or in danger of being lost from, or of exceptional interest to, the region, state or nation.

Representativeness

A concept, place or object can have cultural significance if it:

- Is significant in demonstrating the characteristics of a class of cultural concepts, objects, places or environments in the State.
- Is important in demonstrating the principal characteristics of a range of concepts, objects, landscapes or environments, the attributes of which identify it as being characteristic of its class.
- Is important in demonstrating the principal characteristic of the range of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the locality, region, state or nation.

Condition, Integrity and Authenticity

- Condition refers to the current state of the concept, place or object in relation to each of the values for which that concept, place or object has been assessed. Condition reflects the cumulative effects of management and environmental events.
- Integrity is a measure of the likely long-term viability or sustainability of the values identified, or the ability
 of the concept, place or object to restore itself or be restored, and the time frame for any restorative
 process.
- Authenticity refers to the extent to which the fabric of the concept, place or object is in its original state.

5.8.7 Significance Ratings

For the purposes of this discussion, the criteria for assessing the significance of archaeological sites are grouped under three main headings: social, scientific and historical values. While there is some interchangeability between some categories, as in the case of rarity and representativeness, most of the individual criteria fall into one of these broad groups.

Depending on the criteria grouping, a different approach to rating individual values is used. For example:

- Social and historical significance are rated in a qualitative sense, in terms of whether they apply (present) or do not apply (absent) in each instance. These determinations will be supported by the results of the background studies and consultation procedure. In some instance it may be possible to state whether the value is particularly high or low, though in most cases it will simply be rated as present.
- Scientific significance is rated in a quantitative sense, with an overall value of high, moderate or low
 assigned on the basis of a comparative assessment of various factors (e.g. rarity, condition, contents and
 scale) at a local, regional, State or national level. The combination of different criteria relating to each site,
 place or item will be reviewed in order to produce a Statement of Significance. This can be a complex
 process, and for the majority of sites and places that are not under threat and are of relatively low
 importance, a summary statement or comparative table will be provided in lieu of a full Statement of
 Significance.
- Spiritual and/or cultural significance is sought from the relevant RAP's via the consultation process.

Scientific Significance

Scientific significance is assessed by examining the research potential and representativeness of an archaeological site. This is achieved by assessing the value the site or place has for scientific investigation, through an analysis of the site condition, rarity, contents and structure. The system advocated here is based on approaches originally developed by Bickford and Sullivan (1994) and Bowdler (1984) and commonly used in archaeological significance assessments throughout Australia.

This system may be applied differently depending on the occurrence of disparate site types. As an example, it is generally not possible to rate both scarred trees and other types of archaeological site together, though the same criteria may be applied to each site type separately. Research potential is assessed by examining site contents and condition. Site contents refer to all cultural materials and organic remains associated with human activity at a site. Site contents also refer to the site structure - the size of the site, the patterning of cultural materials within the site and the presence of any stratified deposits. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded.

Representativeness refers to the regional distribution of a site type. It is assessed on whether the site is common, occasional or rare in each region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and numbers of archaeological sites in a region. This varies from place to place depending on the extent of previous archaeological research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of current knowledge of the regional archaeology. Any such site should be subject to further re-assessment as additional archaeological research is carried out. Assessment of representativeness also considers the contents and condition of a particular site. For example, in any region, there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

Ass	Assessment Criteria Rank		Definition
1	1 Site Contents 0		No cultural materials remaining or materials of questionable provenance.
			Site contains a small number or limited range of cultural materials with no evidence of association or stratification.
		2(a)	A larger number, but limited range of cultural materials, and/or
		2(b)	Some intact stratified deposit remains.
		3(a)	A large number and diverse range of cultural materials; and/or
		3(b)	Largely intact stratified deposit; and/or
		3(c)	Surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were laid down.
2	Site Condition	0	Site has either been entirely destroyed or is in a highly deteriorated state with very few cultural materials remaining.
		1	Site in a deteriorated condition with a high degree of disturbance, though with some cultural materials remaining.
		2	Site in a fair to good condition, but with some disturbance.
		3	Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.
3	Representativeness	0	Common occurrence both in the local environment and throughout the region as a whole
		1	Occasional occurrence, either within the study locality or the region as a whole
		2	Rare or previously undocumented site type within the region

Table 7-2: Significance assessment criteria for assessing the scientific significance of archaeological sites.

Overall scientific significance ratings for sites, based on a cumulative score following assessment of site content, site integrity and representativeness as shown in Table 7-3, below.

Table 7-3: Significance scoring based on the criteria outlined in this section, and the attributes listed in numerical order.

Score	Significance			
1-4	Low scientific significance			
5-7	Moderate scientific significance			
8-9	High scientific significance			

Assessing Historic Significance

Historical value can apply to a site, place or item that is associated with a historical event, individual, technical achievement, or be especially representative of a historical theme. As with social significance, this value is noted in a qualitative sense as to whether it applies or does not apply, with a supporting discussion outlining the specific reasons. Again, the value may be noted as being high in some instances.

Assessing Social Significance

Social significance represents the value of a place to an individual or community group that transcends the perceived rarity, research potential or condition of the fabric of a place or site. Social value is defined by the Burra Charter as:

"....the qualities for which a place has become a focus of spiritual, political, national, or other cultural sentiment to a majority or minority group" (Marquis-Kyle & Walker 1992, 73).

Unlike the determination of the other values, which are effectively expert based, the assessment of social value is driven by the relevant community or communities. The social significance placed on an archaeological site is generally unquantifiable in scientific terms, but will instead reflect elements of cultural, aesthetic and educational values.

Cultural values are an especially important aspect of social significance that applies to both Aboriginal and non-Aboriginal places and archaeological sites. These may reflect community values not only in regard to individual sites and groups of sites but also in terms of the general landscape, particularly where this is relatively undisturbed. Cultural values do not necessarily correspond to the scientific values placed on individual sites, but will reflect the cultural, educational and aesthetic values of such locations. These values may include ancestral or traditional associations, concern over environmental issues, possible uses of sites for interpretation and education and the importance of highly visible sites as tangible markers of Aboriginal or non-Aboriginal occupation in a region. Aesthetic value is defined in the Burra Charter as *'..a certain quality of a place which provides a sensory experience to a person participating in or viewing a landscape, of such strength that it has a positive impact on human thought'.* (Marquis-Kyle & Walker 1992: 73).

Educational value is a reflection of the potential for a site to assist in illustrating particular themes or concepts in both school and wider community education programmes. In some specialist studies, these values may be quantified (e.g. the assessment of scenic landscapes; cf. Leonard & Hammond 1984; Williamson 1986). Although this adds one dimension of assessment in terms of an expert appraisal; these quantifiable assessments complement qualitative assessments in that the former does not replace or take precedence over the latter.

5.8.8 Statement of Scientific Significance

This section includes the statements of scientific significance for the 7 newly recorded Aboriginal cultural heritage sites and 85 isolated artefacts, based explicitly on the methodology discussed in the preceding section. It should be noted that the following statements of significance are not an assessment of the cultural significance of the sites to traditional owners, but rather are an assessment of the research or scientific values of the sites.

Table 5-4: <u>Scientific</u>	significance	of t	he c	ultural	materials	located	within	the	Study
Area.									

Site	Site Type	Content	Condition	Representativeness	Rarity	Overall Score	Significance
Sandigo 02	Grindstone	1	1	1	0	3	Low
Sandigo 03	Grindstone	1	1	1	0	3	Low
Sandigo 04	Artefact Scatter	1	1	1	0	3	Low
Sandigo 05	Artefact Scatter	1	1	1	0	3	Low
Sandigo 06	Artefact Scatter	1	1	1	0	3	Low
Sandigo 07	Artefact Scatter	1	1	1	0	3	Low
Isolated Artefacts	Isolated Artefacts	1	1	1	0	3	Low

5.8.9 Conclusions

A total of six discrete Aboriginal cultural heritage sites and 85 isolated artefacts were recorded within the Study Area. The cultural material found within the Study Area is ubiquitous to most of the country and is not considered rare. Stone artefacts are known to occur in varying densities throughout the region.

The Study Area has been actively farmed for at least the last 100 years, and as such is a heavily modified and disturbed landscape. There is no potential for the presence of *in-situ* sub-surface deposits requiring additional examination.

The cultural material identified within the Study Area is of low <u>scientific</u> significance.

6 Cultural Values

The following information was provided verbatim by RAP Mark Saddler in a written report provided to ESCO Pacific on 9th February 2018.

On my site inspection on beginning on the 11/12/2017 I felt an overwhelming sense of pain and lose. This area was inhabited by Wiradjuri people and was a place where many camped and lived over an extended period of time. It is also a place where many Wiradjuri people were killed and forced to move away from. To the South of the area is a creek known as "Poison Water Hole Creek" Also not to far away is an island in the river called "Massacre Island" Both of these places cause pain and lose for my people.

With regards to native animals and plants in this area, I noticed many species of bird including Grass Parrots, Willy Wag Tail, Eagles, Rainbow Lorikeet, Galah, Cockatoo, White Winged Chough, Pipit and Quail to name a few. On the day of the 24th January a very large Madhan Gugaa (Tree Goanna) was also seen by the survey crew as it was climbing one of the remaining trees in this area. The area also has good regrowth of salt bush, some native water plants and young tree suckers. This area needs to have exclusions zones and habitat left undisturbed. GPS 474241 6126501

The dams on the site, that were once old creeks and wetlands, also contains many water animals including Yabby, small fish, Turtles, Dragon Flies and a large array of Butterflies and bees.

This area has been heavily impacted by cattle and machinery. Many Aboriginal sites and items have been damaged and driven over, this needs to stop, and actions taken to stop this from happening again. Exclusion zones are needed around the scar trees, around the remaining habitat and trees and extra care and exclusions zones around the two areas that have many excellent quality artefacts remaining on the ground. Both these sites need to have test pits dug into them to determine the extent of the artefacts that are on and below the ground.

Both the sites that I have surveyed and want to re-inspect with test pits are shown on the page 12 in pictures 1 and 2.

I would also ask for the planting of native trees that would enhance the area for both people and bird life. Some Bull Oak trees would also add to the area and may assist in the habitat and return of the Glossy Black Cockatoo.

When construction does start I would like to ask that I could be again involved in any ground works with regards to cultural assistance on site.

As this report has been asked for today the 5th Feb 2018 by Cedric, some AHIMS site recordings are still not on here due to the slowness of AHIMS Data Base, so ESCO Pacific need to do their due diligence by getting access to the full data from AHIMS by doing a full search via AHIMS site.

Also, items that are removed to be tagged and examined must be returned to site with a smoking ceremony to take place to ensure the safe return of items and our spirits.

A full copy of this report is shown as Appendix 11.5.

7 Historic Heritage Assessment

Narrandera is a vibrant town with a rich post-Contact history, focused on the Murrumbidgee River which passes through the town. The first European credited with passing through the area was Captain Charles Sturt in 1829. The area now known as Narrandera is located within the lands of the Wiradjuri people.

7.1 Brief History of Narrandera

- Prior to European occupation the area was inhabited by the Wiradjuri People who are believed to have known the area as '*Narrungdera*'.
- The explorer Charles Sturt passed through the district in 1829. He was probably the first European to do so.
- Buckingbong station, south of the river, was taken up in 1839 by the Jenkins family.
- In 1843 Edwin Flood took up the 76,800-acre Narrandera Run. It was the first local property north of the river.
- By the end of the 1840s drovers were diverting their stock south to the new goldfields. The Narrandera Run was an ideal location to cross the Murrumbidgee River.
- After a major flood in 1852, John Dill built a punt to cross the Murrumbidgee and there was agitation to build a village on the northern side of the river.
- The government surveyed both the north and south banks of the Murrumbidgee. There was an argument as to which side would be better for the town.
- The village was proclaimed in 1863.
- By 1865 the Australian novelist, Rolf Boldrewood, who was living in the area, described the settlement as "two hotels, a small store and a large graveyard".
- The population of Narrandera had reached 142 by 1871.
- The railway reached the town in 1881.
- The combination of railhead and steamer port made Narrandera the most important town in the Riverina from 1881 to 1914 when the population reached about 3,000.
- The town was gazetted as a borough in 1885.
- The drought of the early 1890s stalled expansion and Narrandera' s industrial base declined.
- By 1914 the town's population had reached 3,000.
- The development of the Murrumbidgee Irrigation Area in the 1900's brought fertility to the plains and diversified primary production to include rice, citrus, cereals, stone fruits, wool, lucerne, fat lambs and poultry.
- By 1940 Narrandera was being used as a training camp for young pilots.
- The town celebrated its centenary in 1985.

7.2 Register Searches

7.2.1 Australian Heritage Database

There are nine properties on the Australian Heritage Database located in Narrandera. None of these are within 10 kilometres of the Study Area. There are on listings for the Sandigo area.

Table 7-1: Australian Heritage Database listings within the wider Narrandera area.

Place	Status
Dry Lagoon Area Sturt Hwy, Narrandera	(Indicative Place) Register of the National Estate (Non-statutory archive)
Narrandera Showground Victoria Ave, Narrandera	(Indicative Place) Register of the National Estate (Non-statutory archive)
St Johns Uniting Church and Hall Cadell St, Narrandera	(Indicative Place) Register of the National Estate (Non-statutory archive)
CBC Bank (former) 142 East St, Narrandera	(Registered) Register of the National Estate (Non-statutory archive)
Narrandera Courthouse and Police Station Group	(Registered) Register of the National Estate (Non-statutory archive)
Narrandera Nature Reserve	(Registered) Register of the National Estate (Non-statutory archive)
Narrandera Post Office 140 East St, Narrandera	(Registered) Register of the National Estate (Non-statutory archive)
Narrandera Rail Bridge	(Registered) Register of the National Estate (Non-statutory archive)
Railway Station and Station Masters Residence	(Registered) Register of the National Estate (Non-statutory archive)

7.2.2 State Heritage Register

There are five places listed on the State Heritage Register at Narrandera.

Table 7-2: State Heritage Register places in the Narrandera area.

Item name	Address	Suburb	LGA	SHR
Berembed Weir and Site	Murrumbidgee River	Narrandera	Narrandera	00957
Derrendi Cottage	30-32 Twynam Street	Narrandera	Narrandera	00441
Narrandera rail bridge over Murrumbidgee River	Junee-Hay railway	Narrandera	Narrandera	01050
Narrandera Railway Station and yard group	Whitton St (Newell Highway)	Narrandera	Narrandera	01209
Narrandera Showground Industrial Hall	Elizabeth Street	Narrandera	Narrandera	01952

None of these places are in or near the Study Area. There are no listings for the Sandigo area.

7.2.3 Narrandera LEP

There are 73 local heritage places listed in the Narrandera LEP.

One of these is located at Sandigo (Sandigo Hall), however it is approximately 6 kms north-west of the Study Area and will not be impacted.

Table 7-3: Places listed in the Narrandera LEP.

Item Name	Address	Description	Significance	Item No
Narrandera Public School	Adams Street	Lot 5, Section 44, DP 758757	Local	1067
Catholic convent	Audley Street	Lot 1, DP 911685	Local	1033
Catholic presbytery	Audley Street	Lot 9, Section H, DP 613	Local	1034
St Joseph's Primary School	Audley Street	Lot 1, DP 911685	Local	1086
St Mel's Catholic Church	Audley Street	Lot 11, Section H, DP 613	Local	1087
Residence (former Bushman Arm's Hotel)	78 Audley Street	Lot 1, DP 970904	Local	1081
Argus printing plates, held by Process Printers	92 Audley Street	Lot 3, DP 207770	Local	1027
Residence—Allowrie	101 Audley Street	Lot 2, DP 225506	Local	1078
St Thomas' Rectory	124 Audley Street	Lot 9, Section 18, DP 758757	Local	1089
Bishop's house—Maranoa	127 Audley Street	Lot 2, Section 23, DP 758757	Local	1030
Residence	129 Audley Street	Lot 11, DP 1059243	Local	1077
Christian Revival Crusade (former Plaza Theatre)	31–35 Bolton Street	Lot 2, DP 601595	Local	1037
Baptist church	32 Bolton Street	Lot 6, DP 2514	Local	1028
Buckingbong Homestead and outbuildings	Buckingbong Road	Lot 1, DP 754540	Local	1031
Buckingbong woolshed	Buckingbong Road	Lot 1, DP 754540	Local	1032
Grandstand	Cadell Street (Narrandera Park)	Lot 1, Section 45, DP 758757	Local	1052
St John's Uniting Church	Corner Cadell and Douglas Streets	Lot 5, Section 65, DP 758757	Local	1085
Former Masonic Lodge	31 Cadell Street	Lot 1, DP 902203	Local	1049
Narrandera District Hospital group	Douglas Street	Lot 1, Section 64, DP 758757	Local	1063
Mon Repos (former Murrumbidgee Club)	43 Douglas Street	Lot 3, Section 65, DP 758757	Local	1060
Residence (former Farrelle residence)	53 Douglas Street	Lot 1, Section 65, DP 758757	Local	1082
Ambulance station	18 East Street	Lot 4, DP 14449	Local	1024

50 East Street 56 East Street 68 East Street 77 East Street 78 East Street 88–90 East Street 94 East Street 103 East Street	Lot B, DP 33358 Lot C, DP 408466 Lot 3, DP 17355 Lot A, DP 402905 Lot 1, DP 115977 Lot 1, DP 129311	Local Local Local Local	1048 1056 1070 1036
68 East Street 77 East Street 78 East Street 88–90 East Street 94 East Street	Lot 3, DP 17355 Lot A, DP 402905 Lot 1, DP 115977	Local	1070
77 East Street 78 East Street 88–90 East Street 94 East Street	Lot A, DP 402905 Lot 1, DP 115977		-
78 East Street 88–90 East Street 94 East Street	Lot 1, DP 115977	LUCAI	1030
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103 East Street	Lot A, DP 314393	Local	1029
	Lot 1, DP 115593	Local	1038
126 East Street	Lot 1, DP 929881	Local	1026
132 East Street	Lot 1, DP 103853	Local	1039
137 East Street	Lot 1, DP 541131	Local	1083
140 East Street	Lot 2, DP 791067	Local	1066
141 East Street	Lot 1, DP 170147	Local	1062
142 East Street	Lot C, DP 404206	Local	1071
149–157 East Street	Lot A, DP 33869	Local	1057
159 East Street	Lot 1, DP 912606	Local	1061
164 East Street	Lot A, DP 316057	Local	1045
178–186 East Street	Lot 1, Section 5, DP 1008	Local	1047
185 East Street	Lot 2, DP 863204	Local	1065
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17–21 Twynam Street	Lot 2, Section 39, DP 758757	Local	1044
23 Twynam Street	Lot 12, Section 39, DP 758757	Local	1064
28 Twynam Street	Lot 1, DP 115969	Local	1058
30–32 Twynam Street	Lot 6, DP 123559	Local	1042
42 Victoria Avenue	Lot 2, DP 16812	Local	1079
88 Victoria Avenue	Lot B, DP 337870	Local	1094
98 Victoria Avenue	Lot 7, DP 511791	Local	1072
Victoria Square (Memorial Gardens)	Lot 80, DP 1140946	Local	1054
Victoria Square (Memorial Gardens)	Lot 80, DP 1140946	Local	1084
Watermain Street	Lot 1, DP 611805	Local	1092
Whitton Street		Local	1068
	Lot 2. DP 808460		1069
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7.2.4 National Trust

There are no places on the National Trust Register in or near Narrandera or Sandigo.

7.2.5 Database Summary

There are no known places of historic heritage value or significance within or intersecting the Study Area.

7.3 Historic Heritage Summary

There are <u>no known places</u> of historic heritage value or significance within or intersecting the Study Area. It is considered highly unlikely that any undiscovered places of historic heritage value or significance will occur within the Study Area.

8 Impact Assessment and Avoidance of Harm

8.1 Project Rationale

The OEH (2011) guidelines state that an ACHA report must include a 'justification for any likely harm, including a discussion of any alternatives considered for the proposal. This must demonstrate how all feasible options to avoid or minimise harm were considered'.

The Applicant presented information on the Project to the RAP during the ACHA consultation process and have undertaken an ongoing review of designs. In developing the footprint and the design of the disturbance of the proposed Project, The Applicant has considered diverse options for the layout of the Project infrastructure to optimise the Project's final design mindful of site constraints and potential impacts.

Within the Development Site, harm cannot be avoided to the artefact scatters and isolated artefacts identified during the archaeological assessment.

8.2 Sustainable Development Principles

This ACHAR has considered the impact of the proposed Project on the known Aboriginal objects of the Development Site and places external to it, and the range of cultural significance values associated with the Study Area.

Impact assessment has included consideration of proposed direct impacts, indirect impacts and cumulative impacts to archaeological and /or cultural places and ecologically sustainable development (ESD). OEH (2011) requires that proposed development activities be discussed in the context of ESD, in particular the principles of the precautionary approach and incorporating intergenerational equity in the assessment.

8.3 Opportunities to avoid impact

The Development Site has been adjusted to avoid a scarred tree which occurs outside the north-western boundary of the Project. Harm cannot be avoided to the six archaeological sites described in Chapter 5.

8.4 Cumulative Impact

Though the Project has been designed to avoid harm wherever practicable and the archaeological significance of the sites within the Development Site is generally low, the Project's impacts will contribute to the cumulative loss of Aboriginal cultural values and archaeological sites within the local area, and the region more widely.

9 Recommendations

As discussed in detail in Chapter 5, harm cannot be avoided to the surface archaeological materials located within the Development Site.

9.1 Management Measures

There are two types of management measures that may result from the assessment process:

- 1. On-Site Management Measures, and
- 2. Off-Site Management Measures

On-site management measures may include actions such as archaeological salvage, protective fencing, artefact analysis, curation arrangements, induction programmes and the development or updating of an ACHMP. Off-site management measures may include actions such as community development programmes, scholarships or educational activities. In this case, management measures will be restricted to on-site actions.

9.1.1 The proposed management measures from the RAP

The RAP suggested that two of the artefact scatters found during the archaeological survey should be test excavated. However, this cannot be supported, given the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010). The sites in question are surface scatters with no likelihood of having in situ sub-surface deposits. The sub-soils have been extensively disturbed through ploughing and grazing activities. Given there is no likelihood of in-situ sub-surface deposits, it is highly unlikely that there is a high probably that any Aboriginal objects with high conservation value occur in the Development Site (DECCW, 2010:24).

Table 9-1 contains the proposed management and mitigation measures which will be implemented should the Project be approved.

9.1.2 Proposed Management Measures

The following management measures are proposed for the Development Area.

Proposed on Site Cultural Heritage Management Measures								
	Action Number	Action Item	Management Measures					
	A1	Conduct Surface salvage of the surface artefacts within the Development Site.	Controlled surface collection of archaeological materials from within the Development Site by qualified archaeologists in consultation and cooperation with the RAP					
Survey, Collection and Analysis	A2	Detailed Salvage Report	Following the surface collection, a detailed salvage report will be written by a qualified archaeologist. The report will discuss the context of the finds, as well as the nature and extent of the assemblages within a local and regional context.					
	A3	Aboriginal Site Impact Recording Forms	An Aboriginal Site Impact Recording Form will be prepared following any impacts to AHIMS sites, including surface collection / salvage and repatriation. Completed forms will should be sent to the AHIMS Registrar to be included as an addendum to the original site recording form for each site.					
	Α4	Repatriation of Artefacts	The artefacts recovered during the salvage will be held by ACHM for analysis and reporting purposes. After construction works, the artefacts recovered during the surface salvage should be repatriated to a location in agreement with the Proponent and the RAP.					
Care and Control	А5	If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:	initial dely cease all work at the particular location,					
Intergenerational Equity	A6	Sites Not to Be Impacted	The Project will implement management measures for sites in the Project Area that will not be impacted by the Project.					

Table 9-1: Management Recommendations

10 Bibliography

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cmth).

ACHM (2017) Proposed Sandigo Solar Farm, near Narrandera. A report to Accent Environmental, Melbourne.

Australia ICOMOS (1999) The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, Melbourne.

Australia ICOMOS (2013) The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, Melbourne.

Bickford, A. & Sullivan, S. (1984): Assessing the Research Significance of Historic Sites. In: Site Surveys and Significance Assessment in Australian Archaeology. With assistance of Department of Prehistory, Research School of Pacific Studies, The Australian National University, Canberra. The Australian National University. Canberra (Proceedings of the 1981 Springwood Conference on Australian Prehistory), pp. 19–26.

Bowdler, S. (1984): Archaeological Significance as a Mutable Quality. In S. Sullivan, S. Bowdler (Eds.): Site Survey and Significance Assessment in Australian Archaeology. Canberra: Department of Prehistory, RSPS, Australian National University, pp. 1–9.

Central West Archaeological and Heritage Services (1998) An archaeological study of the proposed optic fibre cable route between Narrandera and Euroley, South Western New South Wales, NSW.

Central West Archaeological and Heritage Services (1999) An archaeological survey of the proposed Colombo Creek Bridge and Colombo Creek Floodway Channel Bridge widening, 33.3 kilometres South of Narrandera, NSW.

Central West Archaeological and Heritage Services (1999) An archaeological survey of the proposed Gum Creek Bridge Widening, 75 kilometres west of Narrandera on the Sturt Highway, NSW.

Department of Energy and Environment (2018b). The Renewable Energy Target (RET) scheme. Department of the Environment and Energy. Accessed 25 January 2018 at http://www.environment.gov.au/climatechange/government/renewable-energy-targetscheme

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

Department of Environment, Climate Change and Water (2010a) Aboriginal cultural heritage consultation requirements for proponents. Sydney. Department of Primary Industries (2013) Infrastructure Proposals on Rural Land. Sydney.

Eardley, K.A (1999). A Foundation for Conservation in the Riverina Bioregion. Unpublished Report. NPWS, Hurstville.

Ecolink (2017) Preliminary Biodiversity Assessment, Sandigo Solar Farms, NSW. A report prepared for Accent Environment Pty Ltd and ESCO Pacific Pty Ltd, Melbourne.

Environment Planning and Assessment Act 1979 (NSW).

Environment Protection and Biodiversity Conservation Act 1999 (Cmth).

Heritage Act 1977 (NSW).

Heritage Office and Department of Urban Affairs and Planning (1996) Regional Histories. Department of Urban Affairs and Planning and Heritage Council of New South Wales.

Leonard, M & Hammond, R (1984) Landscape character types of Victoria: with frames of reference for scenic quality assessment. Forests Commission Victoria, Melbourne.

Marquis-Kyle, P & Walker, M (1992): The Illustrated Burra Charter, Sydney.

National Parks & Wildlife Act 1974 (NSW).

Native Title Act 1993 (Cmth).

Navin Officer (2004) Proposed Replacement of Five Bridges and Culverts on the Newell and Sturt Highways, near Narrandera, NSW.

Office of Environment and Heritage (2010) Guide to Investigating, assessing, and reporting on Aboriginal Cultural Heritage in New South Wales. Sydney.

Office of Environment and Heritage (2011) Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. Sydney, NSW.

Protection of Movable Cultural Heritage Act 1986 (Cmth).

Williamson, D (1986) A Preliminary Scenic Assessment Procedure for Australia's River Landscape. A report by Scenic Spectrums to the National Trust of Australia and the Australian Heritage Commission, Canberra.

11 Appendices

11.1 Log of Consultation Events

Date	Consultation Type	OEH Requirement	Consultation Stage	Registered Aboriginal Party / Agency	Contact Person	Description
18-Oct-17	Letter	4.1.2	Stage 1	Office of Environment and Heritage	Peter Ewin Daniel Clegg	ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	The Registrar, Aboriginal Land Rights Act 1983		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	Narrandera LALC	Ronnie Williams	ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	NNTT		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	Narrandera Shire Council		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	NTSCorp		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Letter	4.1.2	Stage 1	Local Land Service - Riverina		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Oct-17	Email	4.1.2	Stage 1	Office of Environment and Heritage	Peter Ewin	ESCO Pacific sent PDF copy of Letter to Agency to identify Aboriginal parties
18-Oct-17	Email	4.1.2	Stage 1	Narrandera Shire Council	Kellie Dissegna	ESCO Pacific sent PDF copy of Letter to Agency to identify Aboriginal parties
18-Oct-17	Email	4.1.2	Stage 1	Narrandera Shire Council	Kellie Dissegna	Narrandera Shire Council response – identifying Ronnie Williams from Narrandera LALC
23-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in The Area News (week 1)
23-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Daily Advertiser (week 1)
24-Oct-17	Letter	4.1.3	Stage 1	Office of Environment and Heritage	Peter Ewin Daniel Glegg	Response letter, provided a list of 4 Aboriginal parties
24-Oct-17	Letter	4.1.3	Stage 1	Wagga Wagga LALC		Letters to Agency to identify Aboriginal parties
24-Oct-17	Letter	4.1.3	Stage 1	Griffith LALC		Letters to Agency to identify Aboriginal parties
24-Oct-17	Letter	4.1.3	Stage 1	Leeton & District LALC		Letters to Agency to identify Aboriginal parties
24-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Narrandera Argus (week 1)
24-Oct-17	Email	4.1.5 4.1.6	Stage 1	Mark Saddler - Guwayu	Mark Saddler	Aboriginal party registered an interest in the Sandigo Solar Farm project
25 Oct-17	Phone call	4.1.6	Stage 1	Narrandera LALC	Ron Williamson	Ron is the Chairperson of the Narrandera LALC. He informed there were remains in the Sandigo area, north of Sandy Creek. ESCO Pacific suggested Narrandera LALC to register their interest by mail or email, but they were too busy at that moment.
25-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Riverine Grazier (week 1)
25-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Southern Riverina News (week 1)

26-Oct-17	Letter	4.1.2	Stage 1	The Registrar, Aboriginal Land Rights Act 1983	Jodie Rikiti	Response letter, informed no Registered Aboriginal Owners pursuant to Division 3 of the Aboriginal Land Rights Act 1983
30-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in The Area News (week 2)
30-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Daily Advertiser (week 2)
31-Oct-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Narrandera Argus (week 2)
31-Oct-17	Email	4.1.2	Stage 1	National Native Title Tribunal		Response letter, informed no Native Title Determination, Determinations of Native Title, or Indigenous Land Use Agreements over the identified area
1-Nov-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Southern Riverina News (week 2)
1-Nov-17	Public Notice	4.1.3	Stage 1	All RAPs		Public Notice in the Riverine Grazier (week 2)
13-Nov-17	Email	4.1.3	Stage 1	Narrandera LALC	Ron Williamson	ESCO Pacific sent an email to check whether Narrandera LALC wanted to register their interest in the project – No answer
20-Nov-17	Email	4.2.2 4.3.1	Stage 2 Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent project information and field assessment methodology for review and feedback
21-Nov-17	Phone call	4.1.3	Stage 1	Narrandera LALC	Ron Williamson	Ron confirmed Narrandera LALC did not want to register interest.
21-Nov-17	Letter	4.2.2 4.3.1	Stage 2 Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent hard copy of project information and field assessment methodology for review and feedback
27-Nov-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP provided comments on methodology: "The area of the proposed solar farm is an area that I have already recorded many scar trees and items in. This area is a traditional Wiradjuri walking track. Also, the fact that several old wet lands are about and the adjacent creek is very important to my people."
28-Nov-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	Discussed potential dates and insurance RAPs and archaeologists agreed on field assessment on 11th – 13th December 2017 inclusive
5-Dec-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific confirmed field assessment dates 11-13 Dec 2017. Sent Indemnity Deed Poll for signature Mark sent Indemnity Deed Poll back
6-Dec-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent amended version of Deed Poll
9-Dec-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP had a question about time and place of meeting for field assessment
11-Dec-17 to 13-Dec-17	Field assessment	4.3.3	Stage 3	RAP Mark Saddler – Guwayu ACHM (archaeologists)	Mark Saddler	Field assessment with RAP (3 days – northern areas of the site)
18-Dec-17	Email	4.3.2 4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific proposed 22-24 Jan 2018 for part 2 of field assessment and sent updated proposed footprint for field assessment purposes. RAP accepted the dates.
8-Jan-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP sent invoice for field assessment part 1
18-Jan-18	Email Phone call	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP confirmed dates of survey
21-Jan-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP informed hot weather was expected and field assessment may need to cease due to safety reasons

22-Jan-18 to 24- Jan-18	Field assessment	4.3.3	Stage 3	RAP Mark Saddler – Guwayu ACHM (archaeologists)	Mark Saddler	Field assessment with RAP (3 days – southern areas of the site) Cedric Berge of ESCO Pacific briefly met Mark Saddler during the field assessment
24-Jan-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP sent invoice for field assessment part 2
1-Fev-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP sent email to mention he was waiting for AHIMS to approve sites and requested file storage space to send photos and other documents
5-Fev-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP informed he would send his report by 7 Feb
9-Fev-18	Email	4.3.3	Stage 3	RAP Mark Saddler - Guwayu	Mark Saddler	RAP sent his report following field survey – ESCO Pacific confirmed reception
23-Fev-18	Email	4.4.2 4.4.3	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent copy of Draft ACHAR for review and comments.
23-Fev-18	Express post mail	4.4.2 4.4.3	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent hard copy of Draft ACHAR for review and comments
23-Mar-18	Email	4.4.2 4.4.3	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	ESCO Pacific sent email advising RAP 28 day period to review draft ACHAR ended and asked if more time was required to provide comments, if any
26-Mar-18	Email	4.4.2 4.4.3	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	RAP advised he would have a look at the report ASAP. RAP requested to send the draft ACHAR again. ESCO Pacific sent the draft ACHAR again
26-Mar-18	Email	4.4.2 4.4.3	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	RAP commented on draft ACHAR and asked ESCO Pacific to advise on procedure for artefacts storing and return if solar farm goes ahead. ESCO Pacific pointed out section 9 of the draft ACHAR and advised report will be finalised unless RAP has further comments.
26-Mar-18	Email	4.4.4	Stage 4	RAP Mark Saddler - Guwayu	Mark Saddler	RAP confirmed ACHAR can be finalised. ESCO advised hard and soft copies will be sent to RAP when finalised.

11.2 AHIMS Site Search Result



AHIMS Web Services (AWS) Search Result

Purchase Order/Reference : 1 Client Service ID : 306622

Date: 12 October 2017

Australian Cultural Heritage Management VicPtyLtd GPO Box 5112 Melbourne Victoria 3764 Attention: Shaun Canning

Email: shaun.canning@achm.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Search using shape-file Kwong.SHP with a buffer of 0 meters. Additional Info : Reporting. conducted by Shaun Canning on 12 October 2017.

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



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

0 Aboriginal sites are recorded in or near the above location.		
0 Aboriginal place	s have been declared in or near the above location. *	

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

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

Important information about your AHIMS search

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

3 Marist Place, Parramatta NSW 2150 Locked Bag 5020 Parramatta NSW 2220 Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271 Email: ahims@environment.nsw.gov.au Web: www.environment.nsw.gov.au

11.3 Newspaper Advertisements

11.3.1 Narrandera Argus: Tuesday 24th & Tuesday 31st

Narrandera Argus BOOK YOUR SPACE NOW! Phone us on 6959 2222, fax on 6959 2256 or email classifieds@narranderaargus.com.au

NOTICE COMPLETE

GARDEN CARE

Lawn Mowing – Pruning Ring Mark Beeche

on 0400 759 200

CHRISTMAS

BOXES

Due 29th Octobe Contact Gleny

0428 593 401

or leave at Narrandera Christian Books & Gift

Mobil

Supreme +98 isnow available at

Mobil

NARRANDERA

NARRANDERA IMPERIAL FOOTBALL-NETBALL CLUB

AGM

Wednesday 22nd November 2017

7pm in the Clubrooms

PUBLIC NOTICE

Case No 2013/267922 Papa vs Minchin the case

was heard and found in

the favour of Papa. Restitution and costs

awarded by Her Honour Justice Olsen.

BINGO

THIS FRIDAY

OCTOBER 27

& LAST FRIDAY

OF EACH MONTH

John O'Brien Hall Doors open 6pm

- S. Papa

In the District Court I

PUBLIC NOTICES

SANDIGO SOLAR FARM

ESCO Pacific Pty Ltd intends to develop a utility scale solarfarm (up to 550M/W) near Sandigo, approximately 20kms south of Narrandera, NSW. The project will involve the installation of solar panels arrays across an area of up to 1,000 hectares within the project area and a local connection to the NSW power grid

Aboriginal People or other parties who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) within the vicinity of the Sandigo project are a are invited to participate in consultation with ESCOPacific Pty Ltd regarding the proposed project. The consultation is to enable assessment of Aboriginal cultural heritage associated with the project area

Aboriginal people or other parties who wish to register their interest in this consultation process are invited to respond in writing (including your name, organisation, address, contact details and phone number) to Cedric Berge by 8th November 2017.

Cedric Berge Level 4, 13 Cremorne St, Richmond VIC 3121

Email: cultural.heritage@escopacific.com.au All registered parties will be contacted to discuss the proposed project and any consultation opportunities to inform the Aboriginal Cultural Heritage Assessment.







Husqvarna Australia has proudly announced it will be continuing its partnership with the McGrath Foundation in 2017 to assist with raising funds for Breast Care Nurses around Australia, with its Saws for a Cause **initiative.** Eurells of Narrandera

will 'Go Pink' by hosting a Husqvarna outdoor power equipment work-shop on Sarurday October 28 at the NSW Rural Women's Gathering Women's G in Narrandera.

The two-hour work-shop is part of the 2017 NSW Department of PrimaryIndustries'Rural Women's Gathering and will see guests develop chainsaw skills

14 - Tuesday, October 24, 2017

and raise important funds for the McGrath Foundation "We are very excited

about this opportunity. The need for experience and skills to safely use a chainsaw is something that we hear from a lot of rural women," said Peter Eurell of Eurells Narrandera. "I'm looking forward

to being able to help teach new skills and raise awareness for the McGrath Foundation," he said. Husqvarna's Saws

for a Cause commitment will see \$5 from every pink Husqvarna toy chainsaw sold during October go to the McGrath Foundation. Additionally, for every

purchase of a pink toy chainsaw during Octo-ber, consumers will go into the draw to win a Husqvarna 586Lixp Battery Chainsaw Kit valued at \$1,047.

Saws for a Cause will further see Husqvarna donating \$10 from the sale of every Husqvarna Battery Chainsaw sold throughout the year to the Foundation, to help ensure support contin-ues outside of Breast Cancer Awareness month.

All funds raised by Eurells of Narrandera and other Husqvarna dealerships around Australia will go directly to assist the placement of specialist McGrath Breast Care Nurses in

communities around ment and is available the country.

These dedicated nurses help individuals and their families experiand their families experi-encing breast cancer by providing physical, psychological and emo-tional support. This support occurs from the time of diagnosis, right throughout treat-

www.narranderaargus.com.au



for free. "We're very proud to be a part of Husqvarna's Saws for a Cause part-nership with the McGrath Foundation. We know that breast cancer affects women of all ages, so awareness is critical.

"We're proud to play our part in the Narrandera area and help raise awareness and important funds so the McGrath Foundation can continue to make a difference," said Mr Eurell.

"Breast cancer is the

most common cause of cancer in Australian women and with a 38 percent expected in-crease in the need for Breast Care Nurses until 2020, it's important that we keep up the aware-ness and fundraising," he concluded.

narrandera Araus

The Argus would prefer advertisements to be supplied over the counter, fax or email No responsibility will be taken for any advertisements which are phoned through.

DISCLAIM

POSITIONS VACANT

MAINTENANCE/ MULTI-SKILLED ALTINA LABOURER

This position is for full-time employment, 40 hours per week, Monday to Friday with the possibility of overtime to complete daily duties. The successful applicant will assist with maintenance and construction projects at Altina. Due to the nature of this work and with regular deadlines to meet, it can be a fast paced environment with the entirety of the work being hands on.

Duties Include, but are not limited to:

0

Assist with general maintenance of the facilities, fences and fabrication of materials (welding a variety of steels), Repairs, cleaning etc. General cleaning duties of work sites, work sheds and equipment, assist tradespersons as requested, operation of plant machinery, irrigation as required, operating basic tools and machinery.

This position requires the following:

The applicant must be fit for physical work, enthusiastic, able to demonstrate a high level of work-ethic/initiative, be able to work well as a team and unsupervised, previous maintenance/labouring/ trade experience, experience operating tools and machinery related to the position with appropriate Licences/Qualifications, hold a current manual drivers licence. Welding/Fabrication experience is a necessity. If you are interested in the above position and feel

you would be an asset to our team, send your letter of application and resume to: Attn: Recruitment Officer

Altina Wildlife Park

c/-663 Hillston Road, Griffith NSW 2680 Email: info@altinawildlife.com

CLOSING DATE: 5pm, Friday 3rd November 2017

GATES 1300 881 2/9 www.gtes.com.au OSITION AVAILABLE

Apprentice Welder GTES, together with Marrandera based business W Clark & Sons are currently seeking applications from committed an hard working individuals interested in starting a career as an Apprentice Welder commencing in early 2015. As an Apprentice Welder you will be required to assist in the preparation, measurement, and cutting of netal components, interpret drawings and plans and produced of fools and fabrication techniques. Upon completion of this 4 year apprenticeship you will obtain a Certificate III in Engineering – Fabrication Trade. To be successful in this position you must be reliable mature-minerate used.

eng - Fabrication I rade. uccessful in this position you must be reliable, -minded, willing to learn, able to show initiative s excellent problem solving skills and have a ge in pursuing a career in this industry. et driver's licence is preferred but not essential reched learner are geogenerated by apply. ast

Apply online today at gtes.com.au

Page 46

POSITIONS VACANT AGRI AUSTRALIS 🜅

Australian Hazelnut

MAINTENANCE WORKER WITH WELDING QUALIFICATIONS General farm machinery maintenance experience desirable

QUALIFIED AGRICULTURAL/DIESEL

MECHANIC Tractor and farm machinery maintenance experience desirable

Send your resume to: admin@agriaustralis.com.au or contact the Office on 6959 8243

General Store Manager Xpress Fuels - Narrandera

Store Manager Responsibilities

 Developing store strategies to raise customers pool, expand store traffic and optimize profitability

Meeting sales goals by training, motivating, mentoring and providing feedback to store staff

 Ensuring high levels of customers satisfaction through excellent service

Job Brief

We are looking for a results driven Retail Store Manager to be responsible for the overall store management. The successful candidate will be able to enhance customer satisfaction, meet sales and profitability goals and manage staff effectively. Candidates must have retail management in Fuel Station /FuelIndustry experience. Regulrements

Proven successful experience as a retail manager Powerful leading skills and business orientation Customer managementskills Strong organizational skills

- Good communication and interpersonal skills

NARRANDERA

Minimum Bachelor degree For more information and to apply, please send your resume to aisha@xpressgroup.com.au PERSONAL SENSITIVE SCALP want great colour? but

by cancer

100% ammonia free L'Oreal Professional colour at E.Street Hairstudio - 6959 9901





11.3.2 The Area News: Monday 23rd & Monday 30th





11.3.3 The Daily Advertiser: Monday 23rd & Monday 30th



Monday, October 30, 2017 THE DAILY ADVERTISER 17



11.3.4 The Riverine Grazier: Wednesday 25th and Wednesday 1st Nov

Wednesday October 25, 2017



email at council@edwardriver.nsw.gov.a..

Adam McSwain

General Manager

68 Lachlan Street.

6993 1296

Cedric Berge

evel 4, 13 Cremorne St, Richmond, Vic 312 Cultural.heritage@escopacific.com.au

Phone: 6993 1099



alary

68 Lachlar, Street

6993 1296

Level 4, 13 Cremorne St. Richmond, Vic 3121 Cultural.heritage@escopacific.com.au

Phone: 6993 1099

11.3.5 The Southern Riverina: Wednesday 25th and Wednesday 1st Nov

PAGE 16—'Southern Riverina News', Wednesday, October 25, 2017



localclassies



kel@kelbaxter.com.au

www.baxtertransport.com.au

If you require emergency or after-hours assistance during this period, please contact Coundinan (03) 5888 3000 or via email at council@edwardriver hsw.gov.au.

Looking for staff ...?

1300 252 774 local classies

1300 660 886

local classies

11.4 Agencies Contacted

- OEH (Albury)
- The Registrar, Aboriginal Land Rights Act 1983
- Narrandera LALC
- NNTT (Canberra)
- Narrandera Shire Council
- NTSCorp
- Local Catchment Management Authority

11.5 Cultural Values Report by Mark Saddler (RAP)

Bundyi Cultural Services Mark Saddler

Sandigo Solar Farm, Kywong, NSW.

Bundyi Cultural Services, Mark Saddler 05/02/2018



Artwork by Mark Saddler. (Copyright) Artwork Title, Murrawarra (stand your ground, protect)

This report was compiled by Bundyi Cultural Services, Mark Saddler.

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- Page 4: Objectives, Objects.
- Page 5: Due Diligence.
- Page 6: Due Diligence Flow Chart.
- Page 7: AHIMS Data Base Search.
- Page 8: Site Location Maps.
- Page 9: Site Recordings, Site Information.
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- Page 11: Site Report and Recommendations.
- Page 12: Site Map Directions to Sensitive Artefact areas.
- Page 13: References and End Report

"I would like to acknowledge the traditional custodians of this land, my land, "The Wiradjuri People"

What I record and find is dedicated to those who have gone before us, to those present and to those who will follow us"

Mark Saddler, Wiradjuri Gibirr (man)

Travelling Stock Reserves (TSRs)

Travelling Stock Reserves (TSRs) are parcels of Crown land reserved under legislation for use by travelling stock. Local Land Services is responsible for the care, control and maintenance of almost 500,000ha of TSRs in NSW.

TSRs provide pasture reserves for travelling or grazing stock. These reserves can be beneficial in times of drought, bushfire or flood. They are also used for public recreation, apiary sites and for conservation.

Local Land Services manages the land to strike a balance between the needs of travelling or grazing stock and the conservation of native species.

The role of Local Land Services role in managing TSRs includes:

- Authorising and monitoring stock, recreation and apiary site use
- Controlling noxious weeds
- Controlling pest animals and insects
- Provision and maintenance of fencing, watering points and holding yards
- Consideration of land management and animal health legislation.

Local Land Services has developed the first draft state-wide planning framework for TSRs to support the future management of this land. We are now keen to hear from the public with their opinions on how to manage TSRs in the future. We want to understand the values people hold important for TSRs, including biodiversity and Aboriginal cultural heritage values.

The draft state-wide framework allows for the development of TSR regional management plans to facilitate more consistent and transparent management, resourcing and reporting.

<u>NSW Travelling Stock Reserves Draft State Planning Framework 2016-19</u> <u>TSR State Planning Framework Fact Sheet</u> <u>Frequently asked questions</u>

Aboriginal objects:

Aboriginal objects are physical evidence of the use of an area by Aboriginal people. They can also be referred to as 'Aboriginal sites', 'relics' or 'cultural material'.

Aboriginal objects include:

- * Physical objects, such as stone tools, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps
- * Material deposited on the land, such as middens
- * The ancestral remains of Aboriginal people.

Handicrafts made by Aboriginal people for sale are **not** 'Aboriginal objects' under the NPW Act. Known Aboriginal objects and sites are recorded on OEH's Aboriginal Heritage Information Management System (AHIMS). If you find a site you should report it to us.

Protecting Aboriginal objects and places:

You will need to exercise due diligence in determining whether your actions will harm Aboriginal objects. The **Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW** http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf This link will explain and provide practical guidance about what due diligence means. Anyone who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability objects offence if they later harm an Aboriginal object.

An Aboriginal Heritage Impact Permit (AHIP) can be issued by OEH under Part 6 of the NPW Act where harm to an Aboriginal object or Aboriginal place cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and/or Aboriginal places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened.

Find out about AHIPs, due diligence and care agreements see **Information on Aboriginal Heritage Impact Permits.** <u>http://www.environment.nsw.gov.au/licences/Section87Section90.htm</u>

Purpose of code of practice for Due Diligence.

This code of practice is to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects and to determine whether they should apply for consent in the form of an Aboriginal Heritage Impact Permit (AHIP). The National Parks and Wildlife Act 1974 (NPW Act) provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object without an AHIP.

The NPW Act allows for a generic code of practice to explain what due diligence means. Carefully following this code of practice, which is adopted by the National Parks and Wildlife Regulation 2009 (NPW Regulation) made under the NPW Act, would be regarded as 'due diligence'. This code of practice can be used for all activities across all environments.

This code sets out the reasonable and practicable steps which individuals and organisations need to take in order to: 1 identify whether or not Aboriginal objects are, or are likely to be, present in an area 2 determine whether or not their activities are likely to harm Aboriginal objects (if present) 3 determine whether an AHIP application is required.

If Aboriginal objects are present or likely to be present and an activity will harm those objects, then an AHIP application will be required. Information about the permits and how to apply for them can be obtained through the Department of Environment, Climate Change and Water (DECCW) website at

www.environment.nsw.gov.au/licences/index.htm.



1 Do you need to use this due diligence code?

AHIMS Data Base Search.

Mark Saddler

Date: 25 January 2018

P.O.Box 8005 Kooringal Post Office Kooringal New South Wales 2650 Attention: Mark Saddler

Email: marksad@live.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 470900 - 476000, Northings : 6127000 - 6128000 with a Buffer of 1000 meters. Additional Info : Checking on local sites, conducted by Mark Saddler on 25 January 2018.

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



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



Map and reference location to site:



Site recordings and location of site cards relevant to this site:

-	lar Farm, SW.			
Mark Sadd	er			
Ph 0412 693 030 05/02/2018		Email:	marksad@live.com.au	
		Web:	http://www.bundyicultu	ure.com.au/
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55-3-0145	http://www.environment.nsw.gov.au/awssapp/login.aspx	5/02/2018
55-3-0150	http://www.environment.nsw.gov.au/awssapp/login.aspx	5/02/2018
55-3-0147	http://www.environment.nsw.gov.au/awssapp/login.aspx	5/02/2018

Site recordings and location of site cards relevant to this site: (Continued)

Stakeholder details	Responsibilities	
Cédric Bergé	Environmental Consultant - Development Manager	0402 055 443
Bundyi Cultural Services, Mark Saddler	Culture Advisor, Recorder, Knowledge Holder	0412 693 030

To find out more about Cultural Site Management, rules and protection go to this these web page links for more in-depth information.

Do you need to use the due diligence code?

http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf

OEH <u>legislation</u> which ensures that Aboriginal cultural heritage must be considered as part of land management practices.

http://www.environment.nsw.gov.au/conservation/aboriginalculture.htm

Site Report and Recommendations.

05/02/2018

Sandigo Solar Farm, Kywong, NSW.

On my site inspection on beginning on the 11/12/2017 I felt an overwhelming sense of pain and lose. This area was inhabited by Wiradjuri people and was a place where many camped and lived over an extended period of time. It is also a place where many Wiradjuri people were killed and forced to move away from. To the South of the area is a creek known as "Poison Water Hole Creek" Also not to far away is an island in the river called "Massacre Island" Both of these places cause pain and lose for my people.

With regards to native animals and plants in this area, I noticed many species of bird including Grass Parrots, Willy Wag Tail, Eagles, Rainbow Lorikeet, Galah, Cockatoo, White Winged Chough, Pipit and Quail to name a few. On the day of the 24th January a very large Madhan Gugaa (Tree Goanna) was also seen by the survey crew as it was climbing one of the remaining trees in this area. The area also has good regrowth of salt bush, some native water plants and young tree suckers. This area needs to have exclusions zones and habitat left undisturbed. GPS 474241 6126501

The dams on the site, that were once old creeks and wetlands, also contains many water animals including Yabby, small fish, Turtles, Dragon Flies and a large array of Butterflies and bees.

This area has been heavily impacted by cattle and machinery. Many Aboriginal sites and items have been damaged and driven over, this needs to stop, and actions taken to stop this from happening again. Exclusion zones are needed around the scar trees, around the remaining habitat and trees and extra care and exclusions zones around the two areas that have many excellent quality artefacts remaining on the ground. Both these sites need to have test pits dug into them to determine the extent of the artefacts that are on and below the ground.

Both the sites that I have surveyed and want to re-inspect with test pits are show on the page 12 in pictures 1 and 2.

I would also ask for the planting of native trees that would enhance the area for both people and bird life. Some Bull Oak trees would also add to the area and may assist in the habitat and return of the Glossy Black Cockatoo.

When construction does start I would like to ask that I could be again involved in any ground works with regards to cultural assistance on site.

As this report has been asked for today the 5th Feb 2018 by Cedric, some AHIMS site recordings are still not on here due to the slowness of AHIMS Data Base, so ESCO need to do their due diligence by getting access to the full data from AHIMS by doing a full search via AHIMS site.

Also, items that are removed to be tagged and examined must be returned to site with a smoking ceremony to take place to ensure the safe return of items and our spirits.

Procedures to work around Aboriginal sites can be found at this link,

http://www.aboriginalheritage.org/sites/legislation/

Site Directions to Sensitive Artefact areas.

Site 1 55H 473926 6128804



Site 2 55H 472514 6128804



References:

OEH, <u>http://www.environment.nsw.gov.au/</u> Local Land Services, <u>http://www.lls.nsw.gov.au/livestock/stock-routes</u> Mark Saddler, Cultural Advisor and Knowledge holder, <u>www.bundyiculture.com.au</u> Goggle Earth Maps, <u>https://www.google.com/earth/</u> Aboriginal Heritage, <u>http://www.aboriginalheritage.org/sites/legislation/</u>

Prepared by: Mark Saddler, Bundyi Cultural Services P.O.B 8005 Kooringal Post Office NSW 2650 Ph: 0412 693 030 Email: <u>marksad@live.com.au</u> Web: <u>www.bundviculture.com.au</u>

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