View of Yarrabee OS-4 facing southeast.

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

YARRABEE SOLAR PROJECT

NEAR NARRANDERA, NSW

OCTOBER 2018

Report Prepared by

OzArk Environmental & Heritage Management Pty Ltd

for SLR Consulting Australia Pty Ltd

on behalf of

Reach Solar Energy Pty Ltd

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Aboriginal Cultural Heritage Assessment Report Cover Sheet

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Acknowledgement

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

EXECUTIVE SUMMARY

OzArk Environmental & Heritage Management (OzArk) has been engaged by SLR Consulting Australia (the client), on behalf of Reach Solar energy (the proponent) to complete an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) of the Project Site (study area). The proponent is seeking consent to develop a photovoltaic (PV) solar plant (the project) over approximately 2,600 hectares of the 3,000 hectares study area. The access roads to the study area were also included in the assessment.

The Project is classified as State Significant Development (SSD) under the provisions of Part 4 of the *Environmental Planning and Assessment Act 1979* in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011*. An *Environmental Impact Statement* (EIS) has been prepared to accompany the development application to the Department of Planning and Environment (DP&E).

The survey of the study area was undertaken 22–29 March 2018. It was attended by Roland Williams and Warrick Williams of Leeton and District Local Aboriginal Land Council and Mark Saddler of Bundyi Aboriginal Cultural Knowledge. 25 Aboriginal sites were recorded during the survey: nine isolated finds, 13 artefact scatters, one earthen mound, and two scarred trees. In addition, a further 22 sites were registered by Registered Aboriginal Parties (RAPs) during the survey which are not archaeological in nature.

The survey of the existing access roads was undertaken on 7 August 2018. It was attended by Courtney Davy of Leeton and District Local Aboriginal Land Council. There were no Aboriginal sites or areas of archaeological potential recorded along the two access roads to the study area.

Of the 25 sites identified in the study area, six sites are located on an existing internal access track and liable to be harmed by the Proposal (three totally impacted and three partially impacted). All remaining sites, including RAP sites, are outside the impact footprint but will require management measures to ensure they are not inadvertently impacted.

Recommendations concerning the study area are as follows:

1. Should development consent for the Project be granted, archaeological management strategies to manage and mitigate the impact of the proposed works are set out in **Section 6**. All sites on existing access tracks in the study area should be salvaged by a surface collection of all visible artefacts (see **Section 6.3.1**).
2. The salvage works will include the mapping, analysis and collection of all surface artefacts at the affected sites. Results will be included in a report to preserve the data in a useable form.
3. All land-disturbing activities must be confined to within the assessed study area and the existing eastern and western access roads, in particular the impact footprint. Should the

parameters of the proposed work extend beyond this, then further archaeological assessment may be required.

4. Following development consent of the Project, an Aboriginal Heritage Impact Permit will not be required for impacts to cultural heritage, so long as the impact accords with the terms and conditions of the consent. Instead, impacts on Aboriginal heritage would be managed through an *Aboriginal Cultural Heritage Management Plan* (ACHMP) which is to be agreed to by the proponent, RAPs and DP&E. The archaeological management recommendations within this report would normally be incorporated into the ACHMP that is usually formulated following development consent. The ACHMP should also include long term management of any artefacts.
5. During the course of the project, if Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol* be followed (**Appendix 3**).

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE PROPOSAL

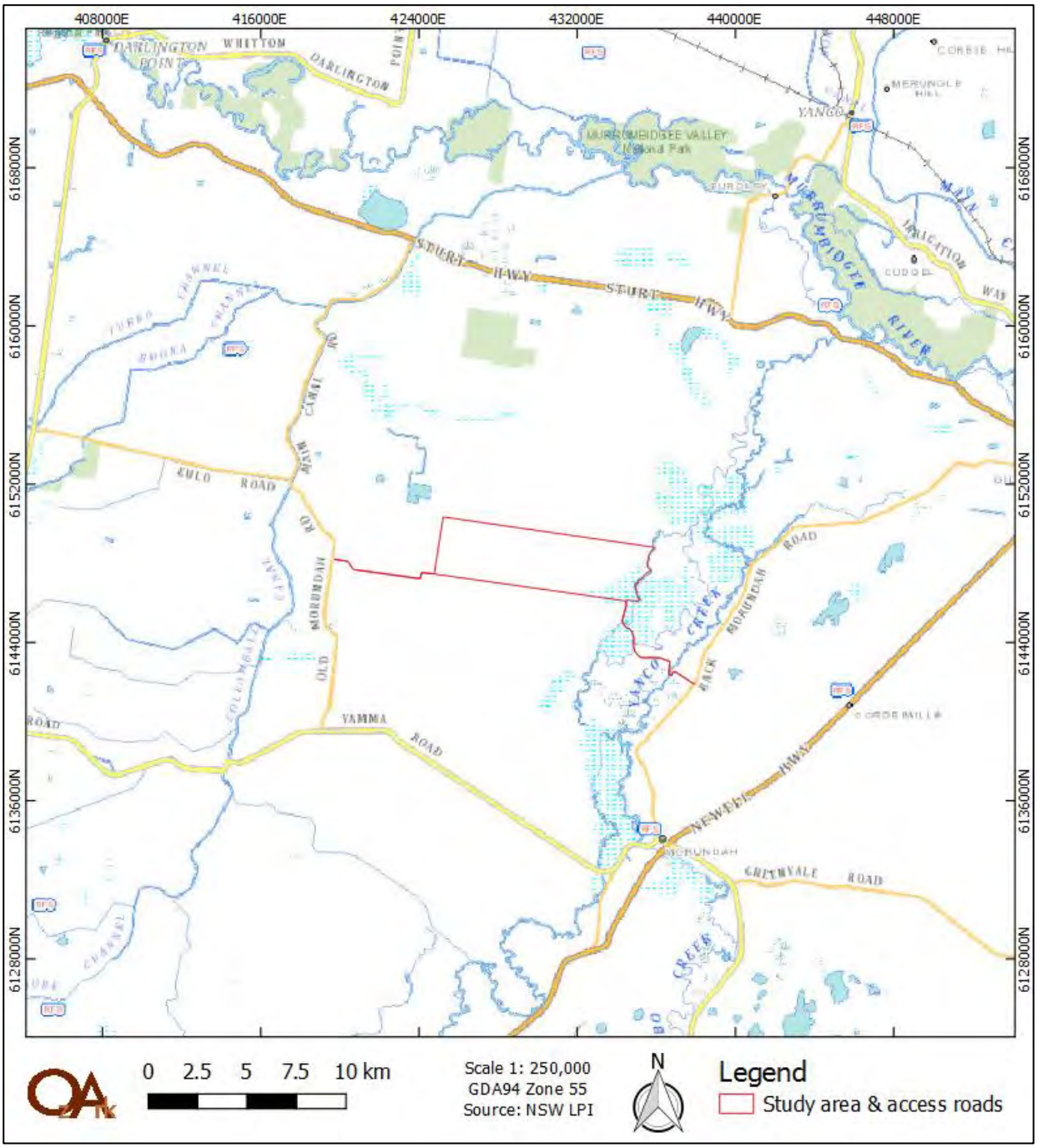
OzArk Environmental & Heritage Management (OzArk) has been engaged by SLR Consulting Australia (the client), on behalf of Reach Solar energy (the proponent) to complete an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) of the Project Site. For the purpose of this report, we will refer to the Project Site as the study area. In addition, the existing access roads to the study area were included in the assessment.

The study area is located approximately 23 kilometres (km) southwest of Narrandera NSW, 13km south of Euroley, 13km northwest of Corobimilla and 40m west of Washpen Creek on Yarrabee Farm. The study area includes approximately 3000 hectares located in the Narrandera Shire Council Local Government Area (LGA). Two existing access roads were also included in the assessment. The eastern access road is also located in the Narrandera Shire Council LGA, while the majority of the western access road is located in the Murrumbidgee Council LGA. Both roads are unsealed. The western access road is approximately 6.8km and extends from Old Morundah Road, through Yarrabee Farm, to the southwest corner of the study area. The eastern access road is approximately 8.6km and extends from Back Morundah Road, to the southeast corner of the study area, also going through Yarrabee Farm.

The proponent is seeking consent to develop a photovoltaic (PV) solar plant (the project) over approximately 2,600 hectares of the 3,000 hectares study area. The study area and access roads are shown bounded in red in **Figure 1-1**.

The Project is classified as State Significant Development (SSD) under the provisions of Part 4 of the *Environmental Planning and Assessment Act 1979* in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011*. An *Environmental Impact Statement* (EIS) has been prepared to accompany the development application to the Department of Planning and Environment (DP&E).

Figure 1-1: Location map of the study area and access roads.



1.2 BACKGROUND

A Preliminary Heritage Review was provided to SLR Consulting in February 2018. Part of this review involved a brief reconnaissance visit made by OzArk's Director, Dr Jodie Benton, in November 2017 to enable a limited characterisation of local archaeological potential. During the field reconnaissance, two artefacts were located and recorded and several areas of archaeological potential were identified.

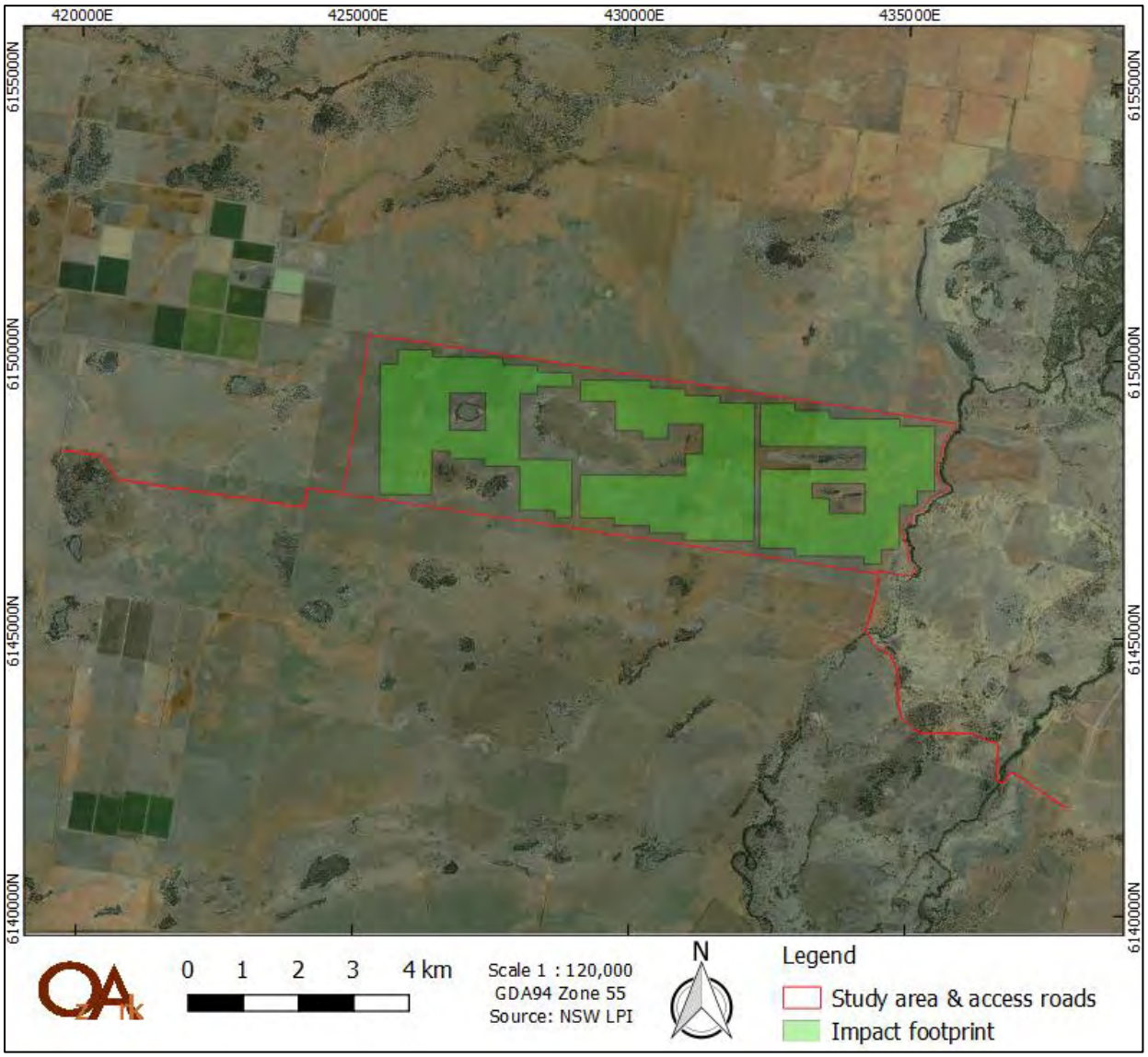
1.3 PROPOSED WORK

The proposed Yarrabee Solar Project will include the following elements:

- PV modules using PV solar panels and single axis tracking system
- Inverter stations and low-voltage and medium voltage reticulation systems
- Energy storage system
- Ancillary services equipment to assist the grid including energy storage systems and synchronous condensers
- Permanent site office and maintenance building
- Internal access tracks to enable site maintenance
- New substation constructed immediately adjacent to the existing Wagga 330kV to Darlington Point transmission line
- Grid connection from the new substation to existing Wagga 330kV to Darlington Point transmission line
- Buffer zones to areas of native vegetation and Washpen Creek riparian vegetation
- Security perimeter fencing
- Temporary construction laydown areas and ancillary facilities.

The direct impact footprint of the Project will be approximately 2,600ha. The alignment of associated infrastructure is illustrated in **Figure 1-2**.

Figure 1-2: Proposed work showing impact footprint.



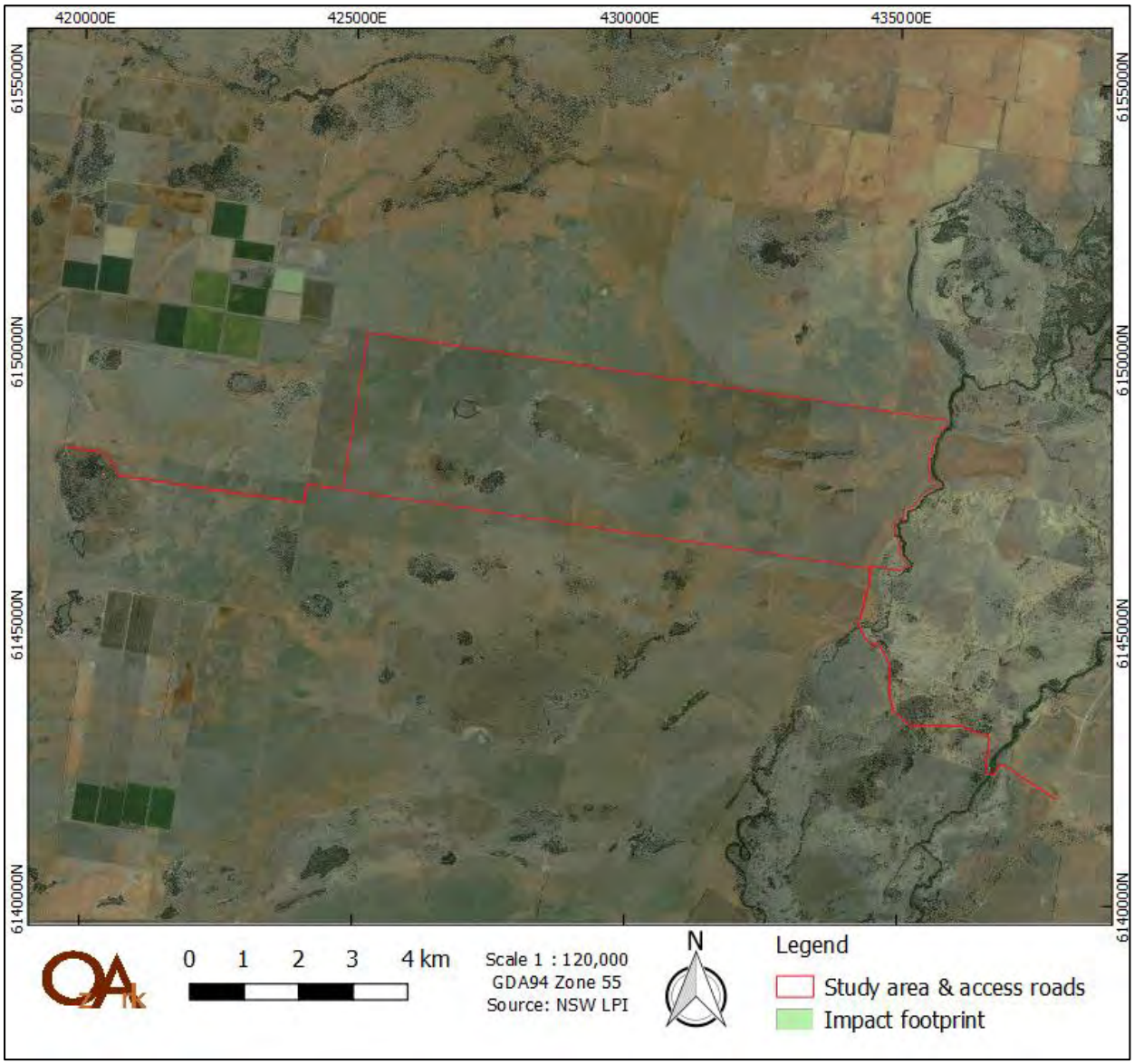
1.4 STUDY AREA

The study area is approximately 3,000ha in size and encompasses part of Yarrabee Farm. The study area is located approximately 23km southwest of Narrandera, 18km south of the Murrumbidgee River, and 40m west of Washpen Creek (**Figure 1-3**).

The long-term and existing use of the study area is agricultural production, including cultivation of crops. Under the provisions of the Narrandera Shire Council Location Environment Plan 2013 (Narrandera LEP) the Project site is zoned “RU1 – Primary Production”.

The access roads to the study area are both existing unsealed roads used extensively during the regular agricultural business of Yarrabee Farm. The western access road is 6.8km and consists of a well maintained and grated dirt road approximately 3m in width. The eastern access road is 8.6km and consists of a well maintained and gravelled road approximately 4m in width.

Figure 1-3: Aerial showing the study area and access roads.



1.5 RELEVANT LEGISLATION

Cultural heritage is managed by a number of state and national Acts. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a state level.

A number of Acts of parliament provide for the protection of heritage at various levels of government.

1.5.1 State legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

This Act, amended by the *Environmental Planning and Assessment Amendment Act 2017*, establishes requirements relating to land use and planning. The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- **Part 4:** Local government development assessments, including heritage. May include schedules of heritage items;
    - **Division 4.7:** Approvals process for state significant development;
- **Part 5:** Environmental impact assessment on any heritage items which may be impacted by activities undertaken by a state government authority or a local government acting as a self-determining authority; and
    - **Division 5.2:** Approvals process for state significant infrastructure.

National Parks and Wildlife Act 1974 (NPW Act)

Amended during 2010, the NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (Part 6), an Aboriginal object is defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the NPW Act to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, such as:

- The harm was authorised by and conducted in accordance with the requirements of an *Aboriginal Heritage Impact Permit* (AHIP) under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the Office of Environment and Heritage (OEH) Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS).

1.5.2 Commonwealth legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Matters of National Environmental Significance listed under the EPBC Act include the National Heritage List and the Commonwealth Heritage List, both administered by the Commonwealth Department of the Environment and Energy. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to National/Commonwealth heritage places.

1.5.3 Applicability to the proposal

The current Proposal will be assessed under Division 4.7 of the EP&A Act.

Any Aboriginal sites within the study area are afforded legislative protection under the NPW Act.

It is noted there are no Commonwealth or National heritage listed places within the study area, and as such, the heritage provisions of the EPBC Act do not apply.

1.6 ASSESSMENT APPROACH

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

Field assessment and reporting followed the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

Aboriginal community consultation has followed the *Aboriginal Cultural Heritage Consultation Requirements for proponents* (DECCW 2010b) (ACHCRs).

2 THE ARCHAEOLOGICAL ASSESSMENT

2.1 PURPOSE AND OBJECTIVES

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

2.1.1 Aboriginal archaeological assessment objectives

The current assessment will apply the Code of Practice, in the completion of an Aboriginal archaeological assessment, in order to meet the following objectives:

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

Objective Two: Identify and record objects or sites of Aboriginal heritage significance within the study area, as well as any landforms likely to contain further archaeological deposits.

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

2.2 DATE OF THE ARCHAEOLOGICAL ASSESSMENT

The fieldwork component of the study area assessment was undertaken by OzArk on the following days:

- Thursday 22 March 2018
- Friday 23 March 2018
- Saturday 24 March 2018
- Sunday 25 March 2018
- Monday 26 March 2018
- Tuesday 27 March 2018
- Wednesday 28 March 2018
- Thursday 29 March 2018.

The fieldwork component assessing the access roads was undertaken by Ozark on Tuesday 7 August 2018.

2.3 ABORIGINAL COMMUNITY INVOLVEMENT

The assessment has followed the ACHCRs. Information regarding the ACHCRs, detailing the main stages, follows.

2.3.1 Stage 1: Notification of the development and registration of interest

- Advertisement placed in Narrandera Argus 17 January 2018 (**Appendix 1**);
- Letter seeking information from agencies sent on 15 January 2018 (**Appendix 1**). Letters were sent to OEH, Office of The Registrar ALRA, NTSCORP, National Native Title Tribunal, Narrandera Local Land Services, Narrandera Shire Council, and the Narrandera Local Aboriginal Land Council (LALC).
- Letter seeking information from agencies sent on 17 January 2018 (**Appendix 1**). Letter was sent to Leeton and District LALC.
- By the closing date for registration concerning this Project, seven groups or individuals registered to be consulted as Registered Aboriginal Parties (RAPs). They are as follows:
    - Leeton and District LALC
    - Narrandera LALC
    - Will Carter
    - Lee Reavley
    - Lesley Houston
    - Bevan Bright
    - Bundyi Aboriginal Cultural Knowledge.

2.3.2 Stage 2/3: Presentation of information about the proposed development and gathering information about cultural significance

- On 16 February 2018 all RAPs were sent:
    - Development overview (**Appendix 1**)
    - Survey methodology (**Appendix 1**).

Will Carter provided feedback on the survey methodology proposing that at the beginning of the report the Wiradjuri people are acknowledged as the Traditional Owners of the area.

No further feedback regarding Stage 2/3 development overview or survey methodology was provided to OzArk by any RAPs.

2.3.2.1 Field survey participation

Fieldwork was undertaken 22–29 March 2018 and 7 August 2018. The following RAPs or representatives of RAPs participated in the fieldwork program:

- 22 March and 24–28 March 2018: Mark Sadler (Bundyi Aboriginal Cultural Knowledge)
- 22–23 March 2018: Roland Williams (Leeton and District LALC)

- 22–23 March 2018: Warrick Williams (Leeton and District LALC)
- 7 August 2018: Courtney Davy (Leeton and District LALC).

2.3.3 Stage 4: Review of draft ACHAR

The draft ACHAR was sent on 29 May 2018 to all RAPs. A 28 day review period was provided closing on 27 June 2018. An amendment of **Section 5.9** and **Section 6.0**, regarding the impact footprint of the proposal, was sent to all RAPs on 8 June 2018.

There were no responses from the RAPs concerning the ACHAR.

A project update regarding the inclusion of the access roads to the study area was sent to all RAPs on 30 July 2018. OzArk received one response about the project update from Mark Sadler (Bundyi Aboriginal Cultural Knowledge) regarding the access roads fieldwork and who would be undertaking it. OzArk responded that one archaeologist and one RAP from the Leeton and District LALC would be assessing the access roads.

A log and copies of correspondence with Aboriginal community stakeholders is presented in **Appendix 1**.

2.4 OZARK INVOLVEMENT

2.4.1 Field assessment

The fieldwork component of the assessment was undertaken by:

- Archaeologist: Dr Alyce Cameron (OzArk Project Archaeologist, BA [Hons] and PhD [Archaeology & palaeoanthropology] Australian National University)
- Archaeologist: Stephanie Rusden (OzArk Project Archaeologist, BS University of Wollongong, BA University of New England)
- Fieldwork assistant: Marc Cheeseman (OzArk).

2.4.2 Reporting

The reporting component of the assessment was undertaken by:

- Report Author: Dr Alyce Cameron
- Reviewer: Ben Churcher (OzArk Principal Archaeologist; BA [Hons], Dip Ed).

3 LANDSCAPE CONTEXT

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

3.1 TOPOGRAPHY

According to the Interim Biogeographic Regionalisation of Australia (IBRA) described by NSW National Parks and Wildlife Service, the study area is located within the Riverina bioregion and the Murrumbidgee subregion. The Riverina bioregion encompasses part of southwest NSW and extends into central north Victoria.

The Riverina bioregion is made up of river channels, floodplains, backplains, swamps, lakes and lunettes. The upper area of the Riverina is a series of overlapping low gradient alluvial fans, while the lower area is made up of floodplains with overflow lakes. The Murrumbidgee subregion specifically is made up of complex alluvial fans with distributary channels and floodplains. Depression plains and abandoned lake bed with lunettes, and sometimes bordering dunes are present. The subregion covers the alluvial fans of the Lachlan, Murrumbidgee and Murray Rivers.

The study area consists mostly of flat plains (see **Plate 1**). There is a larger dune formation in the centre of the study area characterised by richer red-brown loamy soils (see **Plate 2**). There is also a similar dune formation, on a smaller scale, in the south west of the study area where an area of remnant trees remain (see **Plate 3**). In the north west of the study area there is a natural swamp surrounded by remnant vegetation and with native grasses inside the area.

The western access road is well maintained and has been graded regularly (see **Plate 4**). The road is approximately 3m in width and has an additional 1–2m either side of disturbed soils due to the grading and maintenance of the road (see **Plate 5**).

The eastern access road is the main road into and through Yarrabee Farm. The road is well maintained and has been gravelled frequently (see **Plate 6**). It is approximately 4m in width, and along the majority of the road agricultural ploughing extends to the edge of the road itself. There are two existing bridges over Yanco Creek and Washpen Creek (see **Plate 7** and **Plate 8** respectively).

Figure 3-1 illustrates the landforms and **Table 3-1** quantifies the extent of each landform within the study area.

Figure 3-1: Landforms in the study area.

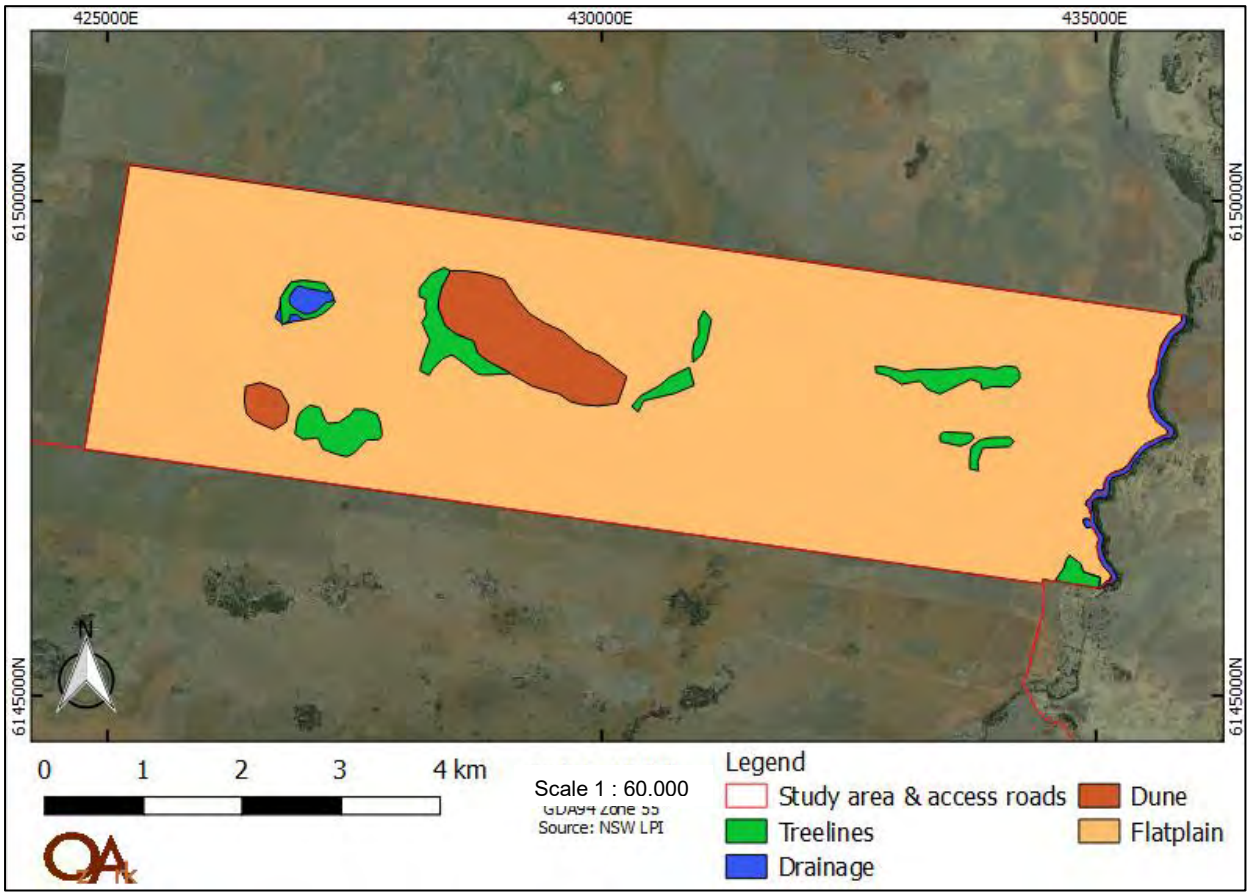


Table 3-1: Summary of key terrain features within the study area.

Total study area	Flat plains	Dunes	Remnant tree lines	Drainage areas
3000ha	2660ha (88.7%)	189ha (6.3%)	112ha (3.7%)	39ha (1.3%)

3.2 GEOLOGY AND SOILS

Understanding land formation processes is an important part of assessing the availability of exploitable resources in the landscape and predicting the ability of that landscape to preserve archaeological material (DECCW 2010a).

The geology of the Riverina bioregion, and specifically the Murrumbidgee subregion, is characterised by quaternary alluvial sediments. This includes clays and sands with bordering dunes and lakes. The main soils in the subregion are red brown earths, grey and brown clays and deep siliceous sands on dunes. The modern river channels have sandy soils and more saline heavy grey and brown clays appearing towards the outer perimeter of floodplains on the higher terraces (NPWS 2003: 92). Gammage (1986: 4) describes the surface soils of the Narrandera Shire as being sands, loams and clays which have been stained red by iron oxides, and are susceptible to erosion and deficient in nitrogen and phosphorus.

The study area itself has soils matching the descriptions above. Over the majority of the study area, in particular in the flat plain areas, the soil is grey and brown clays and the landform is classified as Murrumbidgee Scalded Plains (Mitchell 2002). The larger dune in the centre of the study area is classified as Murrumbidgee Source-bordering Dunes, while along the eastern boundary is Murrumbidgee Channels and Floodplains. In the northwest corner of the study area, the landform is classified as being Murrumbidgee Depression Plains (Mitchell 2002). On the two dune formations, the soils are red brown and sandy. There are no rock outcrops within the study area, typical of the Riverina bioregion, and almost no gravels were observed.

3.3 HYDROLOGY

On a regional scale, the study area is situated within the central south of the Murray-Darling Basin and specifically within the Murrumbidgee River Valley.

There are two major rivers within the Riverina bioregion, the Murray River and the Murrumbidgee River, with two major tributaries, the Lachlan and Goulburn Rivers. The Murrumbidgee River is 18km north of the study area and the largest water source in the region of the study area. The source of the Murrumbidgee River is in the alpine regions of Kosciuszko National Park and Monaro High Plains, where it heads west across NSW and the riverine plains to confluence with the Murray River near Balranald. The town of Narrandera, approximately 23km northeast of the study area is within the Murrumbidgee water catchment area.

The study area is approximately 40m west of Washpen Creek, and 8km east of Coleambally Main Canal. Both Washpen Creek and the Coleambally Main Canal connect with the Murrumbidgee River north of the study area.

There are several man-made dams within the study area. These are characterised by man-made banks, windmills and old fencing (see **Plate 9** for an example). Though the study area has been extensively ploughed over the last decade, there still remains indications of earlier water sources. Specifically, there are two natural areas which likely still gather water during rainfall. The main one is a circular shallow basin of swamp surrounded by remnant vegetation in the northwest section of the study area (see **Plate 10**). The second area is a shallow channel within a remnant treeline in the northeast section of the study area (see **Plate 11**).

The eastern access road has existing bridges which cross Yanco Creek and Washpen Creek. Both creeks are a permanent or semi-permanent source of water. The road also intersects with Pine Watercourse, though this is a drainage line more than a true source of water. Pine Watercourse has been extensively ploughed for agricultural cropping (see **Plate 12**).

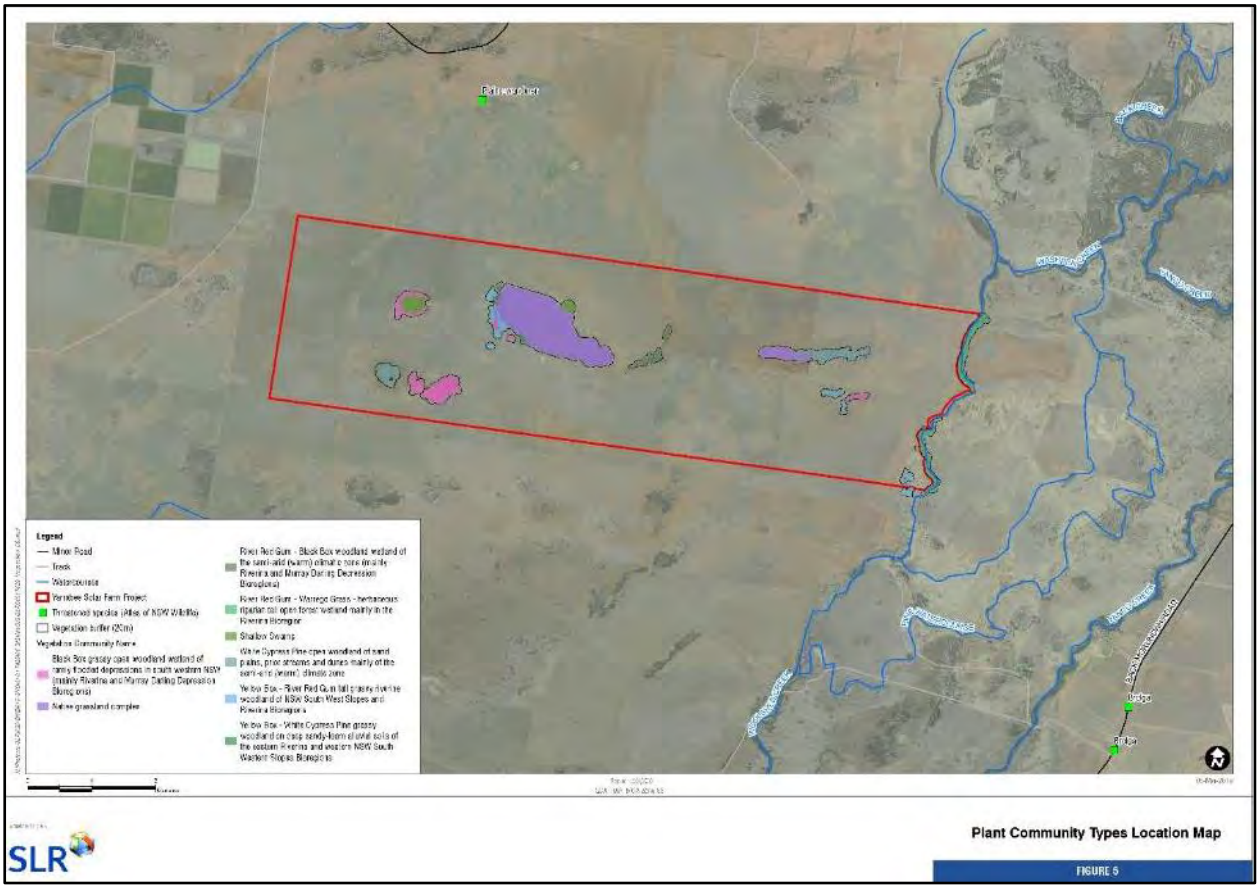
3.4 VEGETATION

The majority of the study area has been cleared for agricultural cropping and, sheep and cattle grazing. Native woodland remnants comprise three Plant Community Types:

- River Red Gum - Black Box woodland wetland of the semi-arid (warm) climatic zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion)
- Black Box grassy open woodland wetland of rarely flooded depressions in south western NSW (mainly Riverina and Murray Darling Depression Bioregions)
- White Cypress Pine open woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone (**Figure 3-2**).

These woodland communities have been heavily grazed by herbivores, including resident populations of Western Red Kangaroos and Eastern Grey Kangaroos. Native plant diversity is relatively low in most areas and is comprised of native and exotic grasses and herbs.

Figure 3-2: Vegetation in the study area. Source: SLR Consulting.



3.5 CLIMATE

Climate in the Riverina bioregion is dry and semi-arid, with hot summers and cool winters. Temperatures within the bioregion do not vary considerably, though in the northern areas both summer and winter temperatures are generally higher (NPWS 2003).

The closest Bureau of Meteorology (BOM 2018) weather station to the study area is at Narrandera Airport. The annual average maximum temperature is 23.8ºC, and the average minimum temperature is 9.9ºC. January is the hottest month, with a mean maximum temperature of 33.4ºC, and July is the coldest month with a mean maximum temperature of 3.2ºC. The mean

annual rainfall is 437mm, with the highest occurrence of rainfall in October (40mm) and the lowest in March (31mm).

3.6 LAND–USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Aboriginal people have sustainably harvested resources within the regional area (**Section 4.2**). Aboriginal people in prehistory are known to have used fire-stick farming, or controlled burns, to alter vegetation communities, promoting the growth of desirable plants. Aboriginal fire regimes were widespread and are considered an early land-use practice (Gammage 2011).

The first recorded explorations of the area surrounding Narrandera by Europeans was conducted by Charles Stuart who explored the Murrumbidgee and lower Murray from 1828 to1831. Following this were the graziers who established pastoral runs near Yanco Creek, and along the Murrumbidgee and Murray Rivers from 1835 to 1839. Cattle were present in the area from 1840 onwards, and by the 1860s sheep were the predominant stock (Eardley 1999).

The study area is part of the historical pastoral run of Yarrabee. This pastoral run was established by the Jackson brothers prior to 1833 and by 1848 covered approximately 30,000 acres. Between 1833 and 1893 the run changed ownership several times. In 1897, Samuael McCaughey is recorded as owning the Yarrabee run, followed by the Coughlan family in 1924 (Gammage 1986).

The study area is situated within a working agricultural farm. The current use of the study area is for cultivating wheat and barley and has been ploughed significantly (refer to **Plates 13** to **15**). The property in which the study area is situated has been used for agricultural cropping for at least the past 7–10 years. Prior to this, the overall use of the property was for pastoral cattle and sheep grazing.

The eastern access road is the main access into Yarrabee Farm and to any residences and the farm hub on the property. The western access road is also used extensively for the agricultural operations on Yarrabee Farm. Both roads are used regularly by light vehicles as well as agricultural machinery such as tractors.

3.6.1 Existing levels of disturbance

Disturbance, historical or natural, potentially alters the archaeologically record. It can do this in a variety of ways, directly or indirectly. For example, land clearing directly removes a particular site type: usually scarred trees or stone arrangements. Indirectly, land clearing accelerates soil erosion, potentially resulting in previously buried occupation / activity sites becoming exposed and altered / damaged.

The study area has moderate to high levels of disturbance mostly consisting of impacts related to the area's agricultural use. Disturbances across the study area are summarised below:

- **Agriculture and Pastoralism.** Farming and grazing are fundamental to the local economy and dominate land-use throughout the area. The study area is wholly contained within farming and grazing land which has had the following impacts:
    - **Vegetation removal.** The study area has been subject to significant levels of vegetation removal (**Section 3.4**). Culturally modified trees may have been removed during the land clearance phase in the area, thereby distorting the archaeological landscape by removing this site type;
    - **Cultivation.** Portions of the study area have been subjected to cultivation. Repeated cultivation since the commencement of European settlement will have altered soil profiles and potentially disturbed subsurface archaeological deposits;
    - **Grazing.** The study area has been used historically for low-intensity livestock grazing. The presence of hoofed livestock is likely to have resulted in trampling and compaction of the ground surface which accelerates soil loss; and
    - **Farm Infrastructure and remediation works.** The study area has an overall low level of disturbance generated by the construction of dams, contour banks, agricultural buildings and fencing. Earthworks associated with contour banking and dams can reveal lithic artefacts which may have been otherwise concealed by low ground surface visibility (GSV).
- **Transport.** Numerous unsealed roads and tracks intersect the study area. In the case of unsealed tracks, this disturbance tends to provide exposures, thus enabling the identification of otherwise obscured artefacts. The two access roads to the study area have both been disturbed: the eastern access road with the placement of gravels and fill, and the western access road by grading. These disturbances have either destroyed or covered artefacts that may have originally been present.
- **Erosion.** Erosion includes sometimes severe gully erosion and widespread sheet wash erosion, primarily adjacent to waterways. Varying scales of erosion on the archaeological landscape has the capacity to completely remove archaeological sites. However, in the process of erosion, many archaeological sites can become freshly exposed.

3.7 CONCLUSION

The topography, hydrology and climate of the study area would have been conducive to nearly year round occupation by Aboriginal people prior to 1833 when the study area became a pastoral run. In such a relatively hospitable environment one could expect wide-spread evidence of Aboriginal occupation. Rather than being confined to the banks of waterways, as is often the case in drier environments, the study area could expect evidence of occupation in all landforms.

Reference to the landform map (**Figure 3-1**) indicates that the impact to potential archaeological deposits (PADs) will vary depending on the landform in which they may exist. With respect to the landforms within the study area, the following observations can be made:

- Flat plain: Potential for Aboriginal heritage sites to be located on flat areas within the study area, however, any sites located are also likely to have been at least marginally disturbed due to cultivation practices
- Dunes: Potential for Aboriginal heritage sites to be located on the dunes within the study area. The sandy soil indicates the possibility for burials as well as subsurface deposits of stone artefacts.

There are no known natural resource sites within the study area that may have been a focus for past Aboriginal occupation.

4 ABORIGINAL ARCHAEOLOGY BACKGROUND

4.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

The study area is within the southern boundaries of the territory of the Wiradjuri tribal and linguistic group (Tindale 1974). The Wiradjuri tribal area is situated within the Murray Darling Basin and extends across three general physiographic regions: the highlands or central tablelands in the east, the riverine plains in the west, and the transitional western slopes zone in-between. It is important to recognise the use and meaning of the term 'tribe' and the designation of lines on a map as 'tribal boundaries' as being controversial issues (Bowdler 1983: 22).

Prior to European settlement, the eastern margins of the Murrumbidgee River basin supported woodland and forest habitats that provided home to a wide range of exploitable resources for the Aboriginal population. These resources included possums, which provided a ready source of meat and fur for cloaks (Kabaila 1998: 12). Also used were vegetables including the roots of daisy yams (Myrrnong), the tubers of lilies and orchids, stands of bracken fern, and Kurrajong roots.

As the Murrumbidgee River enters the western slopes of the Wagga Wagga area, and out onto the red brown earth plains around Hay and Griffith, the landscape becomes more an open plain woodland becoming increasingly arid with the western flow of the river. The grassland plains were characterised by kangaroos and emus that were hunted, often using the firing of vegetation as a tool either to flush out game or to provide green pick to attract animals (Kabaila 1998: 12). The frequent floods of the Murrumbidgee River provided the local Aboriginal population with an abundance of resources: as the flood waters receded they left the drying pools stocked with freshwater mussels, yabbies, fish and waterfowl as well as aquatic plants (Kabaila 1998: 12).

4.2 REGIONAL ARCHAEOLOGICAL CONTEXT

Within the Wiradjuri region, the presence of Aboriginals in the Darling Basin has been dated to 40,000 years ago (Hope 1981 as cited in Haglund 1985). A spread east into the mountains is thought to have occurred between 14,000 to 12,000 years ago.

Systematic, regional based archaeological studies have not been undertaken in this area. Additionally, most development-driven studies in the broader region have been centred on the Wagga Wagga area. However, some development-driven studies have been undertaken in the region of the study area and provide a useful context for the study area and help inform the predictive model (**Section 4.4**). The following is a summary of the more substantial and relevant of these studies.

In 1983, Hiscock recorded 13 isolated finds and nine scarred trees during a survey of the eastern portion of a proposed transmission line between Wagga Wagga and Darlington Point (Hiscock 1983). Hiscock, after surveying the Wagga Wagga to Darlington Point 330kV transmission line, agreed with Witter (1980) that:

- Mounds, occupation debris of worked stone and scarred cypress pine may be located adjacent to major flood channels
- Scarred trees, fired clay hearths and occupation debris of worked stone, particularly where sand features are present, may be located adjacent to minor flood channels and temporary swamps
- Rare isolated artefacts, flaked or abraded stone and scarred trees can be found through the plains.

OzArk assessed a levee upgrade for Darlington Point in 2013 and recorded three scarred trees. The results conformed to the predictive model set out in the OzArk 2013 report.

OzArk undertook a survey of a transmission line between Yanco and Uranquinty in 2014 (OzArk 2014). No sites were recorded during the survey but five sites were recorded on AHIMS within 1km of the study area. This included three scarred tree sites, a scarred tree / stone artefact site and a quarry / stone artefact site.

In 2015, OzArk undertook a survey for the proposed Euroley Poultry Production Complex. This project is 3.5km north of the current study area. During the assessments, six Aboriginal heritage sites were recorded consisting of five scarred trees (AHIMS #49-5-0113, #49-5-0114, #49-5-0122, #49-5-0123 and #49-5-0124) and one hearth (AHIMS #49-5-0112).

4.3 LOCAL ARCHAEOLOGICAL CONTEXT

4.3.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the study area. The results of this search are summarised in **Table 4-1** and presented in detail in **Appendix 2**.

Table 4-1: Aboriginal heritage: desktop-database search results.

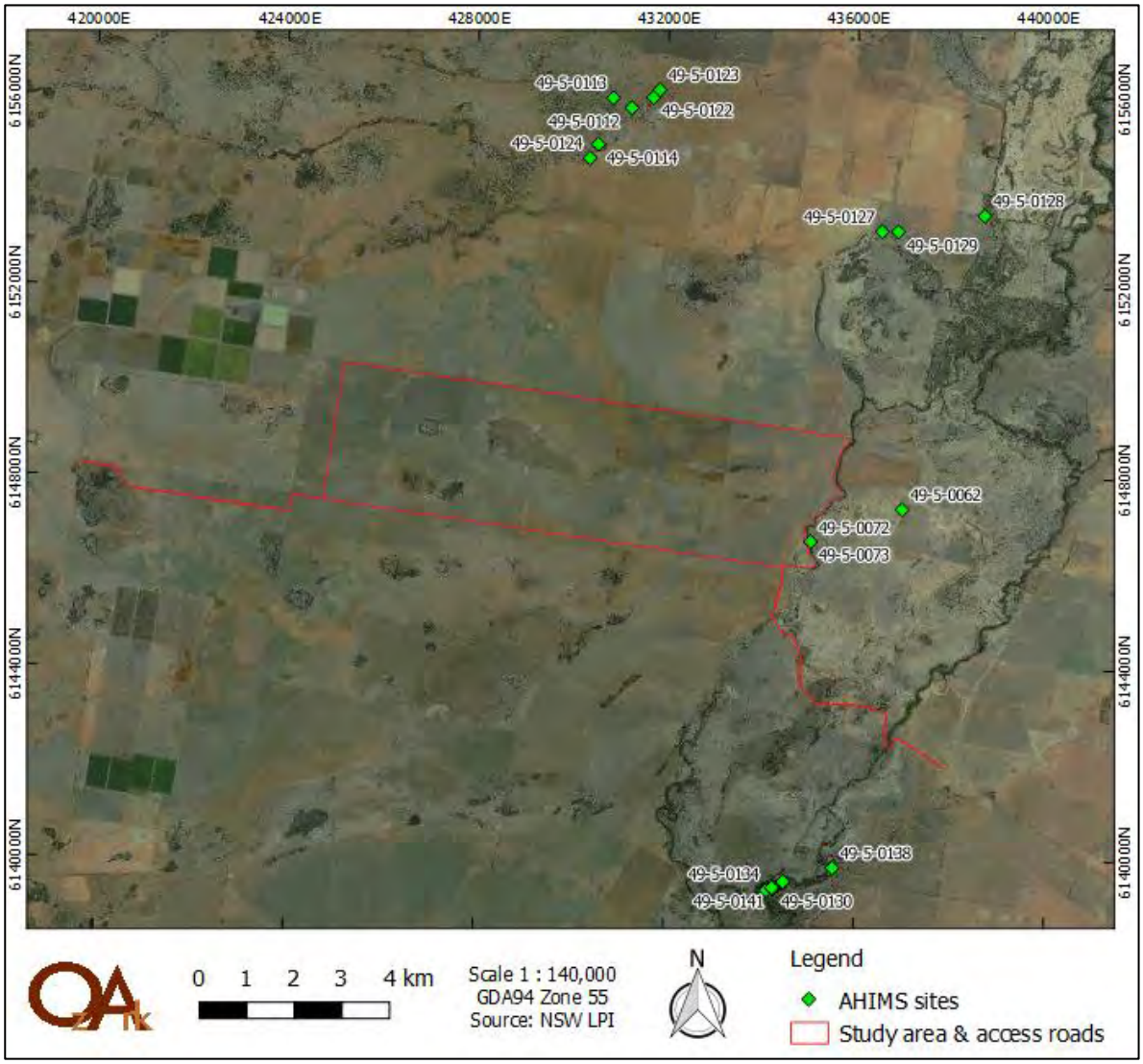
Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	2/05/2018	Narrandera LGA	No places listed on either the National or Commonwealth heritage lists are located within the study area
National Native Title Claims Search	2/05/2018	NSW	No Native Title Claims cover the study area.
OEH AHIMS	01/02/2018 & 02/05/2018	10km radius centred on the study area	Two sites AHIMS #49-5-0072 and 49-5-0073 just outside the study area and 22 within a 10km radius.
Local Environment Plan (LEP)	01/02/2018	Narrandera Shire Council LEP of 2013	None of the Aboriginal places noted occur near the study area.

A search of the OEH administered AHIMS database on the 1 February 2018 returned two records for Aboriginal heritage sites within the designated search area. The two sites recorded were both earth mounds for ovens or hearths. These sites were located in close proximity to each other and GPS co-ordinates place them on the eastern side of Washpen Creek. A further search of the AHIMS database with an extended search area of 10km was conducted on 2 May 2018 and returned a further 22 Aboriginal heritage sites outside the boundary of the study area (see **Table 4-2** for the AHIMS search area; results mapped on **Figure 4-1**). Of these sites, 20 were carved or scarred trees, one was a hearth and one was a burial and artefact scatter.

Table 4-2: AHIMS site types and frequencies.

Site Type	Number	% Frequency
Earth mound – hearth or oven	2	8
Artefacts and burial	1	4
Carved or scarred tree	20	83
Hearth	1	4
Total	**24**	**100%**

Figure 4-1: AHIMS sites within 10km of study area



4.4 PREDICTIVE MODEL FOR SITE LOCATION

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

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

Based on knowledge of the environmental contexts of the study area, a desktop review of the known local and regional archaeological record, and a preliminary field inspection, the following predictions are made concerning the probability of those site types being recorded within the study area:

- Isolated finds may be indicative of: random loss or deliberate discard of a single artefact, the remnant of a now dispersed and disturbed artefact scatter, or an otherwise obscured or subsurface artefact scatter. They may occur anywhere within the landscape but are more likely to occur in topographies where open artefact scatters typically occur.
    - As isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the study area.
- Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 metres (m) away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short or long term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or subsurface distributions of flaked stone discarded during the manufacture of tools, but may also include other artefactual rock types such as hearth and anvil stones. Less commonly, artefact scatters may include archaeological stratigraphic features such

as hearths and artefact concentrations which relate to activity areas. Artefact density can vary considerably between and across individual sites. Small ground exposures revealing low density scatters may be indicative of background scatter rather than a spatially or temporally distinct artefact assemblage. These sites are classed as 'open', that is, occurring on the land surface unprotected by rock overhangs, and are sometimes referred to as 'open camp sites'.

Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources.

Topographies which afford effective through-access across, and relative to, the surrounding landscape, such as the open basal valley slopes and the valleys of creeks, will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.

  - As the study area is situated directly west of Washpen Creek, a permanent water source, on a relatively flat area of land which includes sandy dunes and remnant tree lines, it is predicted that this type of site may be relatively common. The moderate degree of disturbance in the study area will probably mean that any scatters have become displaced. It is likely that any sites associated with such landforms are likely to have a low artefact density and a low complexity of tool types as the sites are either one-off events or only infrequently used.

- Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed as a consequence of gathering food, such as collecting wood boring grubs or creating footholds to climb a tree for possum hunting or bark removal. Due to the multiplicity of uses and the continuous process of occlusion (or healing) following removal, it is difficult to accurately determine the intended purpose for any particular example of bark removal. Scarred trees may occur anywhere old growth trees survive. The identification of scars as Aboriginal cultural heritage items can be problematical because some forms of natural trauma and European bark extraction create similar scars. Many remaining scarred trees probably date to the historic period when bark was removed by both Aboriginal and European people for various purposes. Consequently the distinction between European and Aboriginal scarred trees may not be clear.

  - Scarred trees are the dominant site type in the vicinity of the study area, however, due to the near-total clearance of trees from within the study area, this site type is predicted to be rare.

- Quarry sites and stone procurement sites typically consist of exposures of stone material where evidence for human collection, extraction and/or preliminary processing has survived. Typically these involve the extraction of siliceous or fine grained igneous and meta-sedimentary rock types for the manufacture of artefacts. The presence of quarry/extraction sites is dependent on the availability of suitable rock formations.

- It is unlikely this site type will be located within the study area due to a lack of suitable rock formations.

- Burials are generally found in soft sediments such as aeolian sand, alluvial silts and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of subsurface sediments or where some erosional process has exposed them.

    - Although it is possible that this site type could be found within the study area, it is considered a rare site type especially given the disturbance that has occurred within the study area.

5 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

5.1 SAMPLING STRATEGY AND FIELD METHODS

The archaeological methods utilised in the Aboriginal archaeological assessment followed the Code of Practice and the proposed methodology (**Appendix 1**). Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004).

5.1.1 Study area

The study area was assessed by pedestrian transects, covering specific landforms and sampling the main landform type of flat ploughed plain. The surveyors were spaced approximately 100m apart in non-sensitive areas, and 50m apart in identified potentially sensitive areas.

The field assessment included:

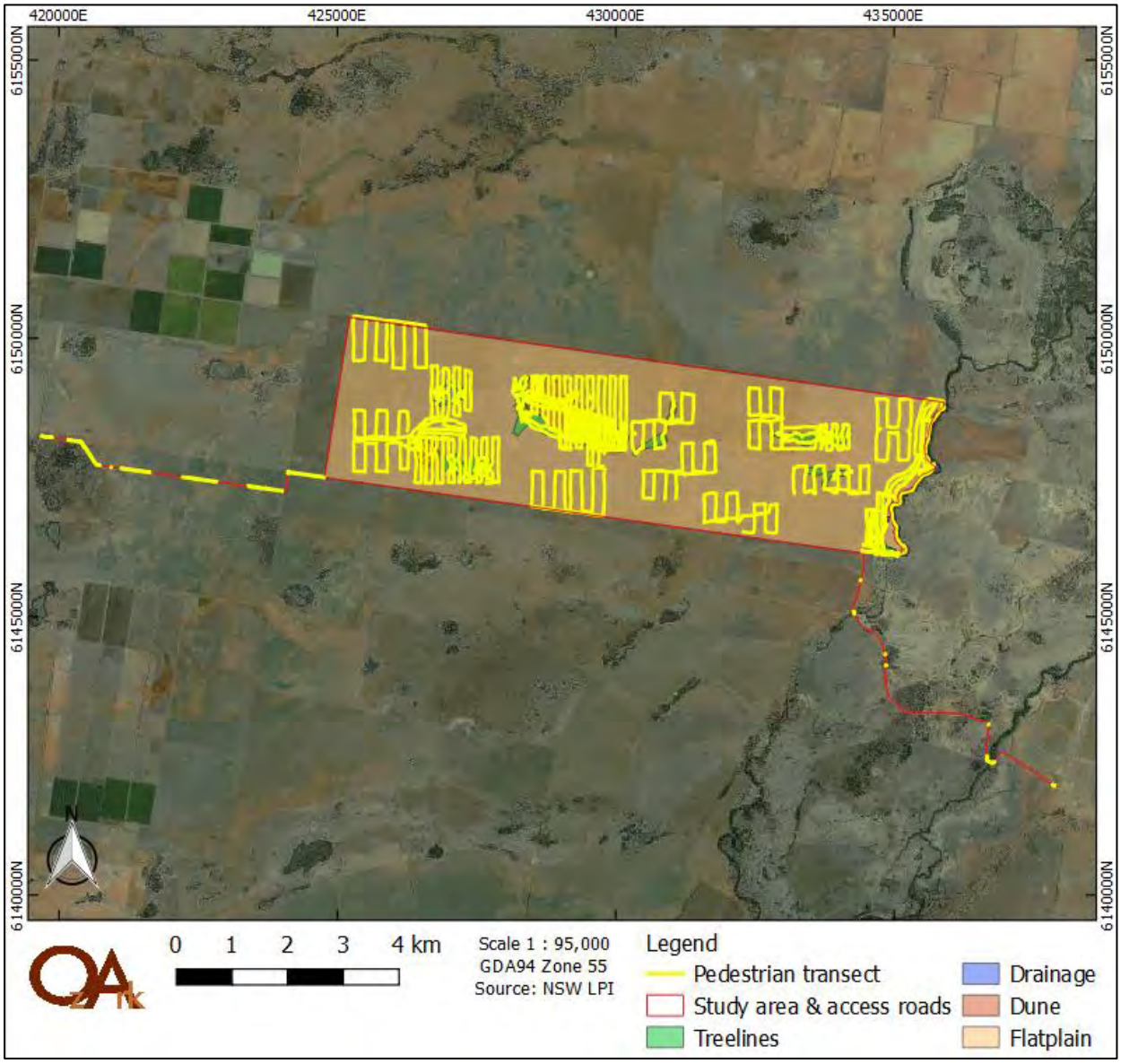
- Full pedestrian survey of landforms within the study area identified to be potentially sensitive regarding Aboriginal archaeological potential. This included areas of remnant trees, within 200m of watercourses, and higher ground including dunes. This equated to 19.1% of the study area.
- Targeted pedestrian survey in areas where the landform was flat ploughed plain (with low archaeological potential). This includes areas more than 200m from watercourses, areas with poor GSV, and areas with significant prior disturbance (18.2% of the study area). The survey methodology established that 18 survey areas, each measuring at least 600m by 500m, were randomly selected across the low potential landforms to ensure a robust sample was obtained.
- Overall, 37.3% of the study area was subject to visual inspection.
- All mature, native trees within the study area and with the potential to contain Aboriginal scarring were inspected.

Representatives of the RAPs assisted the archaeologists by placing flags at artefacts and/or alerting the archaeologists that an artefact had been found. A located site was then more closely examined and all artefacts observed on the surface were flagged. For newly recorded sites, all artefacts and features were located with a GPS (global positioning system).

Sites were recorded with digital photography and by GPS units loaded with Mobile Mapper software and were described on field recording sheets. General notes pertaining to the survey and ground covered by the archaeologists were kept as well.

Figure 5-1 illustrates the pedestrian coverage of the study area. It should be noted that the below figure only displays transects of two surveyors although the study area was assessed by four to six surveyors each day.

Figure 5-1: Aerial showing pedestrian transects in relation to landforms of archaeological potential.



5.1.2 Access roads

The access roads were assessed through a combination of pedestrian and vehicular transects. As the eastern access road has had obvious modifications, mostly through the addition of gravels and fill, this was mostly assessed by vehicular means. The areas of the eastern access road near any water crossings (Yanco and Washpen Creeks, and Pine Watercourse) were assessed via pedestrian means as well as anywhere along the road where it looked that original ground surface was visible. **Figure 5-2** illustrates the areas which were assessed via pedestrian means. These areas were not surveyed in transects due to the disturbed nature of the eastern access road, but instead areas where it appeared to be natural and undisturbed ground surface were focused on.

The western access road was sampled via pedestrian transects. Lengths of the road and its corridor were surveyed on foot by two surveyors. For each section sampled, the surveyors walked

one transect along one half of the road and corridor, and then returned to the beginning of the section surveying the other half of the road and corridor. The surveyors were spaced approximately 2m apart and **Figure 5-3** illustrates the pedestrian coverage of one surveyor during the survey. Please note that both access roads are classified as having low archaeological potential though this is not displayed in **Figure 5-1**, **Figure 5-2** or **Figure 5-3**.

Figure 5-2: Aerial showing pedestrian transects in relation to eastern access road

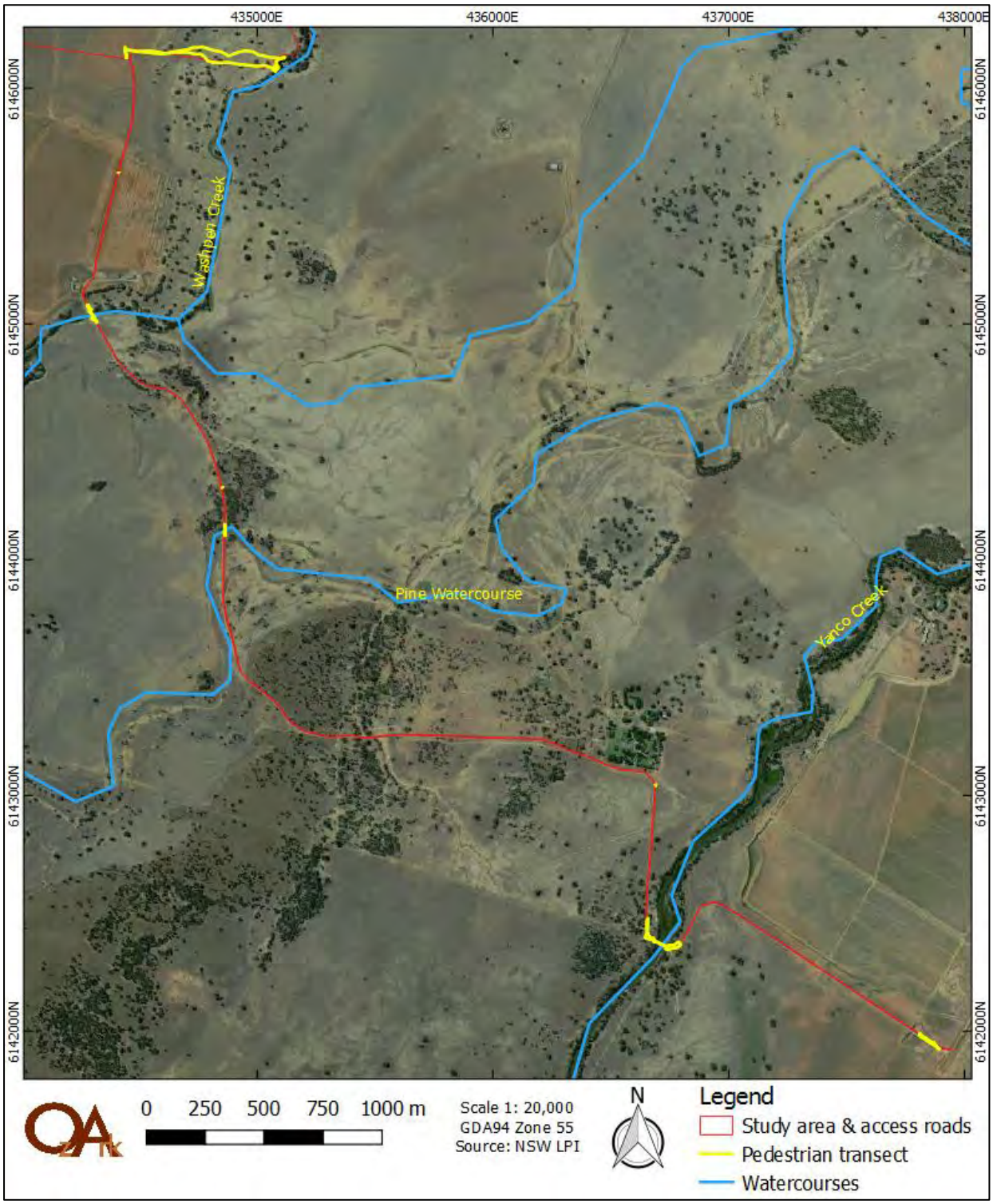
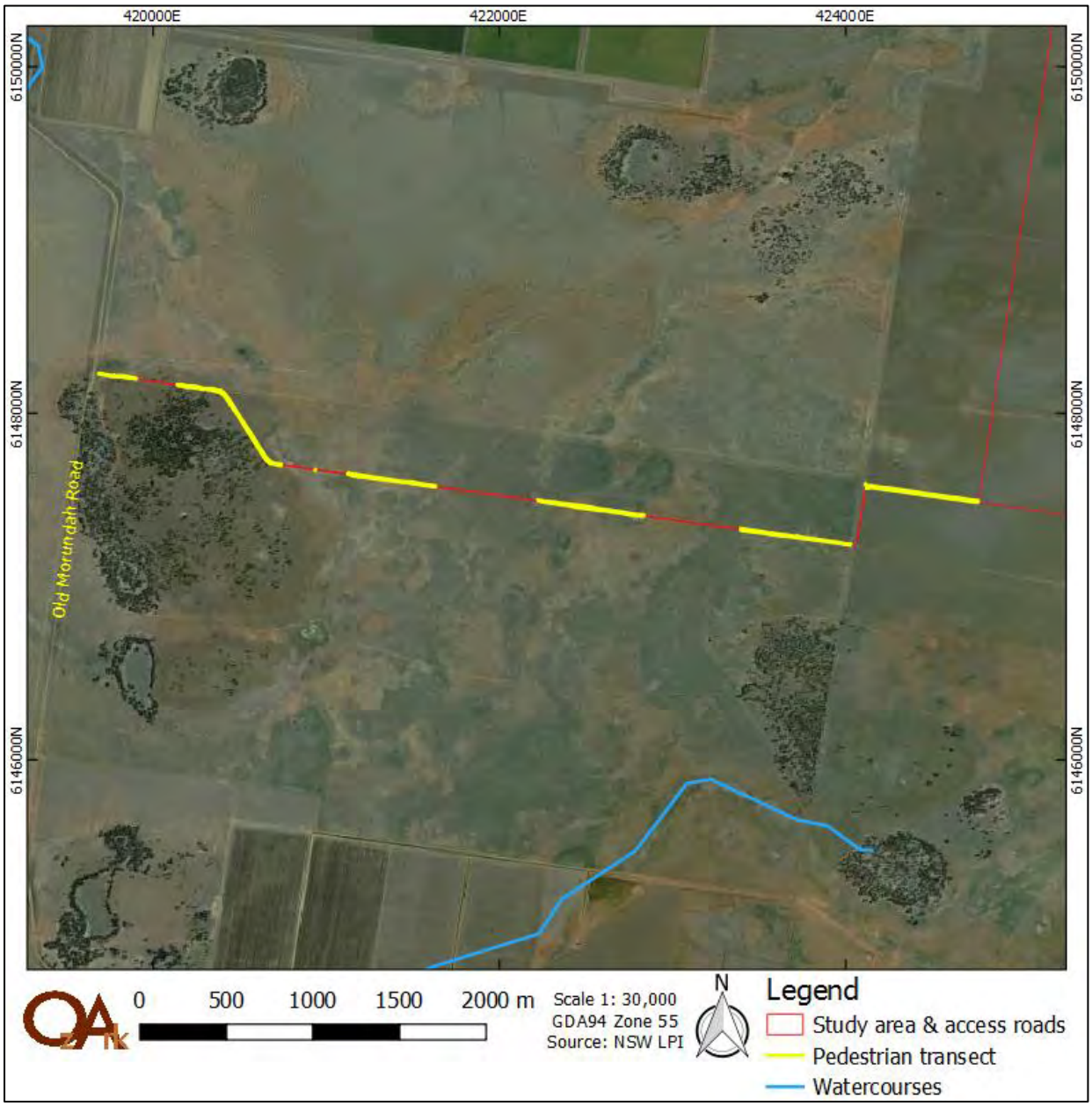


Figure 5-3: Aerial showing pedestrian transects in relation to western access road



5.2 SURVEY CONSTRAINTS

There were no significant constraints in completing the archaeological assessment of the study area. GSV posed the greatest constraint during field inspection (**Section 5.3**), however, not to the extent that the efficacy of the survey was unduly diminished.

The greatest constraint regarding the eastern access road was the addition of gravels and fill to the road surface obscuring any original ground surface features. Extensive modification of the ground surface, especially in relation to the bridges over Yanco and Washpen Creeks, frequent cattle grids, and areas where the road was either cut in or built up were also constraints.

5.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are GSV and exposure. These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice (DECCW 2010a).

GSV is defined as:

> *… the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals'* (DECCW 2010a: 39).

Exposure is defined as:

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

These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the study area. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice (DECCW 2010a).

The effective survey coverage over the study area was relatively consistent (**Table 5-1** and **Table 5-2**). **Table 5-1** and **Table 5-2** indicate the most effectively surveyed landform was the dunes (48%). The dune formation has the greatest archaeological potential and survey efficacy was high due to good ground surface visibility and exposure. This landform unit also recorded the highest number of sites (**Table 5-2**) demonstrating the higher archaeological potential of this landform type, as well as greater survey efficacy. GSV was lower within remnant tree lines and drainage areas, averaging 50% due to thick leaf matter and grasses. Exposures within these landforms were afforded by existing access tracks, animal trails and areas of water wash erosion. While GSV did not allow a full investigation of the ground surface in these landform types, there were sufficient exposures to allow the archaeological potential of the landform to be assessed. The flat plains was surveyed by sampling discrete areas, equating to a minimum of 11% of this landform being effectively surveyed (**Table 5-2**). Further sections of the flat plains were also included in transects covering the dunes, remnant tree lines and drainage areas, though these

additional sections have not been included in the calculations outlined in **Table 5-1** or **Table 5- 2**. **Figure 5-4** illustrates the study area showing pedestrian transects and landforms.

The pedestrian tracks for the eastern and western access roads is shown in **Figure 5-2** and **Figure 5-3**.

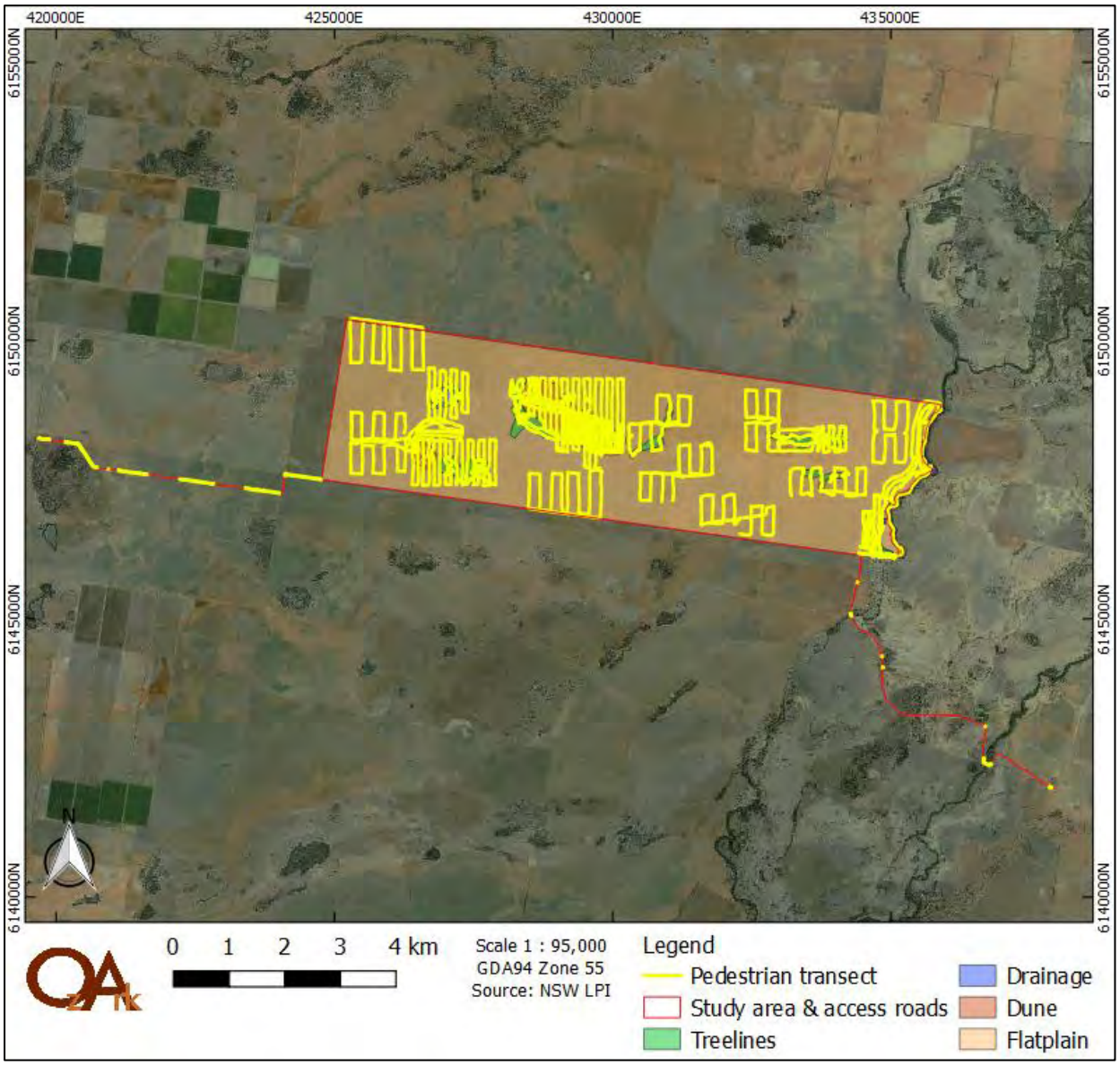
Table 5-1: Survey coverage data.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
1	Flat plains	6,130,601	60	80	2942688	48
2	Dune	1,888,787	60	80	906618	48
3	Remnant tree lines	1,124,995	50	60	337499	30
4	Drainage areas	390,646	50	60	117194	30
5	Eastern access road	68,000	90	80	48960	72
6	Western access road	86,000	10	5	430	1

Table 5-2: Landform summary—sampled areas.

Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites	Number of Artefacts or Features
Flat plains	26,595,572	2942688	11	5	18
Dune	1,888,787	906618	48	12	57
Remnant tree lines	1,124,995	337499	30	7	15
Drainage areas	390,646	117194	30	1	3
Eastern access road	68,000	48960	72	0	0
Western access road	86,000	430	0.5	0	0

Figure 5-4: The study area and access roads showing pedestrian transects and landforms.



5.4 ABORIGINAL SITES RECORDED

A total of 25 sites were recorded during the survey of the study area. Recorded Aboriginal sites include nine isolated finds (Yarrabee IF-1 to IF-9), 13 artefact scatters (Yarrabee OS-3 to OS-15), one earthen mound (Yarrabee EM-1), and two scarred trees (Yarrabee ST-1 and ST-2). Twelve Aboriginal sites were located on a large dune formation in the centre of the study area, while seven were located within remnant tree lines, five on the flat plains and one within a drainage area. The sites recorded during the survey are summarised in **Table 5-3** and described in the following section, and their locations are shown in **Figures 5-5** to **Figure 5-8**.

Table 5-3: Survey results.

Site Name	Site Number	Feature(s)	Survey Unit	Landform
Yarrabee IF-1	49-5-0189	1 silcrete flake	1	Flat plains
Yarrabee IF-2	49-5-0190	1 silcrete flake	3	Remnant tree line
Yarrabee IF-3	49-5-0191	1 silcrete flake	3	Remnant tree line
Yarrabee IF-4	49-5-0192	1 quartz flake	3	Remnant tree line
Yarrabee IF-5	49-5-0193	1 silcrete flake	2	Dune
Yarrabee IF-6	49-5-0194	1 silcrete flake	2	Dune
Yarrabee IF-7	49-5-0195	1 silcrete flake	2	Dune
Yarrabee IF-8	49-5-0196	1 quartzite flake	2	Dune
Yarrabee IF-9	49-5-0197	1 quartz flake	1	Flat plains
Yarrabee OS-3	49-5-0198	4 stone artefacts	3	Remnant tree line
Yarrabee OS-4	49-5-0199	2 stone artefacts	3	Remnant tree line
Yarrabee OS-5	49-5-0200	2 stone artefacts	1	Flat plains
Yarrabee OS-6	49-5-0201	16 stone artefacts	2	Dune
Yarrabee OS-7	49-5-0202	2 stone artefacts	2	Dune
Yarrabee OS-8	49-5-0203	14 stone artefacts	2	Dune
Yarrabee OS-9	49-5-0204	2 stone artefacts	2	Dune
Yarrabee OS-10	49-5-0205	7 stone artefacts	1	Flat plains
Yarrabee OS-11	49-5-0206	8 stone artefacts	2	Dune
Yarrabee OS-12	49-5-0207	2 stone artefacts	2	Dune
Yarrabee OS-13	49-5-0208	4 stone artefacts	2	Dune
Yarrabee OS-14	49-5-0209	4 stone artefacts	3	Remnant tree line
Yarrabee OS-15	49-5-2010	4 stone artefacts	1	Flat plains
Yarrabee EM-1 with PAD	49-5-0188	Earthen mound with PAD	2	Dune
Yarrabee ST-1	49-5-0187	Scarred tree	3	Remnant tree line
Yarrabee ST-2	49-5-0186	Scarred tree	3	Remnant tree line

Figure 5-5: Location of recorded sites in relation to landforms in study area.

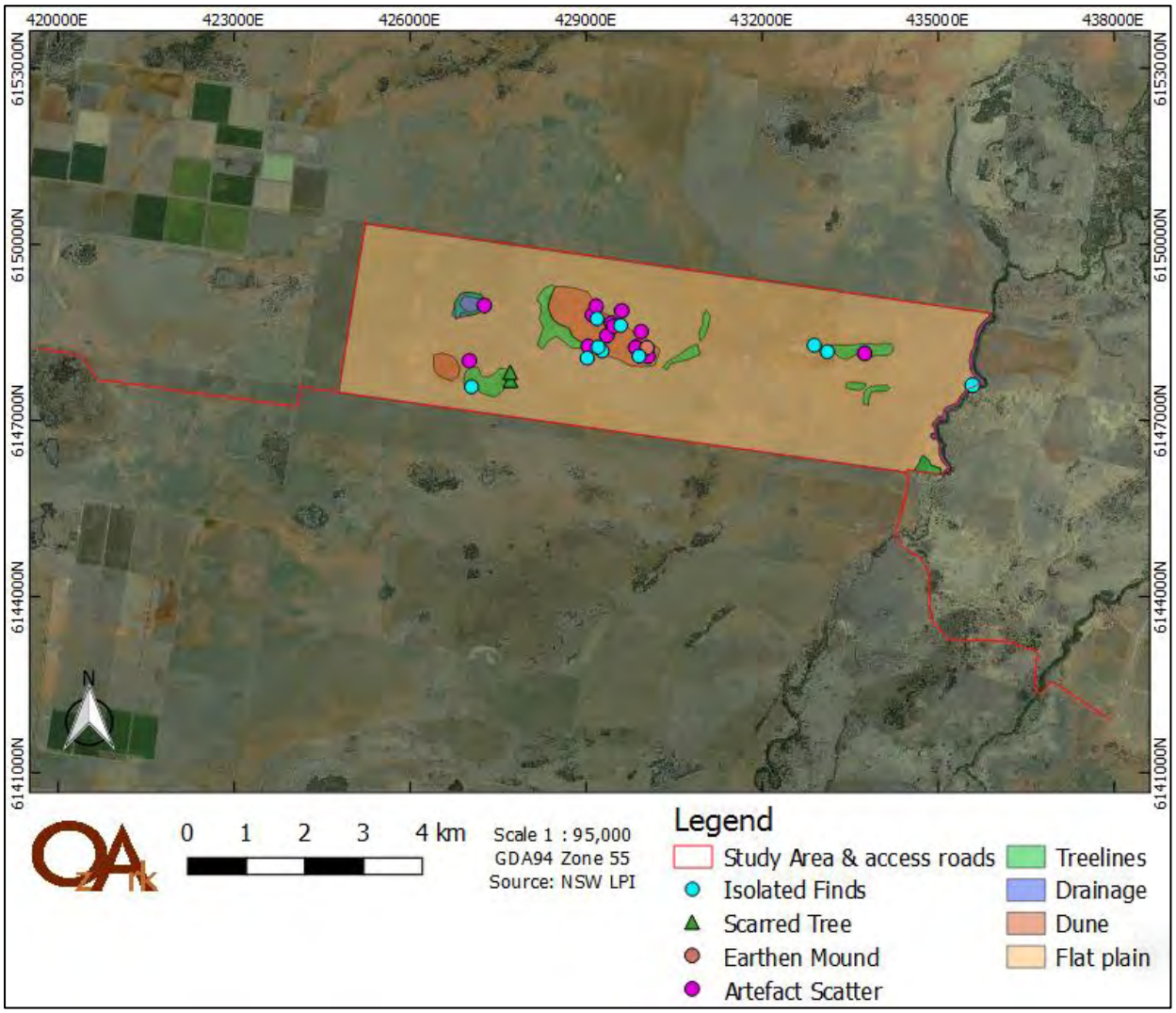


Figure 5-6: Location of recorded sites in relation to landforms in western section of study area.

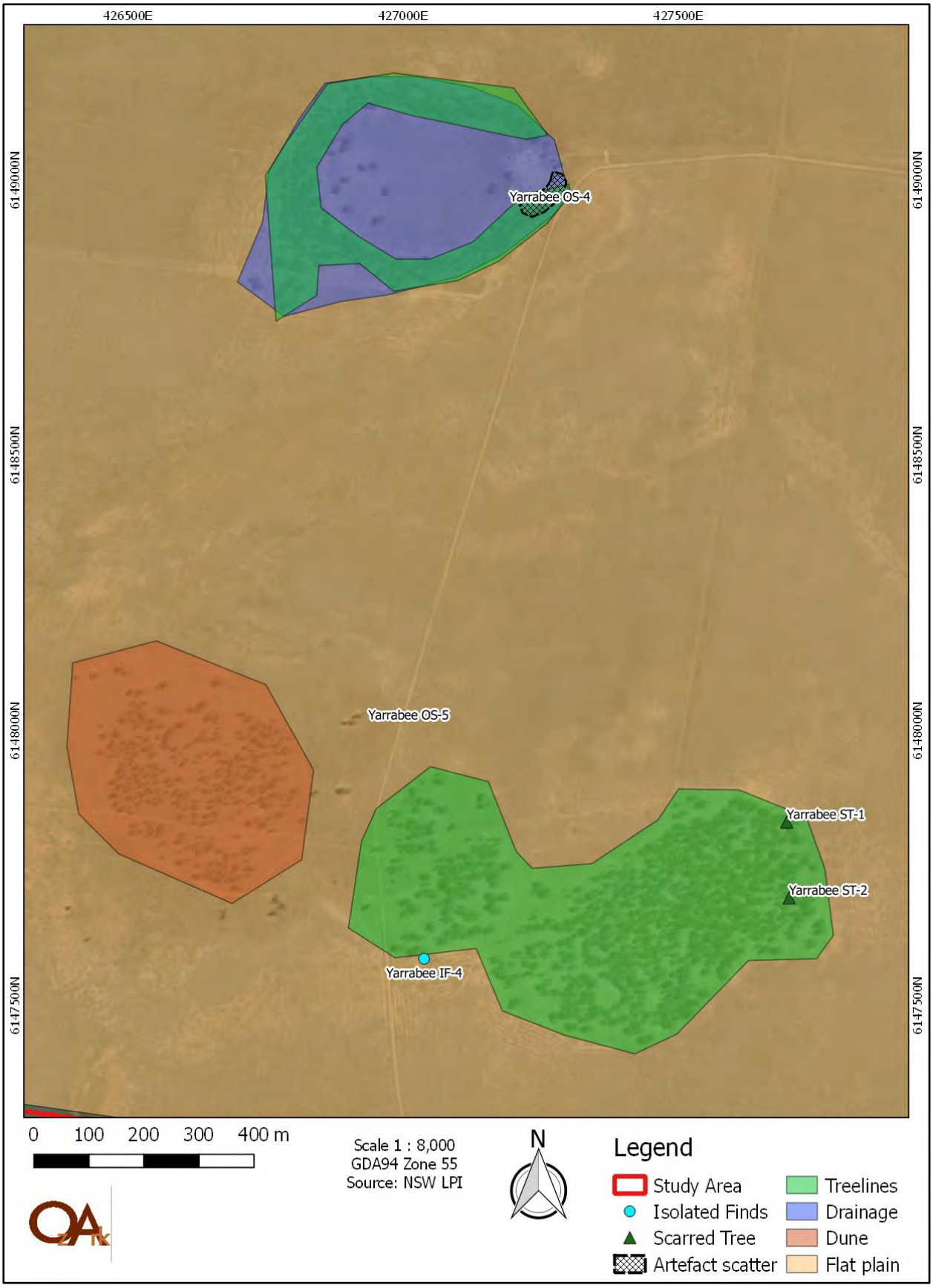


Figure 5-7: Location of recorded sites in relation to landforms in central section of study area.

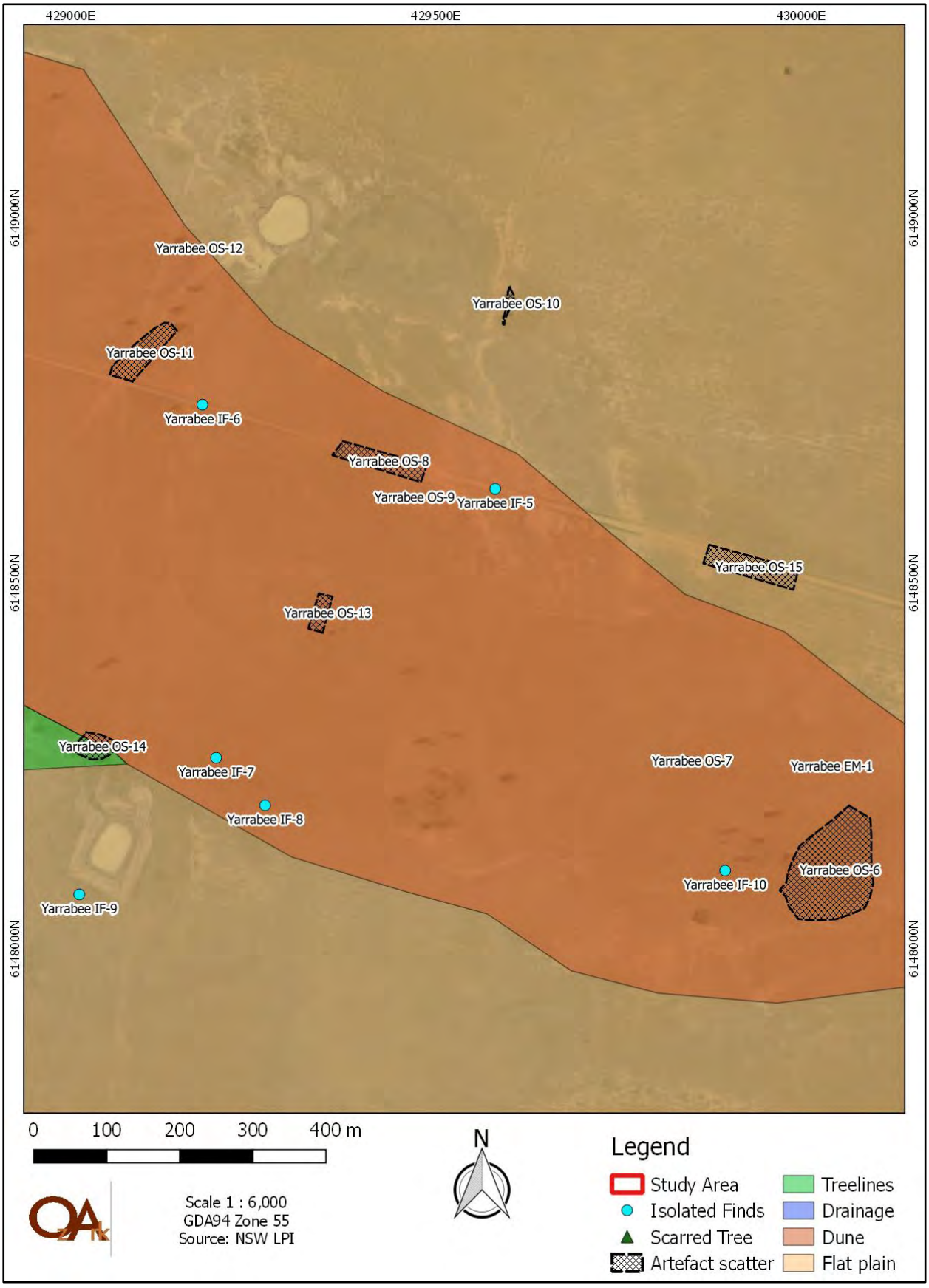


Figure 5-8: Location of recorded sites in relation to landforms in eastern section of study area.

5.4.1 Isolated finds

Yarrabee IF-1 (#49-5-0189)

Site Type: Isolated artefact

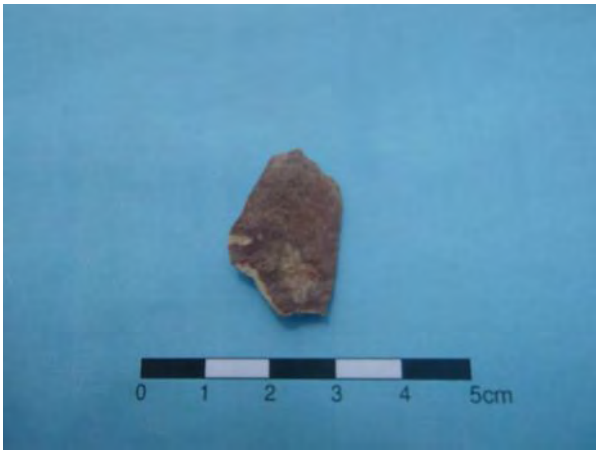
GPS Coordinates: 435584E / 6147611N

Location of Site: Situated 82m west of Washpen Creek and approximately 3km north of the Washpen Creek crossing (**Figure 5-8**). Site is situated on flat plain currently used for agricultural crops and area has been ploughed extensively.

Description of Site: The single silcrete flake was located in a patch of erosion (20m in length north to south, and 15m in width east to west) where a tree used to be before being removed (**Figure 5-9**). Yarrabee IF-1 was located within a ploughed area.

Figure 5-9: Yarrabee IF-1. View of site and recorded artefact.

1. View of Yarrabee IF-1 facing west.



2. Flake from Yarrabee IF-1.

Yarrabee IF-2 (#49-5-0190)

Site Type: Isolated artefact

GPS Coordinates: 433109E / 6148182N

Location of Site: Situated 2.5km west of Washpen Creek and approximately 3.4km northwest of the Washpen Creek crossing. Site is situated on flat plain currently used for agricultural crops and area has been ploughed extensively. Site is approximately 15m south of current remnant tree line (**Figure 5-8**).

Description of Site: The single silcrete flake was located in a patch of scalding (6m in length east to west, and 6m in width north to south) along the southern edge of a remnant tree line (**Figure 5-10**). The location had been ploughed previously, though not as recently as areas further to the south.

Figure 5-10: Yarrabee IF-2. View of site and recorded artefact.

	
1. View of Yarrabee IF-2 facing north.	2. Flake from Yarrabee IF-2.

Yarrabee IF-3 (#49-5-0191)

Site Type: Isolated artefact

GPS Coordinates: 432883E / 6148292N

Location of Site: Situated 2.7km west of Washpen Creek and approximately 3.6km northwest of the Washpen Creek crossing. Site is situated on flat plain currently used for agricultural crops and area has been ploughed extensively. Site is approximately 1m north of current remnant tree line at its north western edge (**Figure 5-8**).

Description of Site: The single silcrete flake was located in a patch of scalding (7m in length east to west, and 3m in width north to south) along the north western edge of a remnant tree line. The location has been extensively ploughed. The artefact is a silcrete flake (**Figure 5-11**).

Figure 5-11: Yarrabee IF-3. View of site and recorded artefact.

	
1. View of Yarrabee IF-3 at northern edge of tree line, facing southeast.	2. Flake from Yarrabee IF-3.

Yarrabee IF-4 (#49-5-0192)

Site Type: Isolated artefact

GPS Coordinates: 427037E / 6147584N

Location of Site: Situated 8km west of Washpen Creek and approximately 7.7km northwest of the Washpen Creek crossing. Site is situated on flat plain currently used for agricultural crops and area has been ploughed extensively. Site is approximately 3m south of current remnant tree line consisting of black box. To the east of Yarrabee IF-4 is a dune formation (**Figure 5-6**).

Description of Site: The site consists of a single quartz flake. The flake was located on light brown-red silty clay in a patch of erosion measuring approximately 5m by 3m (**Figure 5-12**). Visibility at the site was good, with 60% ground surface exposure, and 80% ground surface visibility. The site has been previously ploughed.

Figure 5-12: Yarrabee IF-4. View of site and recorded artefact.

<table>
<tr><td>  </td><td> 
</td></tr>
<tr><td>1. View of Yarrabee IF-4 along southern edge of tree line, facing east.</td><td>2. Flake from Yarrabee IF-4.</td></tr>
</table>

Yarrabee IF-5 (#49-5-0193)

Site Type: Isolated artefact

GPS Coordinates: 429581E / 6148629N

Location of Site: Situated 6km west of Washpen Creek and approximately 6km northwest of the Washpen Creek crossing. Site is situated on an access track within the study area. The study area is currently used for agricultural crops and the area surrounding the track has been ploughed extensively. The site is also at the edge of dune formation which ends approximately 56m northwest of Yarrabee IF-5 (**Figure 5-7**).

Description of Site: The site is located on an access track which runs through the middle section of the study area. Yarrabee IF-5 is a single silcrete flake (**Figure 5-13**). It

is approximately 100m SE of Yarrabee OS-8 and 300m NW of Yarrabee OS-15. A small man-made dam is located on the southern side of the access track about 60m SE of Yarrabee IF-5. The visibility along the access track was good (100%).

Figure 5-13: Yarrabee IF-5. View of site and recorded artefact.

	
1. View of Yarrabee IF-5 facing southeast towards remnant tree line in west.	2. Flake from Yarrabee IF-5.

Yarrabee IF-6 (#49-5-0194)

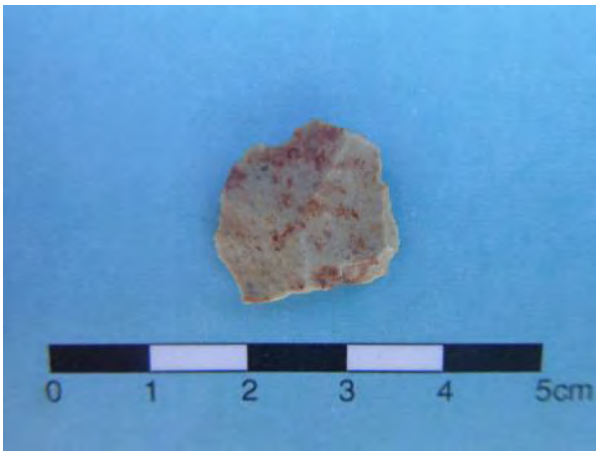
Site Type: Isolated artefact

GPS Coordinates: 429180E / 6148744N

Location of Site: The site is located 6.5km west of Washpen Creek, and 6.3km northwest of the Washpen Creek crossing. Yarrabee IF-6 is located on an access track which runs through the middle of the study area. It is also situated on a dune formation (**Figure 5-7**).

Description of Site: The site is located on an access track running across part of a dune formation within the study area. Yarrabee IF-6 is located approximately 200m northwest of Yarrabee OS-8, and 110m SE of Yarrabee OS-11. The access track is 2m wide. The site consists of a single silcrete proximal flake (**Figure 5-14**). The soil at the Yarrabee IF-6 is red and sandy, indicating the site is located on a dune formation.

Figure 5-14: Yarrabee IF-6. View of site and recorded artefact.

	
1. View of Yarrabee IF-6 facing west. Dune formation is to right and remnant trees at west in background.	2. Flake from Yarrabee IF-6.

Yarrabee IF-7 (#49-5-0195)

Site Type: Isolated artefact

GPS Coordinates: 429199E / 6148261N

Location of Site: The site is located 6.4km west of Washpen Creek, and 6km northwest of the Washpen Creek crossing. Site is situated on a dune formation currently used for agricultural crops and area has been ploughed extensively. It is approximately 460m south of the main access track which runs through the study area. Yarrabee IF-7 is approximately 150m east of Yarrabee OS-14 and 90m northwest of Yarrabee IF-8 (**Figure 5-7**).

Description of Site: The site is located within a ploughed field with dead stalks of a wheat crop remaining. The soil is red and sandy. Yarrabee IF-7 is located on the southern edge of a large dune formation and to the east of remnant tree line. Yarrabee IF-7 consists of a single silcrete flake (**Figure 5-15**).

Figure 5-15: Yarrabee IF-7. View of site and recorded artefact.

	
1. View of Yarrabee IF-7 facing north.	2. Flake from Yarrabee IF-7.

Yarrabee IF-8 (#49-5-0196)

Site Type: Isolated artefact

GPS Coordinates: 429265E / 6148195N

Location of Site: The site is located 6.4km west of Washpen Creek, and 5.9km northwest of the crossing over Washpen Creek. Yarrabee IF-8 is located within a ploughed field on a dune formation. It is approximately 520m south of the main access track which runs through the study area. Yarrabee IF-8 is approximately 230m southeast of Yarrabee OS-14 and 90m southeast of Yarrabee IF-7 (**Figure 5-7**).

Description of Site: The site is located within a ploughed field with dead stalks of a wheat crop remaining. The soil is red and sandy. Yarrabee IF-8 is located on the southern edge of a large dune formation and to the east of remnant tree line. The site consists of a single quartzite flake (**Figure 5-16**).

Figure 5-16: Yarrabee IF-8. View of site and recorded artefact.

1. View of Yarrabee IF-8 facing west towards remnant tree line.

2. Flake from Yarrabee IF-8.

Yarrabee IF-9 (#49-5-0197)

Site Type: Isolated artefact

GPS Coordinates: 429011E / 6148074N

Location of Site: The site is located 6.6km west of Washpen Creek and 5.8km northwest of the crossing over Washpen Creek. Site is situated on flat plain currently used for agricultural crops and area has been ploughed extensively. It is approximately 10m south of a manmade dam, and 700m south of the access track through the centre of the study area. Yarrabee IF-9 is approximately 200m south of Yarrabee OS-14 and 280m southwest of Yarrabee IF-8 (**Figure 5-7**).

Description of Site: Yarrabee IF-9 is located 10m south of a manmade dam within a ploughed field with old wheat stalks. The quartz flake was located in a section of scalding between where rows of wheat had been (**Figure 5-17**). The soil at the site is light tan/grey in colour.

Figure 5-17: Yarrabee IF-9. View of site and recorded artefact.

	
1. View of Yarrabee IF-9 facing north towards man-made dam.	2. Flake from Yarrabee IF-9.

5.4.2 Artefact Scatters

Yarrabee OS-3 (#49-5-0198)

Site Type: Open artefact scatter

GPS Coordinates: 433671E / 6148178N

Location of Site: Site is located 2km west of Washpen Creek and 3.2km northwest of the Washpen creek crossing. It is situated on the southern side of a remnant tree line in the northeast of the study area (**Figure 5-8**).

Description of Site: Yarrabee OS-3 is situated along a stretch of erosion at the southern edge of a remnant tree line (**Figure 5-18**). This area has been previously ploughed and there are indications it is or has been used as a vehicular track. The site consists of four artefacts, three which were located during the pedestrian survey, and one during the preliminary assessment of the study area. Three silcrete flakes were identified as well as one silcrete end scraper.

The site extent covers the area where the remnant tree line curves northward. Three artefacts were located along the edge of the tree line, while the fourth was located into the ploughed area. There is a possibility of subsurface archaeological deposits around the southern edge of the tree line and northern extent of the site where there is less disturbance due to ploughing.

Figure 5-18: Yarrabee OS-3. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-3 facing east along southern edge of remnant tree line and northern edge of site extent.	2. End scraper from Yarrabee OS-3.

Yarrabee OS-4 (#49-5-0199)

Site Type: Open artefact scatter

GPS Coordinates: 427254E / 6148975N

Location of Site: The site is located 8.5km west of Washpen Creek and 8km northwest of the crossing over Washpen Creek (**Figure 5-6**). The site is at the edge of a large natural swamp and drainage area surrounded by trees (**Figure 5-19**). There is an access track through the centre of the study area, which extends to the edge of Yarrabee OS-4 and then turns south towards Yarrabee OS-5.

Description of Site: Yarrabee OS-4 is located on the bank of a dam situated at the eastern edge of natural swamp and drainage basin. The drainage basin is surrounded with remnant trees. The two artefacts were located on a gradual decline from the higher southern edge sloping down towards the dam. On the northern side of the dam is a windmill. The eroded area extends around the entirety of the dam. Emus and kangaroos were seen in the vicinity of the area. AHIMS #49-5-0180 is associated with this site as there was Nardoo, a natural resource throughout the dry swamp area.

The site extends around the southern eroded area of the dam and includes the slight slope and level surface at the south of the eroded area closest to the tree line. Two artefacts were located at Yarrabee OS-4, both silcrete flakes. One artefact was located initially during the preliminary assessment. There is the possibility of subsurface archaeological deposits along the southern and southeast edge of the site extent.

Figure 5-19: Yarrabee OS-4. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-4 from the southern edge of dam facing north.	2. Artefact from Yarrabee OS-4.

Yarrabee OS-5 (#49-5-0200)

Site Type: Open artefact scatter

GPS Coordinates: 426997E / 6148025N

Location of Site: The site is located 8km west of Washpen Creek and 7.9km northwest of the crossing over Washpen Creek. The site is situated along a dirt access track which runs north-south (**Figure 5-6**). To the west of Yarrabee OS-5 is a small dune sitting higher in the landscape and remnant tree area consisting of white cypress pines. To the south of Yarrabee OS-5 and extending east is a lower lying tree line of remnant black box grassy open woodland/wetland, where Yarrabee ST-1 and ST-2 are situated within the eastern edge.

Description of Site: Yarrabee OS-5 is located on a dirt access track which runs north-south through the southwestern section of the study area (**Figure 5-20**). The access track is approximately 2m wide and flat ploughed paddocks surround the track. The soil at the site is red-brown and sandy, indicating that the dune formation to the southwest extends somewhat towards the northeast.

The site consists of two silcrete flakes: one a complete flake and one a distal flake. The site extent covers the section of track the artefacts are located on. The extent measures 11m north–south and 5m wide with the GPS co-ordinates provided above in the centre of the site extent.

Figure 5-20: Yarrabee OS-5. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-5 facing north towards the swamp/drainage basin.	2. The two artefacts from Yarrabee OS-5.

Yarrabee OS-6 (#49-5-0201)

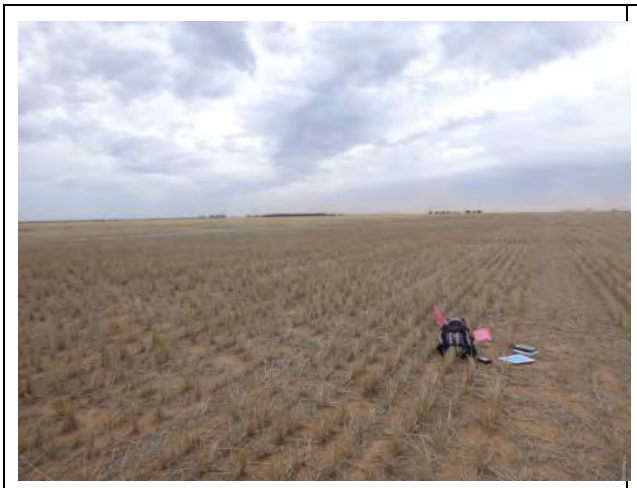
Site Type: Open artefact scatter

GPS Coordinates: 430034E / 6148107N

Location of Site: The site is located 5.5km west of Washpen Creek and 5.3km northwest of the crossing over Washpen Creek. The site is situated on the southeast edge of a large dune formation and is 400m south of the access track through the centre of the project area. Yarrabee OS-6 is 150m south of Yarrabee EM-1, 144m east of Yarrabee IF-10, and 240m southeast of Yarrabee OS-7 (**Figure 5-7**).

Description of Site: The site is situated on the south eastern boundary of a large dune formation which extends from the southeast to the northwest. The dune is characterised by richer red sandy soil. Yarrabee OS-6 is located on ploughed land and consists of a total of 16 stone artefacts (**Figure 5-21**). The extent of the surface artefacts is 167m northeast to southwest and 114m northwest to southeast (**Figure 5-22**). 87m to the west of Yarrabee OS-6 is an access track which runs from the southern boundary of the paddock towards the north. There is the possibility of Yarrabee OS-6 having subsurface archaeological deposits, however, the disturbance due to intensive agricultural practices means such a deposit is unlikely to be *in situ*.

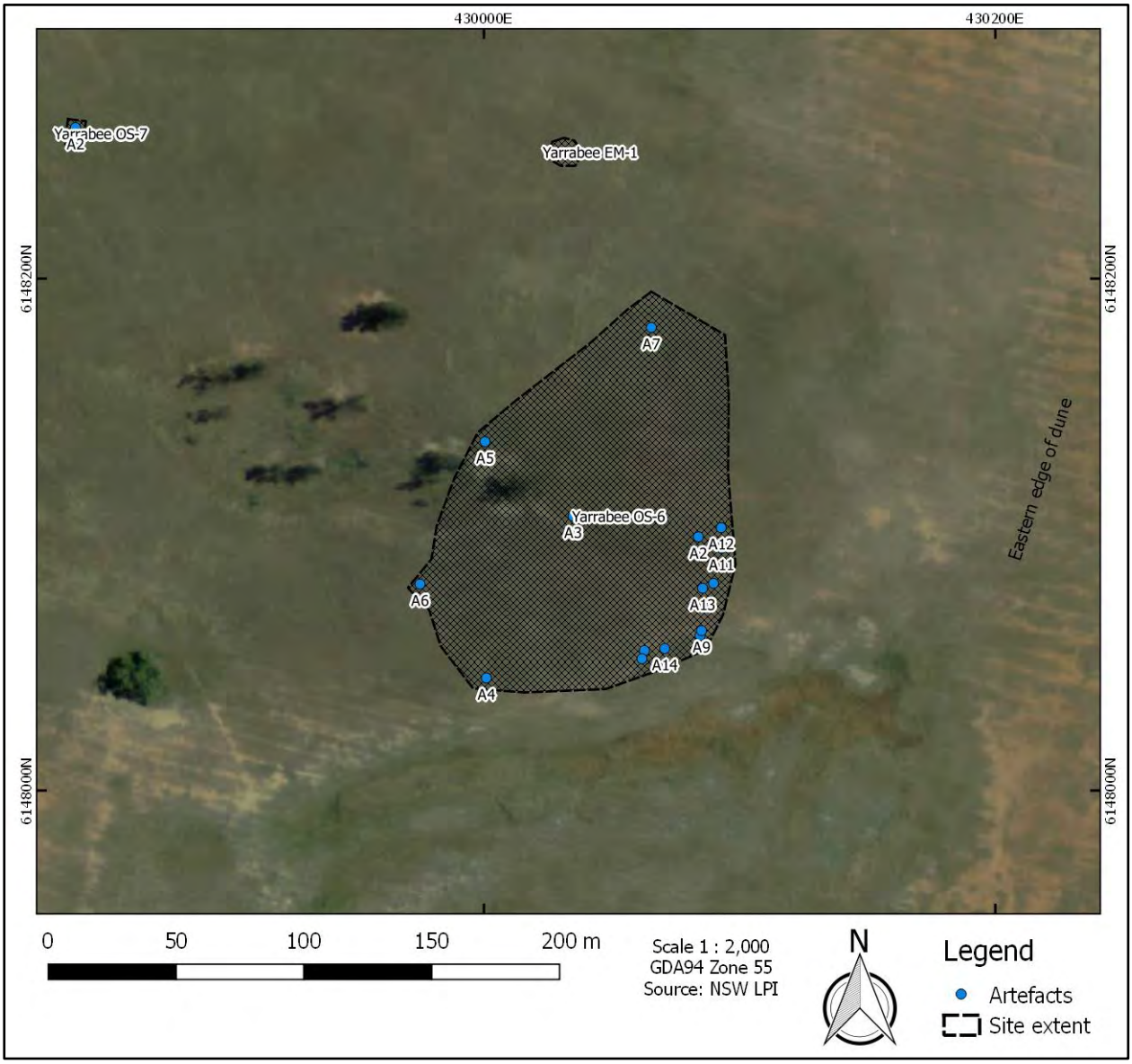
Figure 5-21: Yarrabee OS-6. View of site and selection of recorded artefacts.



1. View of Yarrabee OS-6 facing southeast

2. Example of an artefact from Yarrabee OS-6.

Figure 5-22: Yarrabee OS-6. Site extent and location of artefacts.



Yarrabee OS-7 (#49-5-0202)

Site Type: Open artefact scatter

GPS Coordinates: 429839E / 6148258N

Location of Site: The site is located 5.7km west of Washpen Creek and 5.5km northwest of the crossing over Washpen Creek. It is 240m northwest of Yarrabee OS-6 and 190m west of Yarrabee EM-1. The site is situated within a ploughed paddock on top of a large dune formation which runs from the southeast to the northwest. There is an access track 300m north of Yarrabee OS-7 (**Figure 5-7**).

Description of Site: The site is situated within a ploughed field on top of a large dune formation (**Figure 5-23**). The site consists of two stone artefacts, a silcrete flake and a quartz flake. The two artefacts were located within 5m of each other and the site extent covers the area of better visibility around where the two artefacts were located.

Figure 5-23: Yarrabee OS-7. View of site and selection of recorded artefacts.

1. View of Yarrabee OS-7 facing south

2. Selection of artefacts from Yarrabee OS-7.

Yarrabee OS-8 (#49-5-0203)

Site Type: Open artefact scatter

GPS Coordinates: 429434E / 6148669N

Location of Site: The site is located on an access track within a ploughed field used for wheat crops. The site is situated 6.2km west of Washpen Creek and 6km northwest of the crossing over Washpen Creek. Yarrabee OS-9 is located 50m south, and Yarrabee IF-5 is 103m to the southeast and Yarrabee IF-6 is 106m to the northwest (**Figure 5-7**).

Description of Site: The site is located on an access track which runs from the southeast to the northwest of the study area. The site is within a dune formation characterised by richer red sandy soil (**Figure 5-24**). The site extends for a 114m along

the track and 10m in width. A total of 14 stone artefacts were located at Yarrabee OS-8: nine silcrete flakes, two pieces of silcrete shatter, one quartz flake, one quartzite flake and one silcrete backed blade. There is the possibility of subsurface archaeological deposits along the southern edge of the site extent. Yarrabee OS-8 also includes the artefact/s in AHIMS #49-5-0163.

Figure 5-24: Yarrabee OS-8. View of site and selection of recorded artefacts.

<table>
<tr><td>  </td><td> 
</td></tr>
<tr><td>1. View of Yarrabee OS-8 facing northwest along existing access track.</td><td>2. Selection of artefacts from Yarrabee OS-8.</td></tr>
</table>

Yarrabee OS-9 (#49-5-0204)

Site Type: Open artefact scatter

GPS Coordinates: 429460E / 6148618N

Location of Site: The site is located within a ploughed wheat field 6.2km west of Washpen Creek and 6km northwest of the crossing over Washpen Creek. An access track and Yarrabee OS-8 are 50m north of the site, and Yarrabee OS-13 is 180m to the southwest (**Figure 5-7**).

Description of Site: The site is situated within a ploughed wheat field on top of a dune formation characterised by richer red sandy soil. The site consists of two silcrete flakes, located within a 1m radius of each other (**Figure 5-25**). The site extends in an approximate 2m radius around the two artefacts.

Figure 5-25: Yarrabee OS-9. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-9 facing northwest.	2. Selection of artefacts from Yarrabee OS-9.

Yarrabee OS-10 (#49-5-0205)

Site Type: Open artefact scatter

GPS Coordinates: 429599E / 6148887N

Location of Site: The site is located 6.1km west of Washpen Creek and 6km northwest of the crossing over Washpen Creek. There is a dam located 290m northwest of Yarrabee OS-10 and 260m north of an access track. The edge of the dune formation is approximately 190m to the south of Yarrabee OS-10 (**Figure 5-7**).

Description of Site: Yarrabee OS-10 is located in an area of scalding around where several trees used to be located (now burnt out) within a ploughed field. The area of scalding and site extent is 51m in length north-south and 10m at its widest point east-west centred on the GPS coordinates provided (**Figure 5-26**). There were a total of seven stone artefacts located at the site: two silcrete flakes, two silcrete cores, one piece of silcrete shatter, one piece of quartz shatter and one silcrete blade. Yarrabee OS-10 also includes the artefact/s recorded as AHIMS #49-5-0164.

Figure 5-26: Yarrabee OS-10. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-10 facing south.	2. Selection of artefacts from Yarrabee OS-10.

Yarrabee OS-11 (#49-5-0206)

Site Type: Open artefact scatter

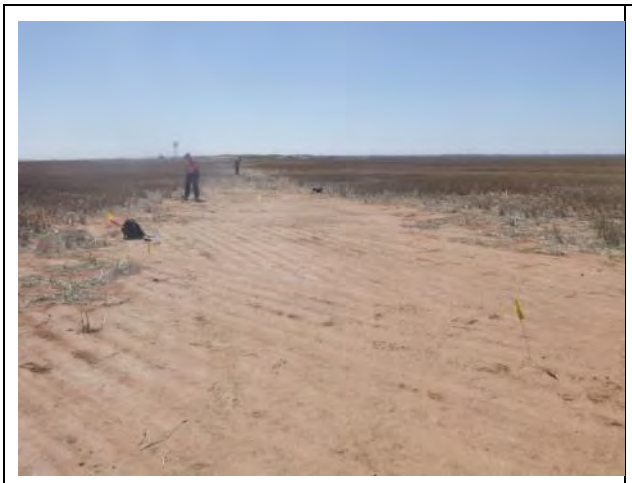
GPS Coordinates: 429097E / 6148801N

Location of Site: The site is located 6.6km west of Washpen Creek and 6.4km northwest of the Washpen Creek crossing. There is dam located 230m northeast and the access track is 19m south of Yarrabee OS-11. Yarrabee OS-12 is 140m north and Yarrabee IF-6 is 100m southeast (**Figure 5-7**).

Description of Site: The site is situated in an area of scalding north of an access track. The site is located on top of the north eastern edge of a large dune formation characterised by richer red sandy soil. The area surrounding the scalding has been ploughed and trees removed by using burning (**Figure 5-27**). Eight stone artefacts were recorded within the site: four silcrete flakes, three silcrete cores and one quartz blade. The site extent covers a section of the scalding measuring 61m northeast to southwest and 12m northwest to southeast.

The area has been ploughed extensively and the presence of stone artefacts on the ground surface indicates the possibility of subsurface archaeological deposits in the area.

Figure 5-27: Yarrabee OS-11. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-11 facing northeast and towards man-made dam.	2. Selection of artefacts from Yarrabee OS-11.

Yarrabee OS-12 (#49-5-0207)

Site Type: Open artefact scatter

GPS Coordinates: 429168E / 6148957N

Location of Site: The site is located 6.3km west of Washpen Creek and 4.5km northwest of the crossing over Washpen Creek. Yarrabee OS-11 is 140m south and a dam is 100m east (**Figure 5-7**).

Description of Site: The site is located on small area of scalding within a ploughed wheat field (**Figure 5-28**). The site is situated along the northeast boundary of a large dune formation characterised by richer red sandy soil. The site consists of two stone artefacts, one silcrete flake and one quartz flake. The site extent covers the area of scalding where the artefacts were located and roughly measures 17m in length and 10m in width. The scalding where the site is located is oval in shape. Yarrabee OS-12 also includes the artefact/s recorded as AHIMS #49-5-0161.

Figure 5-28: Yarrabee OS-12. View of site and selection of recorded artefacts.

1. View of Yarrabee OS-12 facing northeast and towards a dam.

2. Example of an artefact from Yarrabee OS-12.

Yarrabee OS-13 (#49-5-0208)

Site Type: Open artefact scatter

GPS Coordinates: 429346E / 6148460N

Location of Site: The site is located 6.3km west of Washpen Creek and 6km northwest of the crossing over Washpen Creek. The site is 235m south of the access track inside the study area and Yarrabee OS-8, 250m northeast of Yarrabee IF-7 and 400m northeast of a dam (**Figure 5-7**).

Description of Site: The site is located on a rough tractor track within a ploughed wheat field and in the middle of a large dune formation (**Figure 5-29**). The dune formation is characterised by richer red sandy soil which is the type of soil at the site. The site consists of two silcrete flakes and two quartz flakes located on the ground surface. The site extent covers the width of the track and areas on each side (10m) for 45m in length southwest to northeast. Though the area has been ploughed extensively, the surface artefacts indicate the possibility of subsurface archaeological deposits within the dune landform; however, any deposits are unlikely to be *in situ*.

Figure 5-29: Yarrabee OS-13. View of site and selection of recorded artefacts.

	
1. View of Yarrabee OS-13 facing west.	2. Selection of artefacts from Yarrabee OS-13.

Yarrabee OS-14 (#49-5-0209)

Site Type: Open artefact scatter

GPS Coordinates: 429038E / 6148274N

Location of Site: The site is located 6.5km west of Washpen Creek and 6.2km northwest of the crossing over Washpen Creek. The site is located 100m north of a man-made dam and 500m south of an access track inside the study area. Yarrabee IF-7 is 160m east of the site (**Figure 5-7**).

Description of Site: The site is situated within a remnant tree line along the southwestern edge of a large dune formation characterised by richer red sandy soil (**Figure 5-30**). There were four artefacts located within the eastern area of the site extent: one quartz flaked piece, a quartzite core, one silcrete backed blade and one quartz flake. The site extent covers a length of 51m east-west along the tree line and extends the width of the tree line. Along the northern edge of the site, there is a transition from the dune formation into the tree line. There was some indication of ploughing between the trees in the tree line and up to the edges of it. This site is associated with AHIMS #49-5-0170, an Aboriginal resource and gathering site for 'old man's weed' which was growing throughout the remnant tree line. Yarrabee OS-14 also includes the artefact/s recorded as AHIMS #49-5-0174, 49-5-0175, 49-5-0176 and 49-5-0177. There is the possibility for subsurface archaeological deposits within the site, though due to the intensive ploughing, especially within the tree line itself, it is unlikely that any deposits would be undisturbed.

Figure 5-30: Yarrabee OS-14. View of site and example of recorded artefacts.

	
1. View of Yarrabee OS14 facing east showing eastern section of remnant tree line.	2. Example of an artefact from Yarrabee OS-14.

Yarrabee OS-15 (#49-5-0210)

Site Type: Open artefact scatter

GPS Coordinates: 429917E / 6148518N

Location of Site: The site is located 5.7km west of Washpen Creek and 5.7km northwest of the crossing over Washpen Creek. The site is located on an access track. Yarrabee IF-5 is 368m west of the site (**Figure 5-7**).

Description of Site: Yarrabee OS-15 is located on an access track which runs southeast to northwest. The site is situated just outside the edges of dune formation and 270m east of a small dam. The surrounding paddocks have all been intensively ploughed for wheat. The soil along the access track is red-brown and sandy, though not as soft as the soil on the dune proper. The site extends along the track in a southeast to northwest direction, approximately 125m in length, and 25m in width, covering the track itself and 13m to the south. There are four stone artefacts located at the site: one quartzite core, one silcrete core and two silcrete flakes (**Figure 5-31**). Though there is a possibility of subsurface archaeological deposits on the southern edge of the access track, the paddocks surrounding the access track have been intensively disturbed through ploughing and any deposits are likely to be disturbed.

Figure 5-31: Yarrabee OS-15. View of site and example of recorded artefacts.

	
1. View of Yarrabee OS-15 facing northwest along existing access track.	2. Silcrete core from Yarrabee OS-15.

5.4.3 Earth mounds

Yarrabee EM-1 with PAD (#49-5-0188)

Site Type: Earthen mound with PAD

GPS Coordinates: 430032E / 6148250N

Location of Site: The site is located 5.5km west of Washpen Creek and 5.4km northwest of the crossing over Washpen Creek. Yarrabee OS-6 is 80m south and Yarrabee OS-7 is 190m west. The access track is 240m north of Yarrabee EM-1 (**Figure 5-7**).

Description of Site: The site is situated within a ploughed field on top of a large dune formation characterised by richer red sandy soil. The earthen mound is characterised by its circular shape, elevated height and differences in soil. The soil of the mound itself is stratified with very dark brown loam on top of the red sandy dune soil. There was a rabbit barrow in the side of the earthen mound which had baked clay nodules at the opening (**Figure 5-32**). The site extent is the mound itself and this is also classified as a PAD.

Figure 5-32: Yarrabee EM-1 with PAD. View of site.

	
1. View of Yarrabee EM-1 with PAD facing south.	2. Detail of Yarrabee EM-1 with PAD.

5.4.4 Scarred Trees

Yarrabee ST-1 (#49-5-0187)

Site Type: Scarred tree

GPS Coordinates: 427697E / 6147833N

Location of Site: The site is located 7.3km west of Washpen Creek and 7.2km northwest of the crossing over Washpen Creek. The site is located in the northeast area of a remnant tree line in the southwest section of the study area. It is within the tree line but close to the edge. Yarrabee ST-2 is approximately 140m south (**Figure 5-6**).

Description of Site: Yarrabee ST-1 is a black box with a bark slab scar type. The scar is orientated southeast and is an elongated shape. The dry face of the scar is 110cm in length, 25cm in width and the base of the scar is 55cm above ground surface. There is 5cm thickness of overgrowth present on the scar, and a width of 15cm of overgrowth. The preservation of the scar is good, though there is slight rotting around the sides and base of it. The tree is still alive and has a diameter of 300cm (**Figure 5-33**).

Figure 5-33: Yarrabee ST-1. View of site.

	
1. View of Yarrabee ST-1 facing north.	2. Close up of Yarrabee ST-1.

Yarrabee ST-2 (#49-5-0186)

Site Type: Scarred tree

GPS Coordinates: 427701E / 6147695N

Location of Site: The site is located 7.3km west of Washpen Creek and 7.1km northwest of the crossing over Washpen Creek. The site is located in the eastern area of a remnant tree line in the southwest section of the study area. Yarrabee ST-1 is approximately 140m north (**Figure 5-6**).

Description of Site: Yarrabee ST-2 is a black box with a bark slab scar type. The scar is orientated south and is an elongated shape. The dry face of the scar measures 1.5m in length, 25cm in width and the base of the scar is 55cm above ground surface. There is 20cm thickness of overgrowth present on the scar, and a width of 15cm of overgrowth. The preservation of the scar is good, though there is slight rotting around the sides and base of it (**Figure 5-34**). The tree is still alive and has a diameter of 500cm.

Figure 5-34: Yarrabee ST-2. View of site.

1. View of Yarrabee ST-2 facing east.

2. Close up of Yarrabee ST-2.

5.4.5 Additional sites registered on AHIMS

In addition to the Aboriginal sites recorded and registered by OzArk, there were 32 sites registered by RAPs on AHIMS as the survey was progressing (for simplicity, referred to here as 'RAP sites'). The RAP site cards which cover the same sites and artefacts recorded by OzArk have been updated with AHIMS and site cards recorded by OzArk (**Section 5.4**) have been submitted on AHIMS. **Table 5-4** details which RAP sites have been amalgamated into the OzArk sites.

Table 5-4: Amalgamated sites.

OzArk site information				RAP sites amalgamated			
Site Name	**Easting**	**Northing**	**Datum/ Zone**	**AHIMS site ID**	**Easting**	**Northing**	**Datum/ Zone**
Yarrabee OS-4	427254	6148975	GDA Zone 55	49-5-0183	427254	6148974	GDA Zone 55
Yarrabee OS-8	429434	6148669	GDA Zone 55	49-5-0163	429465	6148664	GDA Zone 55
Yarrabee OS-10	429599	6148887	GDA Zone 55	49-5-0164	429603	6148885	GDA Zone 55
Yarrabee OS-12	429168	6148957	GDA Zone 55	49-5-0161	429165	6148957	GDA Zone 55
Yarrabee OS-14	429038	6148274	GDA Zone 55	49-5-0175	429033	6148276	GDA Zone 55
				49-5-0176	429010	6148273	GDA Zone 55
				49-5-0174	429048	6148273	GDA Zone 55
				49-5-0177	429050	6148269	GDA Zone 55

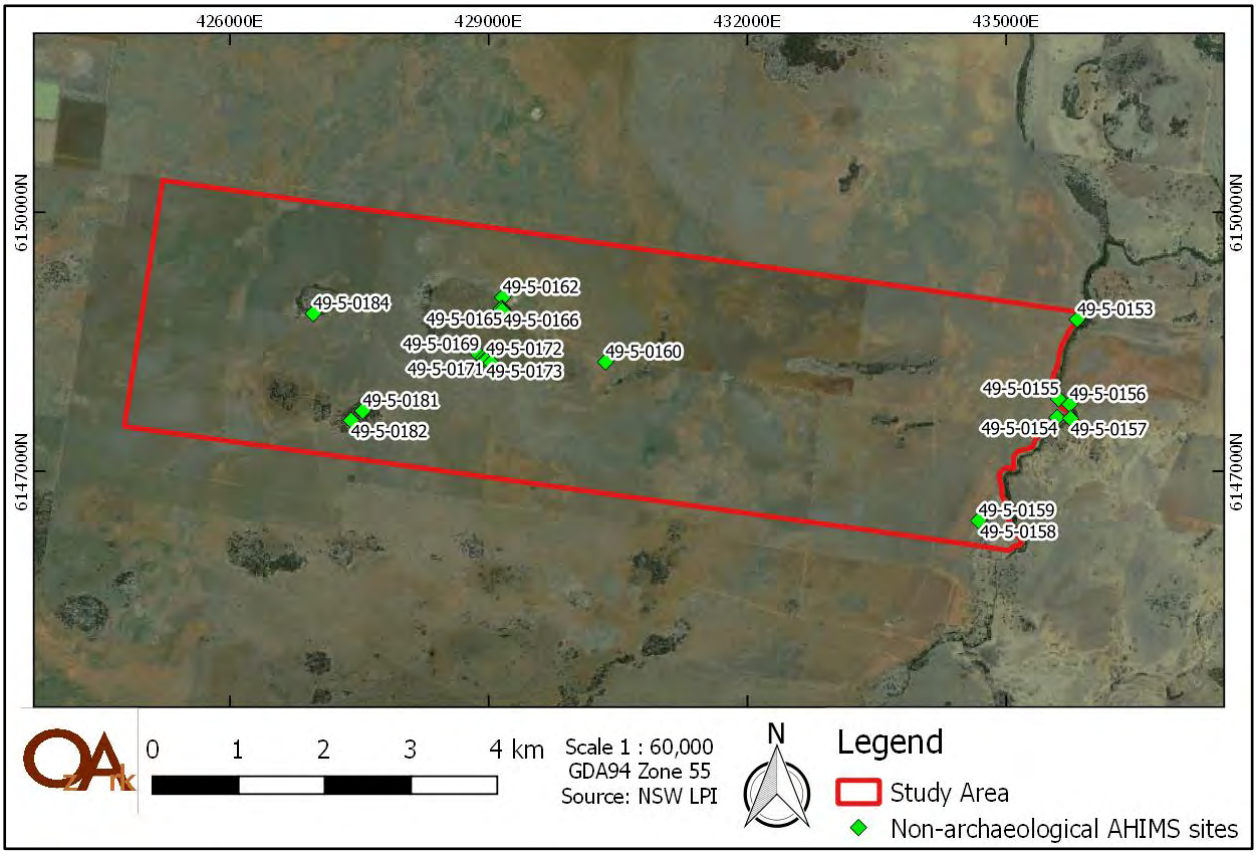
Two of the RAP sites registered were Aboriginal Resource and Gathering sites (AHIMS #49-5-0170 and #49-5-0180) and are associated with Yarrabee OS-14 and Yarrabee OS-4 respectively (**Section 5.4**).

The 22 remaining RAP sites were deemed to not be archaeological in nature following review. These non-archaeological AHIMS sites are outlined in **Table 5-5** and **Figure 5-35**. As these sites were not recorded scientifically, and had been excluded following analysis, these sites will not be regarded further except in regards to management if within the impact footprint.

Table 5-5: Additional RAP sites within study area.

AHIMS Site ID	Site type	Easting	Northing	Datum	Zone
49-5-0153	Artefact	435827	6148759	GDA	55
49-5-0154	Earth mound	435595	6147625	GDA	55
49-5-0155	Scar tree	435611	6147840	GDA	55
49-5-0156	Scar tree	435740	6147777	GDA	55
49-5-0157	Scar tree	435751	6147614	GDA	55
49-5-0158	Artefact	434700	6146427	GDA	55
49-5-0159	Earth mound	434683	6146429	GDA	55
49-5-0160	Artefact	430357	6148269	GDA	55
49-5-0162	Artefact	429163	6149017	GDA	55
49-5-0165	Artefact	429155	6148890	GDA	55
49-5-0166	Artefact	429166	6148877	GDA	55
49-5-0167	Artefact	429145	6148881	GDA	55
49-5-0168	Artefact	429158	6148863	GDA	55
49-5-0169	Scar tree	428885	6148355	GDA	55
49-5-0171	Artefact	428939	6148312	GDA	55
49-5-0172	Scar tree	428970	6148301	GDA	55
49-5-0173	Artefact	428974	6148287	GDA	55
49-5-0178	Artefact	429028	6148259	GDA	55
49-5-0179	Artefact	429032	6148259	GDA	55
49-5-0181	Scar tree	427541	6147701	GDA	55
49-5-0182	Scar tree	427407	6147591	GDA	55
49-5-0184	Scar tree	426967	6148830	GDA	55

Figure 5-35: Additional RAP sites within study area.



5.5 PREVIOUSLY RECORDED ABORIGINAL SITES LOCATED

There were two previously recorded Aboriginal sites close to the study area. These were earthen mounds and hearths (AHIMS #49-5-0072 and AHIMS #49-5-0073) located on the eastern side of Washpen Creek. Since the sites were on the eastern side of the creek and outside the study area, attempts were not made to locate them.

5.6 ABORIGINAL COMMUNITY INPUT

Nominated site officers from the Leeton and District LALC and Bundyi Aboriginal Cultural Knowledge were present during the field survey (**Section 2-3**). There were no objections to the manner in which the survey was implemented or completed.

5.7 DISCUSSION

5.7.1 Site types

The results of the survey conform closely to the predictive model (**Section 4.4**). The results from the current survey are:

- The survey recorded one earthen mound, two scarred trees, 13 artefact scatters and nine isolated finds (**Section 5.4**)

- Two previously recorded sites are located in close proximity to the study area. The location of these sites was confirmed to be outside the study area (**Section 5.5**)
- 88% of the newly recorded sites are either isolated finds or low density artefact scatters without associated archaeological deposits
- The absence of stone quarries and grinding grooves is attributable to the absence of suitable rock outcropping within the study area.

In brief, the following characteristics can be examined for the recorded sites:

- Distribution of sites: The recording of previous Aboriginal sites shows a correlation between site size and distance to reliable water with larger, more complex, sites being located near reliable or semi-reliable water. The current assessment shows that the largest site recorded (Yarrabee OS-6) and the majority of artefact scatters recorded, were associated with the dune formation in the west section of the study area. While larger and more complex sites were predicted to occur adjacent to Washpen Creek itself, the lack of complex sites may be attributed to the disturbance within the study area, with indications of ploughing occurring to within the tree line on the western side of the creek. The generally low artefact density of the remaining artefact scatters is reflective of the fact that the drainage across the majority of the study area is unlikely to have provided reliable or semi-reliable water. Sites located away from water have a low artefact density and perhaps represent a single event rather than a site that has been used for camping and tool making over the long term
- Site type: The regional and predictive model suggested that artefact scatters and isolated finds would be the most common site type recorded and this is supported by the survey results (**Section 4.3**). As the study area contains mature, native vegetation in isolated stands, scarred trees were predicted possible to occur and two were recorded. Hearth sites or earthen mounds were not predicted to be common within the study area due to high levels of disturbance and a lack of previous recordings within the region, however, one earthen mound site was recorded
- Artefact density: As only low artefact densities were recorded, this result accords with the regional model that sites in such landforms (i.e. largely distant from major waterways) will be of a low artefact density. This indicates Aboriginal use of all areas within the study area
- Types of raw material: Regional studies show that the majority of sites will include silcrete and quartz. All of these raw materials were recorded during the survey
- Artefact type: Most artefacts recorded were unmodified flakes and this also accords with the regional model. While some specialised tools such as backed blades, and scrapers were recorded, their numbers were low, as was the frequency of cores.

5.7.2 Landscape context

Within this archaeological context, the current landscape context of the study area (**Section 3**) needs to be taken into account when discussing the site types recorded. The salient features of the landscape are:

- Topography, geology and soils
    - 6% of the study area consisted of dune formations, and the majority of Aboriginal sites were recorded on this landform
    - 89% of the study area included flat plain landform which has been disturbed due to long term farming practices. Five Aboriginal sites were recorded on this type of landform.
- Hydrology
    - The study area is boarded by Washpen Creek along its eastern edge. Despite the proximity of the creek, a permanent water source, only one site was located within 200m of the creek (Yarrabee IF-1)
    - Most sites recorded in the study area were between 1-3km from a circular swamp area located in the northwest section of the study area, and over 5km from Washpen Creek. This indicates that these sites are likely temporary camping sites where the occupants made use of the sandy dune despite the distance to water.
- Previous disturbances
    - There has been a moderate to high level of previous disturbance to most of the study area. There is evidence that the area has been subject to the widespread clearance of native vegetation and subject to intense ploughing practices.
    - The eastern access road is the main road through the property and to the study area. It is used extensively and has been modified with cutting or filling in areas and has had gravels and fill overlain on the road itself.
    - The western access road has been modified through maintenance and grating. The track itself is hard clay, with only wind or water washed soils present along its surface in small amounts. The corridor on either side of the road has also been affected by the grating process, with mounds of dirt formed on the outer edges and shallow dips between the edge of the road and the mounds.

5.7.3 Representativeness, rarity and integrity

All values of the *Burra Charter* are considered when evaluating the significance of sites in the study area. Significance assessment of open sites is extremely variable and dependent upon several factors relating to:

- Preservation: Whether the site has the potential for the presence of intact, subsurface deposit, or whether disturbance (human: land surface impacts, or environmental: erosion, deflation) has reduced its integrity and thus its potential
- Representativeness: Is this the type of site one may expect in this landscape? (Relates back to the predictive model), i.e. do many such sites occur nearby?
- Artefacts: Are there artefacts present (material, types or combinations thereof) that are rare in the area or unusual for that type of site?

- PADs: It is impossible to determine the scientific significance of PADs that do not have visible surface artefacts, as there is no site material or soil data to assess. Consequently, test excavation is required for such areas to investigate the presence, extent, nature and integrity of any possible site material such that their significance can be assessed.

The features of representativeness, rarity and integrity of archaeological sites within the study area are discussed below.

Representativeness: As seen above, sites recorded during the survey such as isolated finds, artefact scatters and scarred trees are very representative of sites in the region that are located in landforms near water. In terms of site size, artefact density, raw materials and artefact types, the results of the survey neatly complement the archaeological context highlighted in **Sections 4.2** and **4.3**. **Sections 4.2** and **4.3** also highlight that hearths are not well represented in the region, though some have been recorded

Rarity: In the past sites such as isolated finds and artefact scatters would not have been rare and on a state-wide scale, low density artefact scatters and isolated finds would remain the most common site type recorded. Although the sites recorded during this assessment are in no way remarkable, their presence alone, in albeit a much modified landscape, remains a memory of the past in a landscape that is fast changing (or has changed). Scarred trees are rarer today following large scale vegetation clearance and the fact that the site type will only remain extant within the landscape for the lifespan of the tree. Hearths are the rarest of the site types recorded within the study area, and are rare at a regional level

Integrity: The results of the survey conclude that the general site integrity is moderate. As noted, the study area has been subject to consistent ploughing in the past. 44% of newly recorded sites were assessed to have no associated archaeological deposits and are therefore surface manifestations and possibly, on an individual artefact level, displaced. 44% of newly recorded sites were assessed to have associated PADs due to being located either on the large dune formation, or within the remnant tree lines near semi-permanent sources of water.

5.8 ASSESSMENT OF SIGNIFICANCE

5.8.1 Introduction

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Scientific, cultural and public significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Social or Cultural Value

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as

well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological/Scientific Value

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether or not a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

Aesthetic Value

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Australia ICOMOS 2013).

Historic Value

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have ‘shared’ historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain a sufficient understanding of historic values.

5.8.2 Assessed significance of the recorded sites

Social or Cultural Value

The assessment of cultural or social value concerns the importance of a site or features to the relevant cultural group – in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have

contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

A copy of this ACHAR was sent to the RAPs on 29 May 2018 and an amendment to **Section 5.9** and **Section 6.0** was sent to the RAPs on 8 June 2018 (**Appendix 1**). No comments or feedback were received from the RAPs concerning the ACHAR.

Archaeological/Scientific Value

The scientific significance of Yarrabee IF-1 to IF-9 and Yarrabee OS-5 to OS-15 are assessed as low as all sites represent artefacts in secondary contexts. These sites are described as having low scientific/archaeological significance based on the following values:

- Low density of artefacts
- Few formal tool types
- Widespread past and current disturbance through ploughing practices and creation of existing access tracks.

Yarrabee OS-3 and OS-4 are both located at the edge of remnant tree lines and ploughed fields. There is a possibility for subsurface archaeological deposits in the areas directly bordering the tree line where ploughing has not been as intensive. These two sites are assessed as having moderate scientific values as both are low density artefact scatters but are located within less disturbed areas.

Yarrabee EM-1 is an earthen mound situated on a dune landform. This site has been assessed as having a moderate to high archaeological potential. The mound is intact but has been disturbed due to cultivation practices and wildlife. The assessment of value is based on the amount of information that may be gathered for further local and regional archaeological studies as earthen mounds can be associated with hearths which can contain material able to be subject to chronological dating.

Yarrabee ST-1 and ST-2 are representative examples of one of the region's most common site types. Due to the frequency of this site type within the region and locality, the archaeological significance of Yarrabee ST-1 and ST-2 is somewhat reduced. Furthermore, neither are associated with landforms displaying a high level of subsurface archaeological potential. Nevertheless, the trees strengthen the evidence for a picture of widespread Aboriginal modification of trees throughout the region.

Aesthetic Value

Yarrabee IF-1 to IF-9 and Yarrabee OS-3 to OS-15 have been assessed as having low aesthetic value. None of the Aboriginal sites recorded have significant aesthetic value as the integrity of the sensory landscape has been altered in historic and modern times. Additionally, the artefacts themselves are generally not remarkable.

Yarrabee ST-1 and ST-2 have been assessed as having low aesthetic value. Scars on trees are typically less difficult for the layperson to interpret than stone artefact remains, and the aesthetic value of a site is derived from its relationship to and position within the surrounding landscape. These sites are located within areas previously cleared as a result of agriculture.

Yarrabee EM-1 has been assessed as having low aesthetic value. The earthen mound is still distinguishable, but being located within the landscape of ploughed plains and having been affected by ploughing and wildlife has diminished the aesthetic values of this sites.

Historic Value

None of the Aboriginal sites recorded have an apparent direct relationship to known historical Aboriginal sites (such as missions or massacre sites). It is possible that the area saw some of the earliest contact between Aboriginals and non-Aboriginal settlers, however, none of the recorded Aboriginal sites display evidence that they constitute 'contact' or 'post-contact' Aboriginal sites. To that end, all recorded sites are assessed as having no historic value.

Table 5-6 summarises the significance assessment of sites recorded during this assessment.

Table 5-6: Significance assessment of recorded sites.

Site Name	AHIMS Site ID	Social or Cultural Value	Archaeological / Scientific Value	Aesthetic Value	Historic Value
Yarrabee IF-1	49-5-0189	High	Low	Low	Low
Yarrabee IF-2	49-5-0190	High	Low	Low	Low
Yarrabee IF-3	49-5-0191	High	Low	Low	Low
Yarrabee IF-4	49-5-0192	High	Low	Low	Low
Yarrabee IF-5	49-5-0193	High	Low	Low	Low
Yarrabee IF-6	49-5-0194	High	Low	Low	Low
Yarrabee IF-7	49-5-0195	High	Low	Low	Low
Yarrabee IF-8	49-5-0196	High	Low	Low	Low
Yarrabee IF-9	49-5-0197	High	Low	Low	Low
Yarrabee OS-3	49-5-0198	High	Moderate	Low	Low
Yarrabee OS-4	49-5-0199	High	Moderate	Low	Low
Yarrabee OS-5	49-5-0200	High	Low	Low	Low
Yarrabee OS-6	49-5-0201	High	Low	Low	Low
Yarrabee OS-7	49-5-0202	High	Low	Low	Low
Yarrabee OS-8	49-5-0203	High	Low	Low	Low
Yarrabee OS-9	49-5-0204	High	Low	Low	Low
Yarrabee OS-10	49-5-0205	High	Low	Low	Low

Site Name	AHIMS Site ID	Social or Cultural Value	Archaeological / Scientific Value	Aesthetic Value	Historic Value
Yarrabee OS-11	49-5-0206	High	Low	Low	Low
Yarrabee OS-12	49-5-0207	High	Low	Low	Low
Yarrabee OS-13	49-5-0208	High	Low	Low	Low
Yarrabee OS-14	49-5-0209	High	Low	Low	Low
Yarrabee OS-15	49-5-0210	High	Low	Low	Low
Yarrabee EM-1 with PAD	49-5-0188	High	Moderate	Low	Low
Yarrabee ST-1	49-5-0187	High	Moderate	Low	Low
Yarrabee ST-2	49-5-0186	High	Moderate	Low	Low

5.9 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

The proponent has planned the impact footprint of the solar project by taking into account heritage and environmental constraints.

Of the 25 recorded sites within the study area, six sites located on or next to existing access tracks will be impacted if these existing tracks are used by heavy machinery (**Table 5-7**). These are the only sites that could be harmed by the proposal. They consist of two isolated finds and four low density artefact scatters. In addition, none of the RAP sites recorded are within the impact footprint (**Table 5-8**). **Figure 5-36** to **Figure 5-39** illustrate the impact footprint in relation to the sites recorded within the study area.

It is noted in **Section 5.4** that there is a possibility of subsurface archaeological deposits at three of the artefact scatters: Yarrabee OS-8; Yarrabee OS-11; and Yarrabee OS-15. As noted in **Table 5-5**, harm arising from the proposal at these sites is assessed as 'partial' because while it will be recommended that the surface manifestation at these sites is salvaged to remove surface artefacts from potential harm by vehicle movements, the subsurface manifestation at these sites will not be impacted by the proposal and will remain *in situ*. As Yarrabee OS-5 is a surface manifestation only, it is expected that the site will be totally harmed by the proposal.

Table 5-7: Impact assessment of recorded sites.

Site Name	AHIMS Site ID	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No Loss of Value)
Yarrabee IF-1	49-5-0189	None	None	No loss of value
Yarrabee IF-2	49-5-0190	None	None	No loss of value
Yarrabee IF-3	49-5-0191	None	None	No loss of value
Yarrabee IF-4	49-5-0192	None	None	No loss of value
Yarrabee IF-5	49-5-0193	Direct	Total	Total
Yarrabee IF-6	49-5-0194	Direct	Total	Total
Yarrabee IF-7	49-5-0195	None	None	No loss of value
Yarrabee IF-8	49-5-0196	None	None	No loss of value
Yarrabee IF-9	49-5-0197	None	None	No loss of value
Yarrabee OS-3	49-5-0198	None	None	No loss of value

Site Name	AHIMS Site ID	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No Loss of Value)
Yarrabee OS-4	49-5-0199	None	None	No loss of value
Yarrabee OS-5	49-5-0200	Direct	Total	Total
Yarrabee OS-6	49-5-0201	None	None	No loss of value
Yarrabee OS-7	49-5-0202	None	None	No loss of value
Yarrabee OS-8	49-5-0203	Direct	Partial	Partial
Yarrabee OS-9	49-5-0204	None	None	No loss of value
Yarrabee OS-10	49-5-0205	None	None	No loss of value
Yarrabee OS-11	49-5-0206	Direct	Partial	Partial
Yarrabee OS-12	49-5-0207	None	None	No loss of value
Yarrabee OS-13	49-5-0208	None	None	No loss of value
Yarrabee OS-14	49-5-0209	None	None	No loss of value
Yarrabee OS-15	49-5-0210	Direct	Partial	Partial
Yarrabee EM-1 with PAD	49-5-0188	None	None	No loss of value
Yarrabee ST-1	49-5-0187	None	None	No loss of value
Yarrabee ST-2	49-5-0186	None	None	No loss of value

Table 5-8: Impact assessment of RAP sites.

AHIMS Site ID	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No Loss of Value)
49-5-0153	None	None	No loss of value
49-5-0154	None	None	No loss of value
49-5-0155	None	None	No loss of value
49-5-0156	None	None	No loss of value
49-5-0157	None	None	No loss of value
49-5-0158	None	None	No loss of value
49-5-0159	None	None	No loss of value
49-5-0160	None	None	No loss of value
49-5-0162	None	None	No loss of value
49-5-0165	None	None	No loss of value
49-5-0166	None	None	No loss of value
49-5-0167	None	None	No loss of value
49-5-0168	None	None	No loss of value
49-5-0169	None	None	No loss of value
49-5-0171	None	None	No loss of value
49-5-0172	None	None	No loss of value
49-5-0173	None	None	No loss of value
49-5-0178	None	None	No loss of value
49-5-0179	None	None	No loss of value
49-5-0181	None	None	No loss of value
49-5-0182	None	None	No loss of value
49-5-0184	None	None	No loss of value

Figure 5-36: Recorded sites within Project Area and impact footprint.

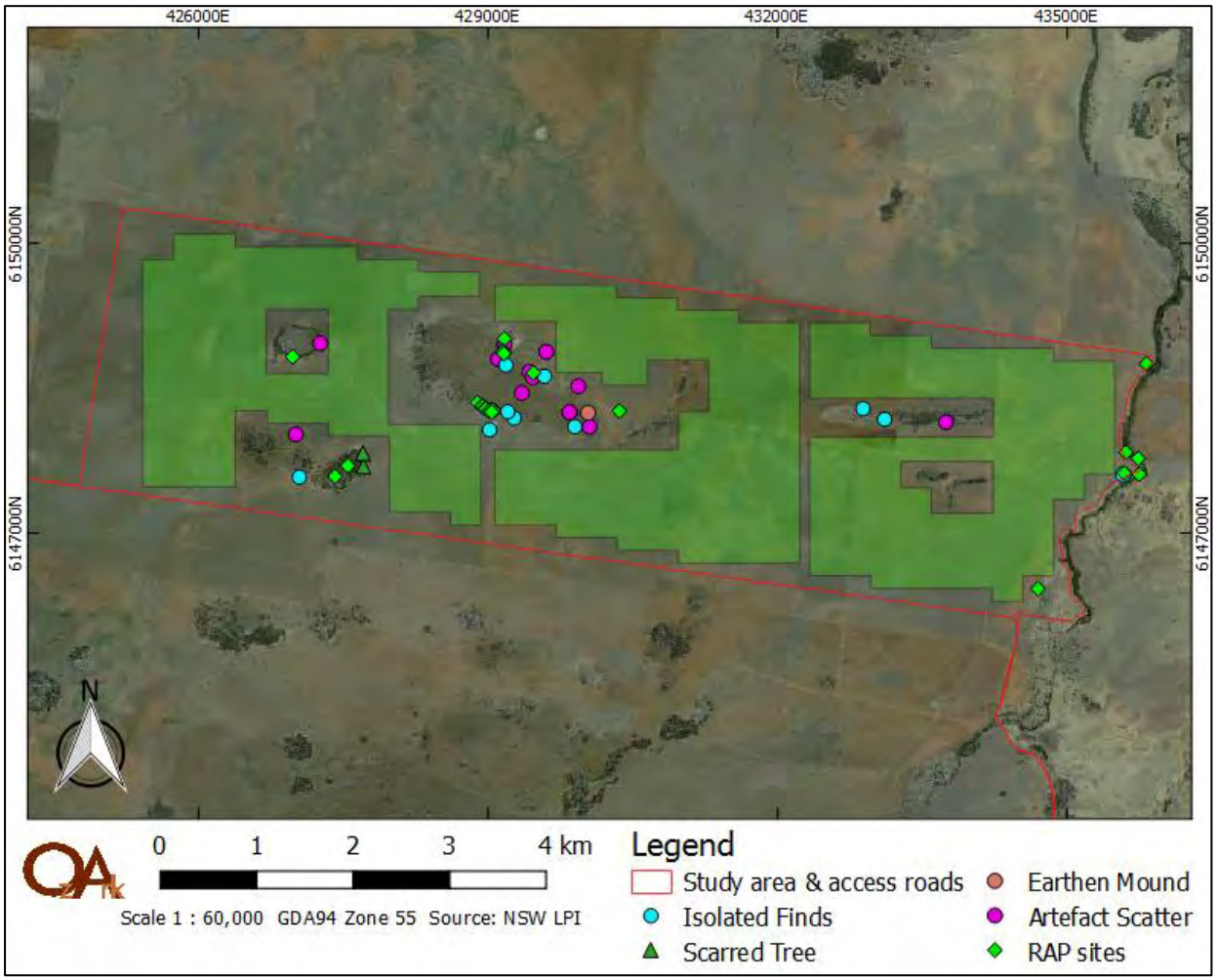


Figure 5-37: Detail of recorded sites in western section of Project Area and impact footprint.

Figure 5-38: Detail of recorded sites in central section of Project Area and impact footprint.

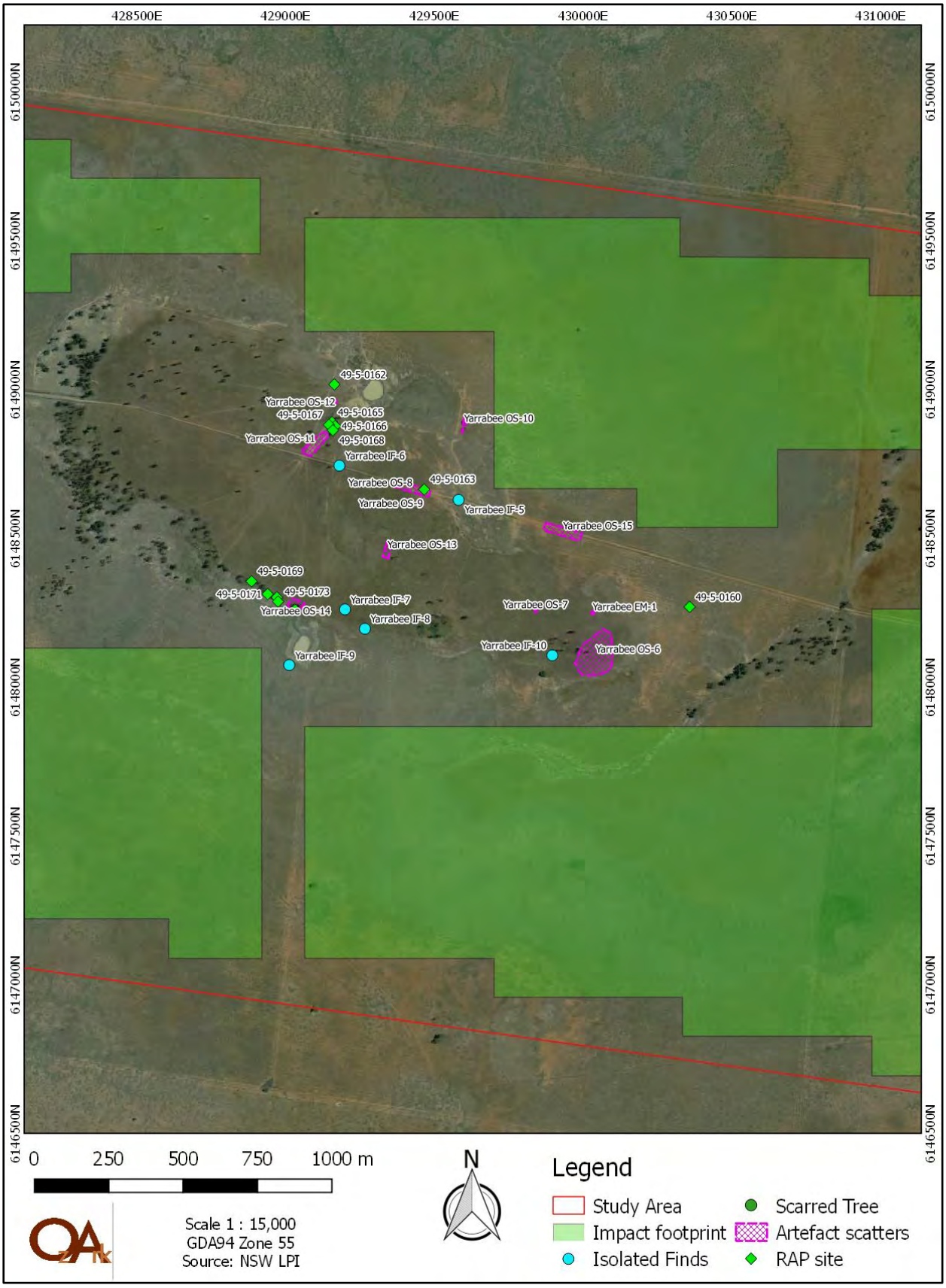
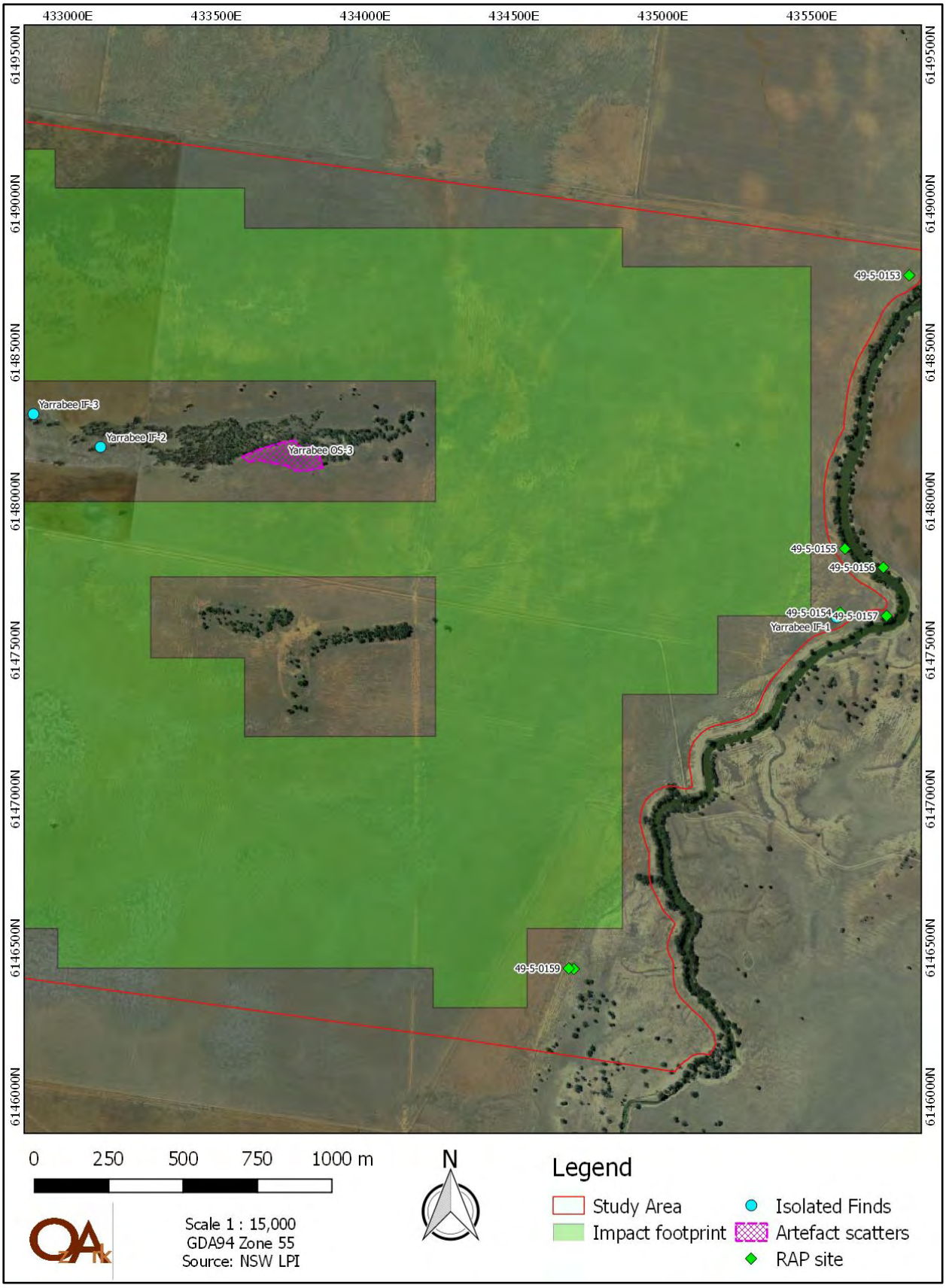


Figure 5-39: Detail of recorded sites in eastern section of Project Area and impact footprint.



5.9.1 Ecological Sustainable Development Principles

Australia's *National Strategy for Ecologically Sustainable Development* (Ecologically Sustainable Development Steering Committee 1992) defines ecologically sustainable development (ESD) as:

> *…using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.*

The management and mitigation of Aboriginal sites involves consideration of ESD principles including cumulative impacts, the precautionary principle and the principle of intergenerational equity (OEH 2011: 12–13).

With regards to cultural heritage, the most important aspect of ESD is inter-generational equity whereby the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. Similarly inter-generational equity maintains that places and items of cultural heritage value should be preserved for the education, enjoyment and use of future generations.

The development adds to the cumulative impact on the region's Aboriginal cultural heritage as six sites will be harmed. However, the heritage impact value of this loss is low as the six sites consist of isolated finds and low density artefact scatters. The proponent has designed the impact footprint of the development in order to avoid a large number of Aboriginal sites, particularly those sites deemed to have higher archaeological significance.

6 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

6.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF ABORIGINAL SITES

Appropriate management of cultural heritage items is primarily determined on the basis of their assessed significance as well as the likely impacts of the proposed development. **Section 5.8.2** and **Section 5.9** describe, respectively, the significance / potential of the recorded sites and the likely impacts of the development. The following management options are general principles, in terms of best practice and desired outcomes, rather than mitigation measures against individual site disturbance.

- Avoid impact by altering the project proposal or in this case by avoiding impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage around the site must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed. Avoidance of impact to sites/objects is the preferred archaeological and cultural outcome. It is noted in **Section 1.3** that the proponent intends to avoid of the majority of the Aboriginal sites within the study area.

- If impact is unavoidable then appropriate management of the site/object will be determined through policies set out in an Aboriginal Cultural Heritage Management Plan (ACHMP). The ACHMP should include measures for site conservation, as well as detailing methods for the management of sites to be impacted. The management will depend on many factors including the assessed significance of the sites (**Section 5.8.2**). In certain instances, a site may have low archaeological, aesthetic, and historic values but moderate or high cultural value. In these cases, management is aimed to mitigate the loss of the cultural heritage values, rather than the loss of the scientific values. Sites of low scientific significance, such as an isolated find, could, from an archaeological perspective, be removed/destroyed with no further archaeological management being required. However, given the site's cultural value, further management in respect to these sites will be recommended here. For example, due to a site's cultural values, the local Aboriginal community may wish to collect or relocate artefacts, whether temporarily or permanently, and such management will form part of the ACHMP. The ACHMP will be developed in consultation between the proponent, RAPs and DP&E.

6.2 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

As a result of the current assessment 25 sites have been newly recorded within the study area. Of these sites, six are located on existing access tracks within the study area which may be used for light and heavy vehicles.

The remaining 19 sites will be avoided completely by the proposal, though Yarrabee IF-1 and Yarrabee OS-4 are both within 50m of the impact footprint and special management should be applied to these sites to ensure they are not harmed by the proposal. It is recommended that a 10m buffer around the sites extent be erected using high visibility ground markers (i.e. staking and flagging or fencing), prior and during construction works.

In addition, all registered RAP sites are outside the impact footprint and will not be impacted on by the development (see **Figure 5-36** to **Figure 5-39**).

It is recommended that the six sites on existing access tracks be salvaged through the recording and collection of surface artefacts. This recommendation is made due to:

- The cultural value of these sites and their importance to the Aboriginal community
- The nature of the potentially impacted sites (all are isolated finds or a low density artefact scatters consisting of two to fourteen artefacts per site)
- Being generally located in landforms with high previous disturbance from a range of factors including erosion and land use practices
- The low archaeological values assigned to the sites preclude more intensive archaeological investigations
- Sites such as these have a very limited ability to further inform the community about the history and culture of the area. While any potential research questions are limited, some information can nevertheless be gained.

However, if there is to be any ground disturbing activities relating to upgrading or maintenance of the existing access tracks (i.e. grating, widening, etc.) then further subsurface archaeological investigation will be necessary prior to these activities.

6.3 MANAGEMENT PROCESS

6.3.1 Archaeological salvage: artefact collection

Stone artefact sites managed under this archaeological salvage will contribute to the research aim in that the sites will have surface artefacts mapped, catalogued, selectively photographed, collected and moved to safe-keeping.

It is envisioned that these investigations would include the following methodology although the final form of any investigation would be done in consultation with the RAPs.

Archaeological salvage: surface collection of artefacts

In order to fulfil the research aim, the following program is suggested:

- All visible artefacts at a site should be flagged in the field
- The site should be photographed after flagging and before recording
- All artefacts should have the following artefact information entered directly into a GPS unit, albeit one set up with all variable fields already entered to make the field recording job more efficient:
    - Location
    - Artefact Class
    - Artefact Type
    - Size
    - Reduction level
    - Raw Material
    - Notes.
- A selection of indicative and / or unusual artefacts from each site will be photographed
- A sketch plan of the site will be completed indicating zones for the surface collection of artefacts
- Once all recording is complete, the artefacts will be collected according to site zones with artefacts from each zone being kept separate
- Should the collection team encounter a human burial, all work should cease in the area and advice from authorities and RAPs (should the remains be Aboriginal) sought
- The recording of the artefacts recovered will largely be completed in the field and this data would be incorporated into a report
- Analysis will attempt to answer the research aim which is to record a statistically valid artefact assemblage from across the study area in order to better understand inter-site variations.

Table 6-1 outlines the management recommendation for each site within or adjacent to the impact footprint, including those needing surface salvage. For the six sites located on existing access tracks in the study area there will be surface impacts only. As such, it is not necessary to impact subsurface artefacts or deposits unless ground disturbing activities are planned for these existing access tracks. Following the salvage of any sites, Aboriginal Site Impact Recording Forms (ASIRFs) will be completed and submitted for each site impacted.

Table 6-1: Management recommendations for sites within or adjacent to the impact footprint of the Project.

Site Name & AHIMS ID	Assessed scientific significance	Degree of harm	Management strategy
Yarrabee IF-1 #49-5-0189	Low	None	The site is located within 50m of the proposed impact footprint. A 10m buffer around the site extent should be erected using high visibility ground markers (i.e. staking and flagging or fencing), prior and during construction works. The removal of the site buffer following construction will be left to the discretion of the proponent.
Yarrabee IF-2 #49-5-0190	Low	None	No management required. The site is located in a 400m wide corridor not being impacted and is further than 50m away from the closest edge of the impact footprint.
Yarrabee IF-3 #49-5-0191	Low	None	No management required. The site is located in a 400m wide corridor not being impacted and is further than 50m away from the closest edge of the impact footprint.
Yarrabee IF-4 #49-5-0192	Low	None	No management required. The site is located 500m south from the closest impact footprint edge.
Yarrabee IF-5 #49-5-0193	Low	Total	Description and collection of surface artefact
Yarrabee IF-6 #49-5-0194	Low	Total	Description and collection of surface artefact
Yarrabee IF-7 #49-5-0195	Low	None	No management required. The site is located 290m northeast from the closest impact footprint edge.
Yarrabee IF-8 #49-5-0196	Low	None	No management required. The site is located 330m northeast from the closest impact footprint edge.
Yarrabee IF-9 #49-5-0197	Low	None	No management required. The site is located 70m east from the closest impact footprint edge.
Yarrabee OS-3 #49-5-0198	Moderate	None	No management required. The site is located 110m north from the closest impact footprint edge.
Yarrabee OS-4 #49-5-0199	Moderate	None	The site is located within 50m of the proposed impact footprint. A 10m buffer around the site extent should be erected using high visibility ground markers (i.e. staking and flagging or fencing), prior and during construction works. The removal of the site buffer following construction will be left to the discretion of the proponent.
Yarrabee OS-5 #49-5-0200	Low	Total	Description and collection of surface artefacts.
Yarrabee OS-6 #49-5-0201	Low	None	No management required. The site is located 170m north from the closest impact footprint edge.
Yarrabee OS-7 #49-5-0202	Low	None	No management required. The site is located 250m south from the closest impact footprint edge.
Yarrabee OS-8 #49-5-0203	Low	Partial	Description and collection of surface artefacts. Potential subsurface deposits to remain *in situ*.
Yarrabee OS-9 #49-5-0204	Low	None	No management required. The site is located 260m west from the closest impact footprint edge.
Yarrabee OS-10 #49-5-0205	Low	None	No management required. The site is located 116m west from the closest impact footprint edge.
Yarrabee OS-11 #49-5-0206	Low	Partial	Description and collection of surface artefacts. Potential subsurface deposits to remain *in situ*.
Yarrabee OS-12 #49-5-0207	Low	None	No management required. The site is located 340m south from the closest impact footprint edge.
Yarrabee OS-13 #49-5-0208	Low	None	No management required. The site is located 380m west from the closest impact footprint edge.
Yarrabee OS-14 #49-5-0209	Low	None	No management required. The site is located 160m northeast from the closest impact footprint edge.
Yarrabee OS-15 #49-5-0210	Low	Partial	Description and collection of surface artefacts. Potential subsurface deposits to remain *in situ*.

Site Name & AHIMS ID	Assessed scientific significance	Degree of harm	Management strategy
Yarrabee EM-1 with PAD #49-5-0188	Moderate - high	None	No management required. The site is located 260m south from the closest impact footprint edge.
Yarrabee ST-1 #49-5-0187	Moderate	None	No management required. The site is located 150m south from the closest impact footprint edge.
Yarrabee ST-2 #49-5-0186	Moderate	None	No management required. The site is located 290m west from the closest impact footprint edge.

7 RECOMMENDATIONS

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

To this end it is noted that **25 Aboriginal sites** were recorded during the assessment.

The following recommendations are made on the basis of these impacts and with regard to:

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

Table 6-1 lists all sites that are likely to be impacted by the project and tabulates the associated scientific values assessment and recommended archaeological management strategies.

As a consequence of the proposed impacts to Aboriginal cultural heritage sites within the study area, the following archaeological recommendations are made in an effort to responsibly manage Aboriginal cultural heritage sites *in situ*, or where appropriate, mitigate the loss of cultural heritage at those sites within the impact footprint or on an existing access track.

Recommendations concerning the study area are as follows:

1. Should development consent for the Project be granted, archaeological management strategies to manage and mitigate the impact of the proposed works are set out in **Section 6**. All sites within the impact footprint for the Project or on existing access tracks in the study area should be salvaged by a surface collection of all visible artefacts (see **Section 6.3.1**).
2. The salvage works will include the mapping, analysis and collection of all surface artefacts at the affected sites. Results will be included in a report to preserve the data in a useable form.
3. All land-disturbing activities must be confined to within the assessed study area and the existing eastern and western access roads, in particular the impact footprint. Should the parameters of the proposed work extend beyond this, then further archaeological assessment may be required.
4. Following development consent of the Project, an Aboriginal Heritage Impact Permit will not be required for impacts to cultural heritage, so long as the impact accords with the terms and conditions of the consent. Instead, impacts on Aboriginal heritage would be managed through an *Aboriginal Cultural Heritage Management Plan* (ACHMP) which is to be agreed to by the proponent, RAPs and DP&E. The archaeological management

recommendations within this report would normally be incorporated into the ACHMP that is usually formulated following development consent. The ACHMP should also include long term management of any artefacts.

5. During the course of the project, if Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol* (**Appendix 3**) be followed.

REFERENCES

Australia ICOMOS 2013 — International Council on Monuments and Sites 2013. *The Burra Charter:* The Australia ICOMOS Charter for Places of Cultural Significance, 2013.

BOM 2018 — Bureau of Meteorology. 2018. *Climate Statistics for Australian Locations*.

Bowdler 1983 — Bowdler S. 1983. *Aboriginal Sites on the Crown Timber Lands of NSW*. Report to the Forestry Commission of NSW.

Burke & Smith 2004 — Burke H and Smith C. 2004. *The Archaeologist's Field Handbook*, Blackwell, Oxford.

DECCW 2010a — Department of Environment, Climate Change and Water, Sydney (now OEH). 2010. *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

DECCW 2010b — Department of Environment, Climate Change and Water (now OEH). 2010. *Aboriginal Cultural Heritage Consultation Requirements for proponents*. Department of Environment, Climate Change and Water, Sydney.

DP&E 2016 — Department of Planning and Environment. 2016. *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*.

Eardley 1999 — Eardley K. 1999. *A Foundation for Conservation in the Riverina Bioregion*. Unpublished Report. NSW National Parks and Wildlife Service, Hurstville.

Gammage 1986 — Gammage B. 1986. *Narrandera Shire*. Narrandera Shire Council.

Gammage 2011 — Gammage B. 2011. *The Biggest Estate on Earth: How Aborigines Made Australia*. Allen & Unwin.

Haglund 1985 — Haglund L. 1985. *Assessment of Aboriginal Heritage in the Mudgee Shire*. Report for Mudgee Shire Council.

Hiscock 1983 — Hiscock P. 1983. *An Archaeological Survey of the Proposed 330kv Transmission Line, Wagga Wagga to Darlington Point*. Report to the Electricity Commission on New South Wales.

Kabaila 1998 — Kabaila P. 1998 (2nd ed.). *Wiradjuri Places.* The Murrumbidgee Basin Black Mountain Projects, Canberra.

Mitchell 2002 — Mitchell P. 2002. *Descriptions for NSW (Mitchell) Landscapes*, Version 2. Department of Environment & Climate Change. Available from: http://www.environment.nsw.gov.au/resources/conservation/landscapesdescriptions.pdf.

NPWS 2003 — National Parks and Wildlife Services. 2003. *The Bioregions of New South Wales – Their Biodiversity, Conservation and History*. NSW National Parks and Wildlife Service, Hurstville.

OEH 2011 — Office of Environment and Heritage. 2011. *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*.

OzArk 2013 — OzArk Environmental & Heritage Management. 2013. *Aboriginal Archaeological and Historical Heritage Assessment: Darlington Point Levee Upgrade*. Report to NSW Public Works.

OzArk 2014 — OzArk Environmental & Heritage Management. 2014. *Aboriginal and Non-Aboriginal Archaeological Assessment: Uranquinty to Yanco (99F) TL Upgrade*. Report to TransGrid.

OzArk 2015 — OzArk Environmental & Heritage Management. 2015. *Aboriginal Archaeological Assessment: Euroley Poultry Production Complex*. Report to SLR Consulting Pty Ltd.

Tindale 1974 — Tindale N. 1974. *Aboriginal Tribes of Australia: Their Terrain, Environmental Controls, Distribution, Limits, and Proper Names*. Berkeley: University of California Press.

Witter 1980 — Witter D. 1980. *An Archaeological Pipeline Survey between Wagga Wagga and Young*. Report to the Pipeline Authority.

PLATES

Plate 1: Example of flat plain landform in study area.

Plate 2: Example of large dune landform in central section of study area.

Plate 3: Example of smaller dune and white cypress trees in southwest section of study area.

Plate 4: View south of western access road.

Plate 5: View of southern corridor of western access road. Note soil mound from grating.

Plate 6: View south of eastern access road.

Plate 7: View southeast of bridge across Yanco Creek. Note that road has been built up.

Plate 8: View southeast of bridge across Washpen Creek. Note that road has been built up.

Plate 9: Example of a dam within study area.

Plate 10: The shallow swamp basin in northwest section of study area.

Plate 11: The shallow drainage channel in northeast section of study area.

Plate 12: View northeast along Pine watercourse from eastern access road. Note that watercourse has been ploughed and cropped.

Plate 13: Example of ploughing within study area, facing south-west.

Plate 14: Example of ploughing within study area, facing south.

Plate 15: Example of ploughing within study area, facing north. Note the extent of ploughing to the west bank of Washpen Creek.

APPENDIX 1: ACHCRS

Aboriginal Consultation Log – Yarrabee Solar Project

Date	Organisation	Comment	Method
11.1.18	Narrandera Argus	Sheridan Baker (SB) received confirmation that the newspaper is shut until the 15.1.18. Deadline for the first publication is midday Monday 15.1.18 for publication on Wednesday 17.1.18	email
11.1.18	Narrandera Argus	SB sent through draft advertisement for proof and quote - publication date Wed 17.1.18	email
15.1.18	Narrandera Argus	SB received confirmation and proof	email
15.1.18	OEH	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	Office of The Registrar, ALRA	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	NTSCORP	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	National Native Title Tribunal	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	Narrandera Local Land Services	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	Narrandera Shire Council	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
15.1.18	Narrandera Local Aboriginal Land Council	SB sent stage 1 agency letter requesting potential stakeholders. Closing date 30/1/18	email
16.1.18	National Native Title Tribunal	SB received notification *Records held by the National Native Title Tribunal as at 30 May 2017 indicate that there are no Native Title Determination Applications, Determinations of Native Title, or Indigenous Land Use Agreements over the identified area of the Shire of Narrandera.*	email
17.1.18	Leeton and District LALC	SB received a call from Karen Davy registering the LALC as a RAP	phone
18.1.18	Narrandera Local Land Services	SB received list of suggested stakeholders Narrandera LALC Lee Reavley, Nick Ingram, Peter Ingram, Leeton LALC and Griffith LALC Nick Ingram is also the Cultural Heritage Officer for the Council.	email
19.1.18	Office of The Registrar, ALRA	SB received a response that said: *I have searched the Register of Aboriginal Owners and the projects area does not have registered Aboriginal Owners pursuant to Division 3 of the Aboriginal Land Rights Act 1983.*	email
19.1.18	OEH	SB received email confirming that potential stakeholders would be the Narrandera LALC, Leeton and District LALC, Wagga Wagga LALC and the Griffith LALC. Project falls within the Narrandera LALC area	email
2.2.18	Michael Lyons Snr	SB sent invitation to register as a RAP	mail
2.2.18	Jaime-Lee Kschencka	SB sent invitation to register as a RAP	mail
2.2.18	Clem Christian	SB sent invitation to register as a RAP	email
2.2.18	Will Carter	SB sent invitation to register as a RAP	email
2.2.18	Peter Ingram	SB sent invitation to register as a RAP	email
2.2.18	Robert Carroll	SB sent invitation to register as a RAP	email
2.2.18	Michael Lyons Jnr	SB sent invitation to register as a RAP	email

Date	Organisation	Comment	Method
2.2.18	Narrandera Local Aboriginal Land Council	SB sent invitation to register as a RAP	email
2.2.18	Owen Lyons	SB sent invitation to register as a RAP	email
2.2.18	Garry Cottom	SB sent invitation to register as a RAP	email
2.2.18	Narrandera Aboriginal Community Working Party	SB sent invitation to register as a RAP	email
2.2.18	Lee Reavley	SB sent invitation to register as a RAP	email
2.2.18	Nick Ingram	SB sent invitation to register as a RAP	email
2.2.18	Peter Ingram	SB sent invitation to register as a RAP	email
5.2.18	Will Carter	Registered as a RAP	email
5.2.18	Will Carter	SB sent confirmation email through	email
5.2.18	Lee Reavley	Registered as a RAP	email
5.2.18	Lee Reavley	SB sent confirmation email through	email
5.2.18	Lesley Houston	SB received an email from Lesley stating that the Narrandera Aboriginal Community Working Party is not currently operating. Lesley would like to register as an individual in the project.	email
5.2.18	Lesley Houston	SB sent confirmation email through and requested preferred email contact details	email
5.2.18	Bevan Bright	SB received email from Lesley confirming her email address and also registering Bevan Bright.	email
5.2.18	Lesley Houston	SB sent email asking for email and mobile contact details for Bevan	email
6.2.18	Lesley Houston	SB received an email confirming that there is no email or mobile contact for Bevan Bright	email
14.2.18	Bundyi Aboriginal Cultural Knowledge	SB received mail from Mark registering interest as a RAP	email
14.2.18	Bundyi Aboriginal Cultural Knowledge	SB confirmed Marks registration	email
16.2.18	Narrandera Local Aboriginal Land Council	SB sent stage 2 draft methodology 16 March 2018	email
16.2.18	Will Carter	SB sent stage 2 draft methodology 16 March 2018	email
16.2.18	Lee Reavley	SB sent stage 2 draft methodology 16 March 2018	email
16.2.18	Lesley Houston	SB sent stage 2 draft methodology 16 March 2018	email
16.2.18	Bevan Bright	SB sent stage 2 draft methodology 16 March 2018	mail
16.2.18	Bundyi Aboriginal Cultural Knowledge	SB sent stage 2 draft methodology 16 March 2018	email
16.2.18	Bundyi Aboriginal Cultural Knowledge	SB received email from Mark stating that: *I will look at it over the weekend and get back to you*	email
19.2.18	Lesley Houston	SB received an email from Lesley asking if we are still accepting RAPs for the project	email
19.2.18	Lesley Houston	SB sent email confirming that a RAP would still be accepted, however we have commenced the 28 day feedback period and would not be resetting the date. SB asked for their details to be sent through urgently	email
26.2.18	Narrandera Local Aboriginal Land Council	SB sent addendum letter	email
26.2.18	Will Carter	SB sent addendum letter	email
26.2.18	Will Carter	SB received email from Will clarifying they the acknowledgement should refer specifically to the Wiradjuri people.	email
26.2.18	Lee Reavley	SB sent addendum letter	email
26.2.18	Lesley Houston	SB sent addendum letter	email
26.2.18	Bevan Bright	SB sent addendum letter	mail

Date	Organisation	Comment	Method
26.2.18	Bundyi Aboriginal Cultural Knowledge	SB sent addendum letter	email
7.3.18	Will Carter	SB sent letter of invitation for fieldwork	email
7.3.18	Lee Reavley	SB sent letter of invitation for fieldwork	email
7.3.18	Lesley Houston	SB sent letter of invitation for fieldwork	email
7.3.18	Bevan Bright	SB sent letter of invitation for fieldwork	mail
7.3.18	Bundyi Aboriginal Cultural Knowledge	SB sent letter of invitation for fieldwork	email
7.3.18	Leeton and District LALC	Error realised that Leeton LALC had been missed as a RAP, assumption Narrandera was the relevant LALC. SB rang landline - phone rang out SB rang mobile - left a message SB sent a text to mobile	phone
7.3.18	Leeton and District LALC	SB sent email with methodology for fieldwork, addendum letter and invitation to perform the fieldwork, with explanation and apology for oversite. Request for Karen to call urgently	phone
7.3.18	Leeton and District LALC	SB received a text from Karen. Karen is at the hospital with her daughter. Will call SB tomorrow	phone
7.3.18	Bundyi Aboriginal Cultural Knowledge	SB sent letter of invitation for fieldwork	email
7.3.18	Bundyi Aboriginal Cultural Knowledge	SB received email asking for clarification on why email was recalled. Sb explained that it didn't have a due date for responses on it and was updated. SB to resend updated version	email
7.3.18	Bundyi Aboriginal Cultural Knowledge	SB sent updated version	email
7.3.18	OEH	SB sent letter advising of the RAPs	email
8.3.18	Bundyi Aboriginal Cultural Knowledge	SB received email with dates of availability , but stating that does not require insurance	email
8.3.18	Lesley Houston	SB received and email from Leslie asking for a response on whether there is an Aboriginal employment strategy with this project.	email
8.3.18	Lesley Houston	SB sent email informing none known, but SB not aware of the 'project' going forward. Just the Aboriginal Cultural Heritage Assessment.	email
8.3.18	Leeton and District LALC	SB texted Karen and asked how her family were going and wished them well	phone
9.3.18	Leeton and District LALC	SB texted Karen and asked if there was a suitable time to call	phone
9.3.18	Leeton and District LALC	SB received text from Karen saying she will let her know	phone
9.3.18	Leeton and District LALC	SB received text from Karen saying ok to call	phone
9.3.18	Leeton and District LALC	SB rang and spoke to Karen. Explained the error in the delay of sending out the methodology to her and apologised. SB emphasised that the 28 day period would close for feedback on the 16th March which is cutting short the feedback period for her. Karen said that was fine and she would check and respond before the 16th March if there was any feedback. Karen will look into a site officer for the fieldwork	phone
14.3.18	Will Carter	SB rang Will Carter, unfortunately Will is not available for any of the fieldwork due to work and family commitments.	phone
14.3.18	Lee Reavley	SB rang and left a detailed message to return the call.	phone
14.3.18	Lesley Houston	SB rang and left a detailed message to return the call.	phone
14.3.18	Leeton and District LALC	SB rang the landline and the phone rang out	phone

Date	Organisation	Comment	Method
14.3.18	Leeton and District LALC	SB texted Karen's mobile to see if she had returned to work yet.	phone
14.3.18	Lee Reavley	SB rang and left a detailed message to return the call.	phone
14.3.18	Lesley Houston	SB sent an email requesting a call back as soon as possible re the fieldwork.	phone
14.3.18	Lesley Houston	SB received a call from Lesley Houston. Lesley said she has been trying to get some reps but no one has insurance- Lesly will call Graeme Kilby from CGBT and see if they are able to go under his insurance	phone
14.3.18	Lee Reavley	SB received a return call from Lee. Lee does not have insurances however may be able to do the weekend. Lee will ring back this afternoon	phone
14.3.18	Leeton and District LALC	SB rang and left a detailed message to return the call.	phone
14.3.18	Lesley Houston	SB received a call from Graeme Kilby (potential 3rd party employer) contacted by Lesley to see if they are able to help. Not sure if they will be able to put under their insurances. Not something they usually do. SB to call back and send email if needing help and they will explore further	phone
14.3.18	Leeton and District LALC	SB rang and spoke to Karen. Karen is unable to have other RAPs come under LALC insurance. Karen will not be able to supply a site officer at this time as both Courtney and Jim are unwell. May be able to organise some other attendees to assist. SB to try other avenues first. Karen will also check for other workers etc. and Karen will let Sheridan know. SB asked if the Leeton LALC are agreeable to the Narrandera LALC supplying a site officer on their behalf, the answer was not at this stage. Karen will send through the phone number of Frank - a third party employer in Narrandera.	phone
14.3.18	Leeton and District LALC	Karen sent SB Frank Valenzisi Getset contact mobile	phone
14.3.18	Getset	SB rang and spoke to Frank- he can do a labour hire and set up the RAPs - may be able to organise assistance if needed - SB to call Friday with a plan	phone
14.3.18	Lesley Houston	SB rang and spoke to Lesley. Lesley has requested that SB talk to Stuart James. If Stuart can nominate someone to represent Lesley she will go with his recommendation. Lesley will ring Sheridan tomorrow at lunch time. Phone reception was poor and didn't get opportunity to ask about Bevan	phone
14.3.18	Lesley Houston	SB received a call from Lesley. Lesley has called Stuart and spoken to him. Stuart is happy to nominate an appropriate site officer, and assist in getting then sorted with Getset (third party). Lesley confirmed that Bevan has received the letter re the offer of work but has is not doing it. Stuart is Bevan Bright's nephew and Stuart will discuss further with him.	phone
14.3.18	Lesley Houston	SB received a call from Graeme Kilby (potential 3rd party employer) contacted by Lesley to see if they are able to help. Not sure if they will be able to put under their insurances. Not something they usually do. SB to call back and send email if needing help and they will explore further	phone
14.3.18	Lesley Houston	SB rang and spoke to Stuart. Stuart is going to see if he can find 2 suitably skilled workers on behalf of Bevan (his uncle) and Lesley. Stuart will also make sure that they are happy to go under a 3rd party	phone

Date	Organisation	Comment	Method
		employer. Lesley is happy to go with Stuart's recommendation with someone to represent her.	
15.3.18	Leeton and District LALC	SB received text from Karen saying to contact Lawrence - on behalf of the LALC and see what his availability is.	text
15.3.18	Leeton and District LALC	SB contacted Lawrence and Lawrence will discuss with his current employer and text SB back with availability	phone
15.3.18	Leeton and District LALC	SB confirmed with Karen the above	text
15.3.18	Lesley Houston	SB rang and spoke to Stuart - he is no further along. He went and discussed with one elder who is not available, he has one more option however will not be able to make contact until later tonight.	phone
15.3.18	Leeton and District LALC	SB texted Karen and asked if she would be willing or Max Harris to attend on behalf of the LALC	text
15.3.18	Lesley Houston	SB sent email with details for Stewart to discuss further with Roland Williams. Copied Lesley in to email.	phone
15.3.18	Bundyi Aboriginal Cultural Knowledge	SB rang to discuss insurances and engagement for fieldwork. Left a message to call back	phone
15.3.18	Bundyi Aboriginal Cultural Knowledge	SB received a return call from Mark. SB discussed the need for some policy that protects Mark from personal injury. SB to send through email tomorrow with exact FW dates and details on what is required in the policy.	phone
16.3.18	Lesley Houston	SB received email from Lesley (also addressed to Stuart). Confirming she was happy with is recommendations. Lesley asked for a community meeting.	phone
16.3.18	Lesley Houston	SB said that she had referred this onto her manager but was not aware of a community meeting scheduled at the moment.	phone
16.3.18	Leeton and District LALC	SB rang and left a message to call regarding Max Harris and updating that Lawrence will not be able to assist (mobile)	text
16.3.18	Leeton and District LALC	SB rang and spoke to Karen. Karen is happy for Roland Williams and Derek? to represent. Karen will forward through Roland's contact number.	text
16.3.18	Lesley Houston	SB received an email from Stewart confirming that he has not had time to follow.	phone
16.3.18	Lesley Houston	SB thanked Stewart for his efforts	phone
16.3.18	Bundyi Aboriginal Cultural Knowledge	SB received email from Mark chasing details from SB	phone
16.3.18	Bundyi Aboriginal Cultural Knowledge	SB emailed Mark the dates and insurance information	email
16.3.18	Leeton and District LALC	SB received a call from Karen confirming that she will have 3 people available for the fieldwork, SB confirmed that at this stage there is only 2 definite positions available and potentially a 3rd (not definite).	phone
19.3.18	Bundyi Aboriginal Cultural Knowledge	SB received email from Mark confirming if the fieldwork went over Sat and Sun, and advised he was waiting for his accident insurance policy to come through	email
19.3.18	Bundyi Aboriginal Cultural Knowledge	SB emailed Mark and confirmed work dates	email
19.3.18	Bundyi Aboriginal Cultural Knowledge	SB confirmed that was fine	email
19.3.18	Bundyi Aboriginal Cultural Knowledge	Mark sent through a valid Personal injury policy, and asked if that was all that was required	email

Date	Organisation	Comment	Method
19.3.18	Leeton and District LALC	SB sent email confirming availability for 2 workers and requesting how their insurance is to be set up. Under the LALC or under Getset.	email
20.3.18	Bundyi Aboriginal Cultural Knowledge	Mark sent through his availability dates and requested the meeting location etc. again	email
20.3.18	Bundyi Aboriginal Cultural Knowledge	SB sent through a recap of the letter of offer	email
21.3.18	Leeton and District LALC	SB received a call from Karen confirming that the 2 workers will be under Getset	email
21.3.18	Leeton and District LALC	SB received an email and quote from Frank at Getset, with a valid Workers comp insurance	email
21.3.18	Leeton and District LALC	SB called Frank and confirmed the daily rate and needs an email saying who he is covering and that it is up to a 10 hour day. Frank to revise quote and send through	phone
21.3.18	Leeton and District LALC	SB sent email through with meeting place etc.	email
21.3.18	Leeton and District LALC	SB sent email with Archaeologist mobile number	email
20.3.18	Bundyi Aboriginal Cultural Knowledge	SB rang and left message to confirm regarding the fieldwork tomorrow and also left SR mobile number if any issues or running late etc.	email
22.03.18 & 24–28.03.18	Bundyi Aboriginal Cultural Knowledge	Mark Saddler as RAP on fieldwork	in person
22.03.18 & 23.03.18	Leeton and District LALC	Roland Williams and Warrick Williams as RAPs on fieldwork	in person
29.5.18	Narrandera Local Aboriginal Land Council	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
29.5.18	Will Carter	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
29.5.18	Lee Reavley	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
29.5.18	Lesley Houston	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
29.5.18	Bevan Bright	SB sent copy of draft report with 28 days for feedback closing 27.6.18	mail
29.5.18	Bundyi Aboriginal Cultural Knowledge	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
29.5.18	Leeton and District LALC	SB sent copy of draft report with 28 days for feedback closing 27.6.18	email
4.6.18	OEH	RH sent letter advising OEH of RAPs	email
4.6.18	Narrandera Local Aboriginal Land Council	RH sent email advising LALC of RAPs	email
8.6.18	Narrandera Local Aboriginal Land Council	SB sent amendment to draft report	email
8.6.18	Will Carter	SB sent amendment to draft report	email
8.6.18	Lee Reavley	SB sent amendment to draft report	email
8.6.18	Lesley Houston	SB sent amendment to draft report	email
8.6.18	Bevan Bright	SB sent amendment to draft report	mail
8.6.18	Bundyi Aboriginal Cultural Knowledge	SB sent amendment to draft report	email
8.6.18	Leeton and District LALC	SB sent amendment to draft report	email
12.6.18	OEH	Andrew responded to email to say the OEH have received the letter advising of RAPs and advised appropriate email address	Email
27.7.18	Leeton and District LALC	SB called Karen and left a message to call back re F/W on the 7/8/18	phone

Date	Organisation	Comment	Method
27.7.18	Leeton and District LALC	SB received a return call from Karen, Karen is happy for Roland Williams to be contacted to do FW on behalf of the LALC. Roland speaks for LALC. Will need to go through Getset. If Roland can't do Karen will organise a site officer. SB to send through letter of offer after speaking with Roland	phone
30.7.18	Leeton and District LALC	SB rang and spoke to Roland Williams - he will be available for the fieldwork on Tuesday 7th August. SB will contact Frank from Getset for insurance	phone
30.7.18	Getset	SB rang and spoke to Frank- he will organise for Roland to do the fieldwork on behalf of the LALC. SB to send through letter of offer	phone
30.7.18	Narrandera Local Aboriginal Land Council	SB sent project update letter	email
30.7.18	Will Carter	SB sent project update letter	email
30.7.18	Lee Reavley	SB sent project update letter	email
30.7.18	Lesley Houston	SB sent project update letter	email
30.7.18	Bevan Bright	SB sent project update letter	email
30.7.18	Bundyi Aboriginal Cultural Knowledge	SB sent project update letter	email
30.7.18	Leeton and District LALC	SB sent project update letter	email
31.7.18	Bundyi Aboriginal Cultural Knowledge	SB received email from Mark enquiring about fieldwork	email
1.8.18	Leeton and District LALC	SB sent invitation to fieldwork happening on 7th August 2018	email
1.8.18	Getset	SB sent invitation to fieldwork happening on 7th August 2018	email
3.8.18	Getset	SB rang and spoke to Frank- Frank confirmed that all organised	email
7.8.18	Leeton and District LALC	Courtney Davy as RAP on fieldwork	in person
8.7.18	Bundyi Aboriginal Cultural Knowledge	SB sent update to Mark re fieldwork	email

Stage 1 / Advertisement

EXPRESSION OF INTEREST

Cultural Heritage Management

OzArk Environmental & Heritage Management P/L has been engaged by SLR on behalf of the proponent Reach Solar Energy Pty Limited, and is seeking registrations of interest from Aboriginal groups or individuals of the Narrandera area, who wish to be consulted over an Aboriginal cultural heritage assessment for the proposed Novos PV Solar Project to be located south-west of Narrandera, in the Narrandera LGA, NSW.

This consultation will assist the proponent in the identification of Aboriginal cultural heritage and/or values on the project site, for the purpose of ensuring appropriate Aboriginal heritage management.

If you hold cultural knowledge relevant to determining the cultural significance of the area, please register your interest by post: OzArk EHM, PO Box 2069, Dubbo NSW 2830, email: sheridan@ozarkehm.com.au, or by phoning OzArk between 9.00am and 5.00pm week days on 02 6882 0118.

All submissions should be received no later than **5pm Wednesday 31st January 2018**.

Stage 1 / Sample Letter

OzArk Environmental & Heritage Management Pty Ltd

ABN: 58 104 523 954

15th January 2018

Mr George Tonna
NTSCORP
Level 1, 44-70 Rosehill Street
Redfern NSW 2016
gtonna@ntscorp.com.au

Dear George,

Re: Consultation for the Aboriginal Cultural Heritage Assessment for the proposed Novos PV Solar Project, Narrandera LGA.

OzArk Environmental & Heritage Management P/L is currently seeking Expressions of Interest from relevant Aboriginal groups and individuals in the Narrandera area, to form a consultation group to assist SLR Consulting Australia Pty Limited (on behalf of the Proponent - Reach Solar Energy Pty Limited), in the Aboriginal cultural heritage evaluation for the above mentioned project.

Reach Solar Energy Pty Limited intends to seek development consent under Part 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act) to develop a large solar farm known as the Novos PV Solar Project, located south-west of Narrandera in south-western NSW. The proposed development comprises approximately 3,000 hectares of agricultural land within the Narrandera LGA.

Accordingly, we are seeking Expressions of Interest from relevant Aboriginal groups and individuals in the Narrandera area, to form a consultation group. This consultation is to assist OzArk and Reach Solar in the identification of Aboriginal cultural heritage and/or values on the project site, for the purpose of ensuring appropriate management.

If your organisation can recommend and provide contact details for any known Aboriginal groups with a cultural interest in this area we can then include them in the consultation process with regards to the proposed heritage management for this proposal.

We would appreciate it if you could provide any feedback regarding these Aboriginal stakeholder groups by **5pm Tuesday 31st January 2018** or sooner if possible.

Once relevant groups and individuals have been identified, they will form part of the formal consultation process for the project.

Kind regards,

Sheridan Baker
Community Liaison

Dubbo | Queanbeyan
HEAD OFFICE: 145 Wingewarra St/PO Box 2069 DUBBO NSW 2830
ph (02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au

OzArk Environmental & Heritage Management Pty Ltd

ABN: 59 104 582 354

Location Map

Stage 2 / Sample letter of proposed survey methodology

16 February 2018

Members
Narrandera Local Aboriginal Land Council
PO Box 544
NARRANDERA NSW 2700
Nlalc14@bigpond.com

Re: Aboriginal Cultural Heritage Assessment for the proposed Yarrabee Solar Park Project, Narrandera LGA.

Dear Members,

Thank-you for your registration of interest to become a Registered Aboriginal Party (hereafter 'RAP') to be consulted over the proposed Yarrabee Solar Park Project, Narrandera LGA.

The purpose of this letter is to present information to RAPs about the proposed project and to gather information from RAPs about the cultural significance of the Study Area. RAPs are also invited to comment on the Aboriginal archaeological assessment methodology outlined below. Your input is important and will be used, wherever possible, to improve the assessment of the Study Area.

The project proponent, Reach Solar Energy (Reach) and their heritage consultants, OzArk Environmental & Heritage Management (OzArk), acknowledge that land was traditionally occupied by Aboriginal people, and we pay respect to Aboriginal beliefs, cultural heritage and the past and continued connection of Aboriginal people to the land. We also pay respect to post-contact experiences of Aboriginal people with attachment to the area.

Information about the Project

Reach is proposing the development of the Yarrabee Solar Park Project (the Project) to be located in Western NSW. The Project is a State Significant Development (SSD), under the provisions of Part 4.1 of the Environmental Planning and Assessment Act 1979 in accordance with the State Environmental Planning Policy (State and Regional Development) 2011.

OzArk have been engaged by SLR Consulting Pty Ltd (SLR) on behalf of Reach to complete an Aboriginal Cultural Heritage Assessment of the Project Area, which is located south-west of Narrandera in Western NSW, **Figure 1**.

The Project comprises the construction of a photovoltaic (PV) solar plant to be developed over approximately 2,600 hectares of the 3,000 hectares identified as the Project site, shown approximately bounded in yellow in **Figure 2**. For the purpose of this review, we will refer to the Project site as the Study Area.

Figure 1: Location of the Yarrabee Solar Park project

Figure 2: Study Area boundary shown in red.

The Study Area is primarily comprised of flat agricultural land, bounded to the east by Washpen Creek. There are several vegetated patches and sandy rises that exhibit lower levels of land use disturbance, as can be seen in **Figure 2**. It has been noted that the Study Area would sit at minimum 40 metres from Washpen Creek in the east.

The study area has overall suffered high levels of land-use disturbance in the form of clearing and ploughing, which has been occurring over much of the land for over a century.

Aboriginal Heritage Information Management System (AHIMS) search

A search of the AHIMS was undertaken over the Study Area which revealed the presence of two previously Aboriginal recorded sites outside the eastern boundary of the Study Area **(Figure 3).** Both these sites are recorded as oven mounds, and are afforded the same set of GPS coordinates, which may indicate two ovens in the one location. No report is listed for these registrations, although the site cards have been requested.

These sites were recorded in 1987 and information on them is likely to be scant. This area was not visited during a reconnaissance visit in November 2017.

Mapping places these sites on the eastern side of Washpen Creek, however considering the age of the recordings, the location may be indicative only. As such, the area west of Washpen Creek close to the Study Area should be carefully assessed for evidence of these sites.

The recording of ground ovens along the margins of Washpen Creek is not surprising as Aboriginal occupation along waterways is frequently found.

Figure 3: Location of AHIMS records in relation to the Study Area

OzArk conducted a preliminary reconnaissance visit of the study area in November 2017. As a result of this inspection, two Aboriginal sites were briefly recorded, as shown in **Figure 4,** although a more detailed assessment of these will be required, as time was very limited. I note we have not uploaded these sites to AHIMS yet as they are incomplete recordings and we plan to undertake more detailed recording during the scoped March 2018 fieldwork event.

Figure 4: Location of Aboriginal sites recorded during the reconnaissance visit.

These sites comprised:

- Yarrabee 3: A single silcrete artefact located on the edge of a remnant vegetation area
- Yarrabee 4: A single silcrete artefact located on the edge of the dam in the northwest, adjacent to the ephemeral swamp. Fragments of ochre were also identified in close proximity to this site.

Overall, the areas boxed in pink hatching on **Figure 5** show the parts of the 3000 ha project site that are thought to have the highest likelihood of revealing Aboriginal archaeological sites of significance. This is because it is these areas that have undergone lower levels of land use disturbance.

Figure 5: Areas of increased Aboriginal archaeological potential shown in pink hatching.

The proposed Aboriginal archaeological assessment methodology

The archaeological methods utilised in the Aboriginal archaeological assessment will follow the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). Standard archaeological field survey and recording methods will be employed (Burke and Smith 2004). Background research will be undertaken prior to the field assessment in order to understand the regional archaeological context and to develop a predictive model for site locations.

Preliminary predictive modelling, based upon numerous archaeological studies in various environmental zones and contexts throughout Australia, indicates a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including: plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural significance. Consequently, sites tend to be found along permanent and ephemeral water sources, along access or trade routes, and in areas that have good flora/fauna resources and appropriate topography (i.e. flat or gently sloping landforms) or shelter.

Generally, more durable materials such as stone artefacts, stone hearths, shell, and some bones remain preserved in the present-day landscape. However, these may not be found in their original depositional context due to: (a) the effects of wind and water erosion/transport over short and long time scales; and (b) the historical impacts of European farming practices including (e.g. grazing and cropping; land degradation associated with exotic pests such as goats and rabbits; and the

installation of farm related infrastructure including water-storage, irrigation, utilities, roads, fences, stockyards and residential quarters).

As such, greater Aboriginal archaeological potential tends to exist on landforms within 200 metres of permanent and ephemeral water sources, along access or trade routes, and areas with suitable flora/fauna and shelter. Archaeological potential is reduced on landforms disturbed by erosion and historical impacts (e.g. farming and infrastructure installation).

During the field assessment, greater survey effort will be expended on landforms deemed to have greater Aboriginal archaeological potential (**Figure 5**). 'Full pedestrian survey' refers to systematic transects walked by surveyors spaced approximately 20 metres apart throughout the landform or area being surveyed. 'Targeted pedestrian survey' refers to transects walked by surveyors spaced approximately 20 metres apart that do not cover the entire landform or area.

As such, the field assessment will include:

- The whole Study Area will be assessed via pedestrian survey.
- Full pedestrian survey will occur in areas with minimal disturbance and good ground surface visibility within landforms possessing Aboriginal archaeological potential. A focus of the survey will be: raised areas within any floodplain (e.g. point bar deposits and levees); areas within 200 metres of any floodplain; areas within 200 metres of major waterways, and ephemeral watercourses; sandy rises and wetland / swamp features. **Figure 5** shows areas of increased Aboriginal archaeological potential. These areas will be updated with the refinement of the predictive model, input from RAPs, and in accordance with field observations made during the assessment.
- Targeted pedestrian survey will occur in all other areas – i.e. areas more than 200 metres from watercourses; areas with poor ground surface visibility; landforms with low archaeological potential; and areas with significant prior disturbance.
- All trees impacted by the proposal and with the potential to contain Aboriginal scarring will be inspected.
- Some areas may not be physically surveyed if RAPs and OzArk staff agree they are too disturbed, or possess a very low likelihood of sites.
- Requests for survey within areas of low archaeological potential and/or significant prior disturbance will be accommodated where there is consensus among RAPs, and where an explanation can be provided; where RAPs disagree, OzArk staff will attempt to accommodate these requests if feasible within project timelines.
- RAPs and OzArk staff will discuss whether impacts to sites can be avoided; where impacts cannot be avoided, specific management recommendations will be discussed.
- Areas outside of the Study Area will not be physically surveyed.

In the field, OzArk staff will identify, record and evaluate physical (i.e. archaeological) evidence. Site recording will capture all of the information required to complete current AHIMS site recording forms

(e.g. site location, site boundary, site plan, representative photographs, artefact recording and feature recording). RAPs will participate in the survey, identifying Aboriginal objects, determining the cultural significance of Aboriginal objects and identifying cultural places or non-physical site types within the Study Area. OzArk staff understand that cultural knowledge may not be provided in some instances due to cultural sensitivities (e.g. men's and/or women's places). Under these circumstances, in order to assess the potential impacts, OzArk staff will need to be told, only in general terms, why a particular place is important, and what the significance of the impact will be. OzArk staff will liaise with RAPs on a case-by-case basis to determine how to record the location in a culturally sensitive manner. OzArk staff will try to ensure that field assessments are completed in the time budgeted, and emphasise that only the Study Area is to be assessed at all times.

Production of the Aboriginal cultural heritage assessment report

OzArk staff will prepare a draft Aboriginal cultural heritage assessment report based on the field survey, including comments from RAPs (if any have been provided) and RAP assessments of the cultural significance of the Study Area and any recorded sites. Critical timelines and milestones for the completion of the assessment and delivery of reports will adhere to the timeframes outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs; DECCW 2010a).

OzArk staff understand that RAPs may not want culturally sensitive information to appear in the report. In these cases, we will need to work together to communicate information to the Proponent in a way that is culturally sensitive. As such, it will be beneficial for discussions to take place between the OzArk staff members drafting the report and knowledge holders with respect to the communication of culturally sensitive information. The report will then be sent to the Proponent for review. Once approved for release, RAPs will be invited to review the draft report and provide formal comment within the ACHCR timeframes. Feedback will be incorporated into the final report and provided as an appendix for the determining authority to independently review. A copy of the final report will be provided to each stakeholder group prior to the Proponent submitting it to the relevant authorities.

Service provision by RAPs

An archaeological team comprising RAPs and OzArk staff will be assembled to undertake a physical survey of the Study Area over the **eight** allocated days. The logistics, team composition and number will be determined via discussions between OzArk staff, RAPs and the Proponent. We will work over a weekend so that two separate mobilisations are not required. All RAPs will be provided with opportunities to comment on the project, but only a limited number of RAP positions for field assessments will be available. Selection of service providers will emphasise knowledge holders and those able to speak for country within the Study Area. Each group must provide proof of valid and current workers compensation insurances prior to being formally offered a fieldwork position. Where such proof cannot be provided, the group may be referred to a third-party employer. Where more people than positions are available, a rostering system may be employed.

Feedback on the proposed methodology and on the cultural significance of the Study Area

OzArk is required to give you 28 days to review and provide feedback on the proposed Aboriginal archaeological assessment methodology. This period closes on **16th March 2018 at 5pm.** In addition, OzArk invites you to comment on the Aboriginal cultural heritage significance of the proposed Study Area, including:

- Any protocols that RAPs wish to be incorporated into the information gathering process and assessment methodology

- Any other matters, including issues or areas of cultural significance that might affect, inform or refine the assessment methodology.
- Any Aboriginal objects of cultural value to Aboriginal people in the Study Area.
- Any places of cultural value to Aboriginal people in the Study Area, including: places with social, spiritual and cultural value; historic places with cultural significance; and potential places/areas of historic, social, spiritual and/or cultural significance.
- Any protocols that RAPs wish to be implemented in the sourcing and holding of cultural information, including sensitive information, and information with restricting public access.
- Any management options, including how to avoid or mitigate harm and/or conserve Aboriginal objects or places.

We welcome this input to ensure Aboriginal cultural values are considered prior to the field assessment to ensure adequate preparation. Input is invited from representatives at any stage of the project.

Should you need any help supplying feedback or have any queries, please do not hesitate to contact our office (phone: 02 6882 0118; or email: sheridan@ozarkehm.com.au).

Kind regards,

Dr Jodie Benton
Director

OzArk Environmental & Heritage Management Pty Ltd
PO Box 2069 DUBBO 2830
P: 02 6882 0118; F: 02 6882 0630; M: 0403 763 504
jodie@ozarkehm.com.au; www.ozarkehm.com.au

OzArk and staff respectfully acknowledge the Traditional Owners and Custodians of the country on which we work.

References

Burke, Heather and Claire Smith
2004 *The Archaeologist's Field Handbook*. Sydney: Allen & Unwin.

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

DECCW
2010b *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. Sydney: Department of Environment, Climate Change and Water.

Stage 2 / Addendum for survey methodology

16 February 2018

Members
Narrandera Local Aboriginal Land Council
PO Box 544
NARRANDERA NSW 2700
Nlalc14@bigpond.com

Re: Aboriginal Cultural Heritage Assessment methodology (addendum) for the proposed Yarrabee Solar Park Project, Narrandera LGA.

Dear Members,

Following consultation with the Office of Environment and Heritage (OEH) regarding the proposed methodology for the Yarrabee Solar Park Project at Narrandera sent 16 February 2018, OEH have requested that further clarification be provided to all Registered Aboriginal parties (RAPs) regarding the following:

- Figure 5, highlighting the areas of potential Aboriginal heritage sensitivity, provided in the original methodology is indicative only. The area surrounding Washpan Creek with increased archaeological potential is considered to be within 200 metres of the watercourse.
- Requirement 5a of the Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (CoP) states the following:

  Survey sampling strategy: Sample must include all landforms that will be potentially be impacted. Each landform that will be potentially impacted will be need to be subject to sample survey as a minimum.

  The survey will sample all landforms present within the study area, however, in areas deemed to have lower archaeological potential i.e. areas more than 200 metres from watercourses; areas with poor ground surface visibility; and areas with significant prior disturbance, the survey effort will not be as intensive as it will be in areas deemed to have high archaeological potential where full systematic survey will be completed.

- Requirement 5b of the CoP states the following:

  The archaeological survey must be carried out using accurately defined and named survey units. Other requirements include taking representative photographs, recording landform and general soil information and survey coverage (see Requirement 9) to calculate survey effectiveness. See also the survey units requirement 5c.

  Data will be captured during the field survey for all assessed landforms. This will include ground surface exposures and ground surface visibility and the environmental context.

- Requirement 5c of the CoP states the following:

  The archaeological survey, using survey units, must record the beginning and end points of transects or boundaries of survey units as otherwise defined and record the spacing between survey personnel.

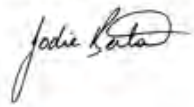
The beginning and end of transects, or survey unit boundaries, must be defined by landform boundary, subject area boundary, harm area boundary, significant change in survey conditions or other arbitrary termination.

A GPS will be utilised during the survey to record the transects completed by the two archaeologists. The pedestrian transects captured during the survey will be mapped against the landform boundaries to highlight the survey efficiency of the fieldwork.

Should you have any questions on the information provided above or need any help supplying feedback or have any queries, please do not hesitate to contact our office (phone: 02 6882 0118; or email: sheridan@ozarkehm.com.au).

Please note that the closing date has not been altered. This period closes on 16th March 2018 at 5pm.

Kind regards,

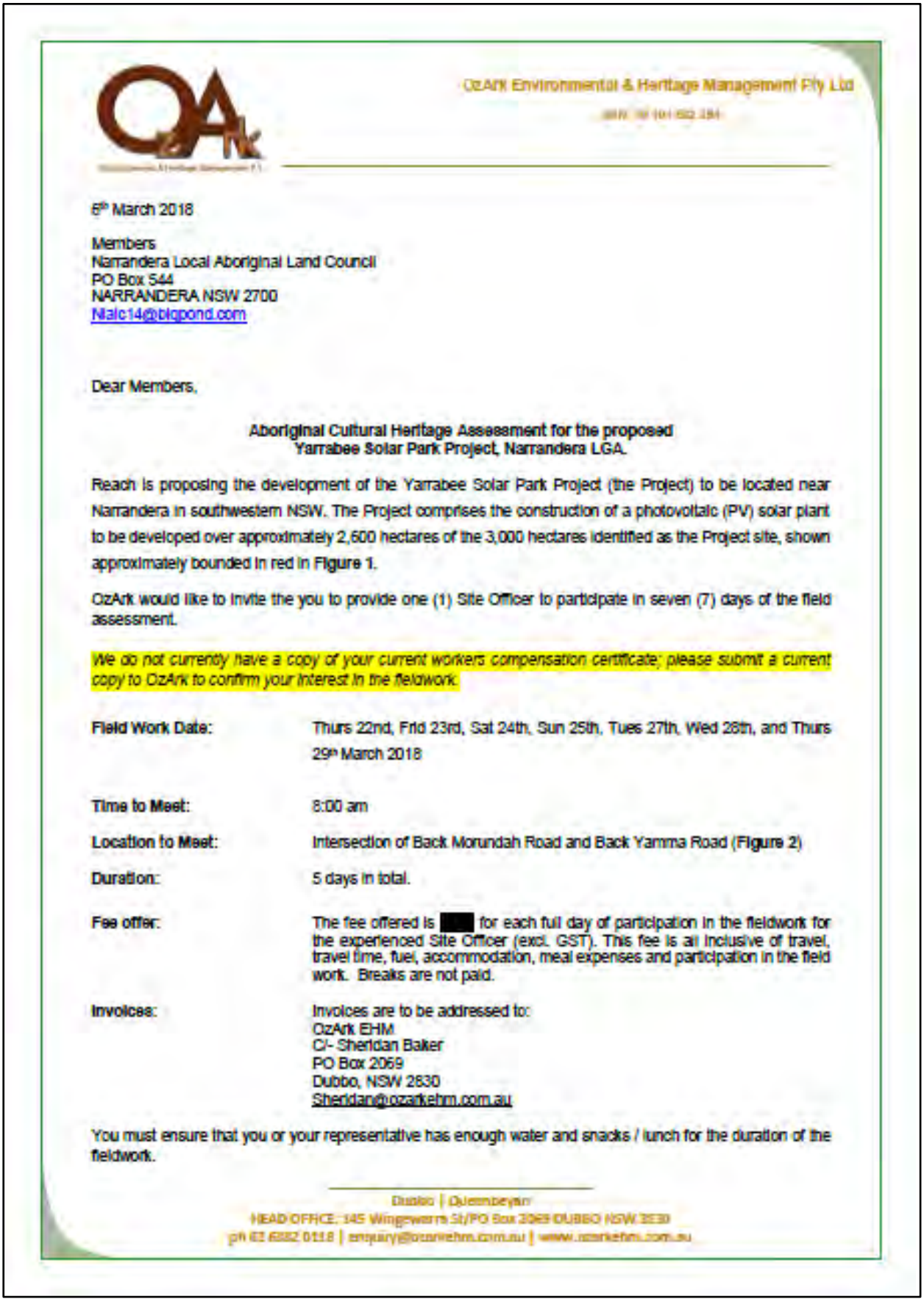


Dr Jodie Benton
Director

OzArk Environmental & Heritage Management Pty Ltd
PO Box 2069 DUBBO 2830
P: 02 6882 0118; F: 02 6882 0630; M: 0403 763 504
jodie@ozarkehm.com.au; www.ozarkehm.com.au

OzArk and staff respectfully acknowledge the Traditional Owners and Custodians of the country on which we work.

Invitation to Fieldwork (study area)



OzArk Environmental & Heritage Management Pty Ltd

6th March 2018

Members
Narrandera Local Aboriginal Land Council
PO Box 544
NARRANDERA NSW 2700
Nlalc14@bigpond.com

Dear Members,

Aboriginal Cultural Heritage Assessment for the proposed Yarrabee Solar Park Project, Narrandera LGA

Reach is proposing the development of the Yarrabee Solar Park Project (the Project) to be located near Narrandera in southwestern NSW. The Project comprises the construction of a photovoltaic (PV) solar plant to be developed over approximately 2,600 hectares of the 3,000 hectares identified as the Project site, shown approximately bounded in red in **Figure 1**.

OzArk would like to invite the you to provide one (1) Site Officer to participate in seven (7) days of the field assessment.

We do not currently have a copy of your current workers compensation certificate; please submit a current copy to OzArk to confirm your interest in the fieldwork.

Field Work Date:	Thurs 22nd, Frid 23rd, Sat 24th, Sun 25th, Tues 27th, Wed 28th, and Thurs 29th March 2018
Time to Meet:	8:00 am
Location to Meet:	Intersection of Back Morundah Road and Back Yamma Road (**Figure 2**)
Duration:	5 days in total.
Fee offer:	The fee offered is [redacted] for each full day of participation in the fieldwork for the experienced Site Officer (excl. GST). This fee is all inclusive of travel, travel time, fuel, accommodation, meal expenses and participation in the field work. Breaks are not paid.
Invoices:	Invoices are to be addressed to: OzArk EHM C/- Sheridan Baker PO Box 2069 Dubbo, NSW 2830 Sheridan@ozarkehm.com.au

You must ensure that you or your representative has enough water and snacks / lunch for the duration of the fieldwork.

Dubbo | Queanbeyan
HEAD OFFICE: 145 Wingewarra St/PO Box 2069 DUBBO NSW 2830
ph 02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au

Personal Protective Equipment (PPE) – your Site Officer will need:

- Long pants and long sleeve shirt;
- High visibility safety shirt / vest;
- Enclosed, sturdy footwear;
- Water / Sunscreen / Hat.

You or your representative must be physically fit and will need to identify if you have any medical conditions / allergies that should be known to other people participating in the fieldwork in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose a WH&S risk to themselves or others.

Please note, if you are a sending a representative who has any underlying medical conditions or severe allergies, it is important that they have on their person appropriate treatment such as asthma inhalers or EpiPens and notify us accordingly.

As previously noted due to NSW WH&S legislation we need to have on record current Workers Compensation insurances before going into the field. Unfortunately we will NOT be able to allow participation in the fieldwork without seeing your current **Workers Compensation Certificate of Currency**. These can be emailed through to sheridan@ozarkehm.com.au.

Please advise our office by **Wednesday 14th March 2018**, if you are available and wish to participate in the meetings and fieldwork day. After this date, if we have not heard from you, we will either proceed with the survey with the OzArk archaeologist only, or offer this position to other relevant groups.

If you have any feedback or relevant cultural heritage knowledge that you would like to offer, please discuss with the archaeologist during the fieldwork or contact our office.

Should you have any queries in relation to the enclosed information please do not hesitate to contact our office.

Kind regards,

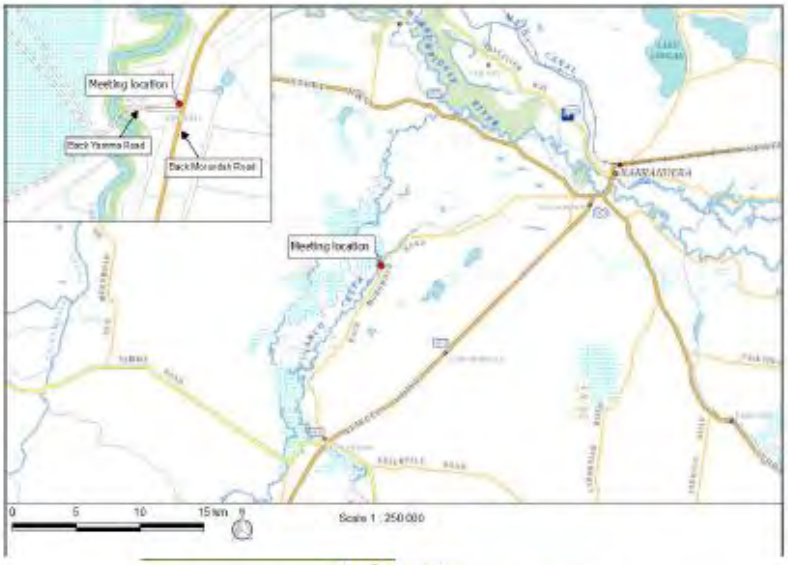
Sheridan Baker
Consultation Officer

Figure 1: Proposed Study Area

OzArk Environmental & Heritage Management Pty Ltd

ABN: 59 104 082 354

Figure 2: Proposed meeting location.



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ph 02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au

Stage 4 / Example letter asking for feedback and comments on ACHAR

28.5.18

Members
Narrandera Local Aboriginal Land Council
PO Box 544
NARRANDERA NSW 2700
Nlalc14@bigpond.com

Dear Members,

RE: DRAFT Aboriginal Cultural Heritage Assessment for the Yarrabee PV Solar Project, near Narrandera, NSW.

Thank-you for your continued participation as a Registered Aboriginal Party (RAP) and involvement in the above mentioned project.

Reach Solar Energy Pty Ltd would like to offer you the opportunity to provide feedback on the draft report that has been undertaken in accordance with stage four (4) of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCR).

As per the ACHCRs we are required to give you twenty eight (28) days to supply feedback on the attached documents. This period closes on the **Wednesday 27 June 2018.** Should our office not be contacted within this time frame, we will presume that you are satisfied with the contents of the report as it stands.

Should you need any help supplying feedback or have any queries, please do not hesitate to contact our office.

Kind regards,

Sheridan Baker
Consultation Officer

Stage 4 / Example letter summarising amendments of ACHAR

8th June 2018

[redacted]
Narrandera NSW 2700

Re: Aboriginal Cultural Heritage Assessment for the proposed Yarrabee Solar Park Project, Narrandera LGA.

Dear [redacted],

We are writing to you to advise of some slight changes to the Aboriginal Cultural Heritage Assessment Report for the Yarrabee PV Solar Project, near Narrandera. These minor amendments are due to the client wanting to minimise impact to Aboriginal cultural heritage. To do this the impact footprint has been slightly adjusted around the eastern edge of the Project Area (to the west of Washpen Creek) so all sites are now outside the impact footprint of the solar arrays. Please note, there are six sites on existing access tracks which will be still be impacted due to planned use of these tracks. The management recommendations of these six sites has not been altered.

Specific changes in Section 5.9:

- Impact to sites 49-5-0158, 49-5-0159 and 49-5-0154 is now being avoided.
  - Text and Table 5-8 has been updated to reflect this.
- Four new maps have been included for clarity showing:
  - The overall impact footprint within study area in relation to the sites
  - Detailed (zoomed) maps for the western, central and eastern section of the study area with the impact footprint in relation to sites.

Specific changes in Section 6.0:

- Table 6-1 has been updated to reflect that three sites are now not being impacted.

Please do not hesitate to contact our office if you have any questions.

Have a safe long weekend.

Kind regards,

Sheridan Baker
Community Liaison
OzArk Environmental & Heritage Management Pty Ltd
PO Box 2069 DUBBO 2830
P: 02 6882 0118; F: 02 6882 0630;
sheridan@ozarkehm.com.au; www.ozarkehm.com.au

OzArk and staff respectfully acknowledge the Traditional Owners and Custodians of the country on which we work.

Example of Project Update letter

OzArk Environmental & Heritage Management Pty Ltd

ABN: 69 104 822 854

30th July 2018

[redacted]

Update: Yarrabee PV Solar Project, near Narrandera, NSW.

Dear Members,

We are writing to you to advise of minor changes to the Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Yarrabee PV Solar Project, near Narrandera. As part of the Yarrabee Solar Project Environmental Impact Statement (EIS) submission, the Department of Planning and Environment (DPE) require further archaeological assessment to be undertaken along access routes to the Project Area (see **Figure 1**). These routes were initially excluded from assessment as they consist of existing tracks used for heavy farm machinery and because there are currently no plans to upgrade the tracks.

The access routes to the project area will be utilising the following tracks:

- From Old Morundah Road to the southwest corner of the project area (western track) and
- From Back Morundah Road to the southeast corner of the project area (eastern track).

These routes will be assessed using pedestrian survey over a 10m corridor where the natural ground surface is visible (i.e. not covered in imported fill) by a RAP representative and an OzArk archaeologist. Where there has been imported fill added to the tracks that obscures the natural ground surface, these areas will be traversed and ground truthed via vehicle. Following the survey, the results will be incorporated into the existing ACHAR and management recommendations. A copy of the updated ACHAR will be forwarded to all RAPs.

Please do not hesitate to contact our office if you have any questions.

Kind regards,

Sheridan Baker

Community Liaison Officer

Dubbo | Queanbeyan
HEAD OFFICE: 145 Wingewarra St/PO Box 2069 DUBBO NSW 2830
02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au


OzArk Environmental & Heritage Management Pty Ltd
Figure 1: Western and eastern access tracks to be assessed. Main project area outlined in red.
Tracks to be assessed (highlighted in yellow)
SLR
Proposed Access Routes
Dubbo | Queanbeyan
HEAD OFFICE: 145 Wingewarra St/PO Box 2069 DUBBO NSW 2830
02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au

Invitation to Fieldwork (access roads)

1st August 2018

Members

[redacted]

Dear Members,

Aboriginal Cultural Heritage Assessment for the proposed Yarrabee Solar Park Project, Narrandera LGA.

Reach is proposing the development of the Yarrabee Solar Park Project (the Project) to be located near Narrandera in southwestern NSW. The Project comprises the construction of a photovoltaic (PV) solar plant to be developed over approximately 2,600 hectares of the 3,000 hectares identified as the Project site, shown approximately bounded in red in Figure 1.

OzArk would like to invite you to provide one (1) Site Officer to participate in one (1) day of field assessment.

We do not currently have a copy of your current workers compensation certificate: please submit a current copy to OzArk to confirm your interest in the fieldwork.

Field Work Date:	Tuesday 7th August 2018
Time to Meet:	8:00 am
Location to Meet:	Intersection of Back Moundah Road and Back Yamma Road (**Figure 2**)
Duration:	One full day
Fee offer:	The fee offered is $[redacted] for the full day of participation in the fieldwork for the experienced Site Officer (excl. GST). This fee is all inclusive of travel, travel time, fuel, accommodation, meal expenses and participation in the field work. Breaks are not paid.
Invoices:	Invoices are to be addressed to: OzArk EHM C/- Sheridan Baker PO Box 2069 Dubbo, NSW 2830 Sheridan@ozarkehm.com.au

You must ensure that you or your representative has enough water and snacks / lunch for the duration of the fieldwork.

Personal Protective Equipment (PPE) – your Site Officer will need:

- Long pants and long sleeve shirt;
- High visibility safety shirt / vest;
- Enclosed, sturdy footwear;
- Water / Sunscreen / Hat.

You or your representative must be physically fit and will need to identify if you have any medical conditions / allergies that should be known to other people participating in the fieldwork in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose a WH&S risk to themselves or others.

Please note, if you are a sending a representative who has any underlying medical conditions or severe allergies, it is important that they have on their person appropriate treatment such as asthma inhalers or EpiPens and notify us accordingly.

As previously noted due to NSW WH&S legislation we need to have on record current Workers Compensation insurances before going into the field. Unfortunately we will **NOT** be able to allow participation in the fieldwork without seeing your **current Workers Compensation Certificate of Currency.** These can be emailed through to sheridan@ozarkehm.com.au. Please note that if you are unable to send a representative from your organisation, we will proceed with the fieldwork with the OzArk archaeologist only.

If you have any feedback or relevant cultural heritage knowledge that you would like to offer, please discuss with the archaeologist during the fieldwork or contact our office.

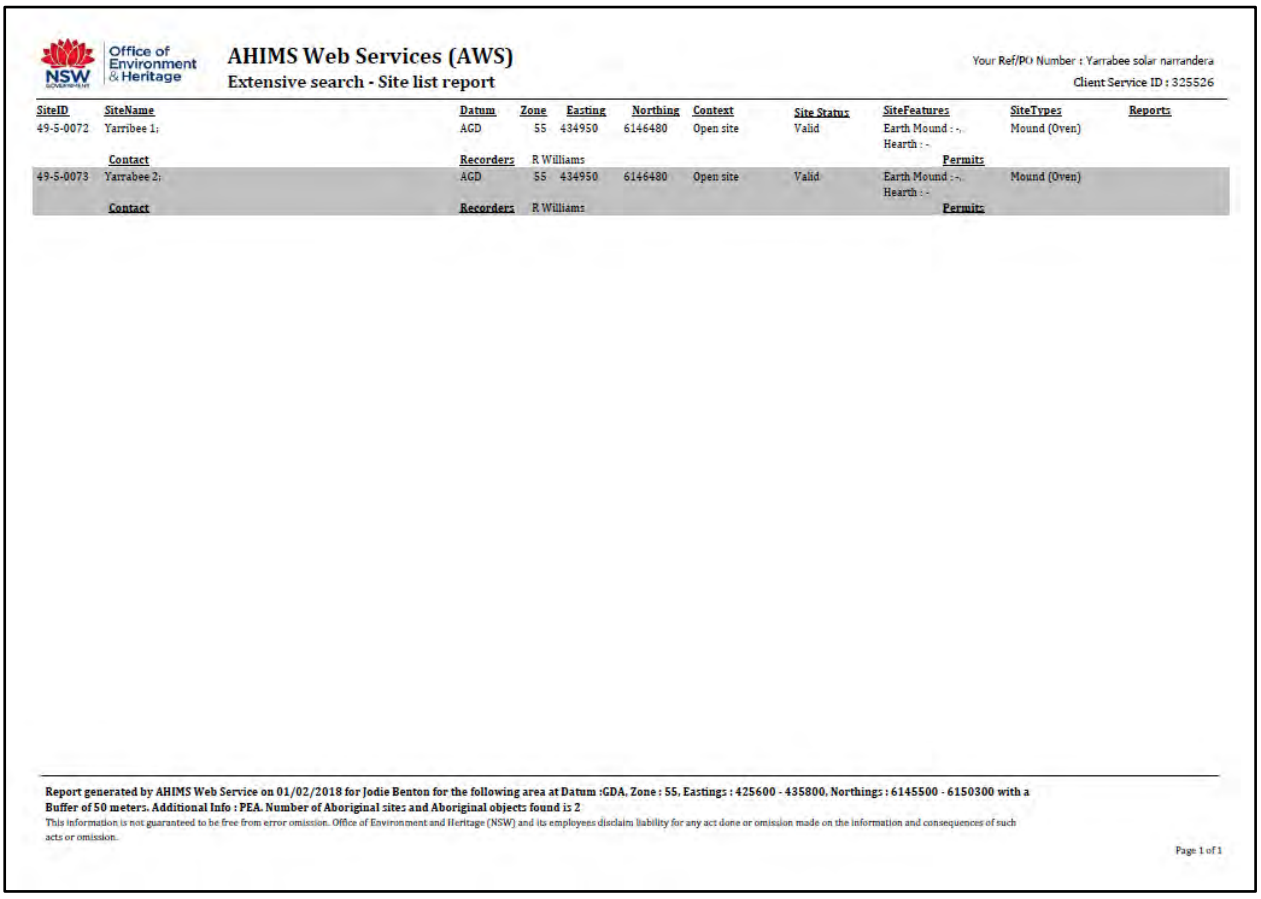
Should you have any queries in relation to the enclosed information please do not hesitate to contact our office.

Kind regards,

Sheridan Baker
Consultation Officer

APPENDIX 2: AHIMS EXTENSIVE SEARCHES

1 February 2018



Office of Environment & Heritage

AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Yarrabee solar narrandera
Client Service ID : 325526

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0072	Yarribee 1;	AGD	55	434950	6146480	Open site	Valid	Earth Mound : -, Hearth : -	Mound (Oven)	
	Contact	Recorders	R Williams					Permits		
49-5-0073	Yarrabee 2;	AGD	55	434950	6146480	Open site	Valid	Earth Mound : -, Hearth : -	Mound (Oven)	
	Contact	Recorders	R Williams					Permits		

Report generated by AHIMS Web Service on 01/02/2018 for Jodie Benton for the following area at Datum :GDA, Zone : 55, Eastings : 425600 - 435800, Northings : 6145500 - 6150300 with a Buffer of 50 meters. Additional Info : PEA. Number of Aboriginal sites and Aboriginal objects found is 2

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Page 1 of 1

2 May 2018

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1689
Client Service ID : 342391

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0072	Yarribee 1;	AGD	55	434950	6146480	Open site	Valid	Earth Mound : -, Hearth : -	Mound (Oven)	
	Contact	Recorders	R Williams					Permits		
49-5-0073	Yarrabee 2;	AGD	55	434950	6146480	Open site	Valid	Earth Mound : -, Hearth : -	Mound (Oven)	
	Contact	Recorders	R Williams					Permits		
49-5-0062	Cuddell;Warilba;	AGD	55	436877	6147167	Open site	Valid	Artefact : -, Burial : -	Burial/s,Open Camp Site	
	Contact	Recorders	D Ingram,R Williams					Permits		
49-5-0112	EPPC-H1	GDA	55	431234	6155751	Open site	Valid	Hearth : -		
	Contact	Recorders	Mr.NICHOLAS HARROP					Permits		
49-5-0113	EPPC-ST2	GDA	55	430843	6155957	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.NICHOLAS HARROP					Permits		
49-5-0114	EPPC-ST1	GDA	55	430534	6154983	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.NICHOLAS HARROP					Permits		
49-5-0122	Euroley Poultry Production Complex Scarred Tree #4 (EPPC-ST4)	GDA	55	431691	6155971	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	OzArk Environmental and Heritage Management,Miss.Stephanie Rusden					Permits		
49-5-0123	Euroley Poultry Production Complex Scarred Tree #5 (EPPC-ST5)	GDA	55	431825	6156131	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	OzArk Environmental and Heritage Management,Miss.Stephanie Rusden					Permits		
49-5-0124	Euroley Poultry Production Complex Scarred Tree #3 (EPPC-ST3)	GDA	55	430362	6154687	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	OzArk Environmental and Heritage Management,Miss.Stephanie Rusden					Permits		
49-5-0127	Warilba Scar Tree 2	GDA	55	436536	6153186	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0128	Warilba Scar Tree 4	GDA	55	438698	6153526	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		

Report generated by AHIMS Web Service on 02/05/2018 for Alyce Cameron for the following area at Search using :shape-file Buffer.SHP with a buffer of 0 meters. Additional Info : ACHAR assessment. Number of Aboriginal sites and Aboriginal objects found is 56

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Page 1 of 5

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1689
Client Service ID : 342391

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0129	Warilba Scar Tree 3	GDA	55	436876	6153184	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0130	Yarabee TSR Scar Tree 21	GDA	55	434328	6139407	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0131	Yarabee TSR Scar Tree 22	GDA	55	434332	6139410	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0132	Yarabee TSR Scar Tree 20	GDA	55	434320	6139405	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0133	Yarabee TSR Scar Tree 23	GDA	55	434288	6139386	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0134	Yarabee TSR Scar Tree 26	GDA	55	434194	6139397	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0135	Yarabee TSR Scar Tree 25	GDA	55	434194	6139388	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0136	Yarabee TSR Scar Tree 24	GDA	55	434174	6139349	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0137	Yarabee TSR Scar Tree 19	GDA	55	434314	6139375	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0138	Yarabee TSR Scar Tree 15	GDA	55	435567	6139825	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		

Report generated by AHIMS Web Service on 02/05/2018 for Alyce Cameron for the following area at Search using :shape-file Buffer.SHP with a buffer of 0 meters. Additional Info : ACHAR assessment. Number of Aboriginal sites and Aboriginal objects found is 56

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

Page 2 of 5

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1689
Client Service ID : 342391

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0139	Yarabee TSR Scar Tree 16	GDA	55	434521	6139501	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0140	Yarabee TSR Scar Tree 17	GDA	55	434528	6139533	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0141	Yarabee TSR Scar Tree 18	GDA	55	434301	6139406	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Peter Ingram					Permits		
49-5-0161	Yarrabee 429165	GDA	55	429165	6148957	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0162	Yarrabee 429163	GDA	55	429163	6149017	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0163	Yarrabee 429465	GDA	55	429465	6148664	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0164	Yarrabee 429603	GDA	55	429603	6148885	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0165	Yarrabee 429155	GDA	55	429155	6148890	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0166	Yarrabee 429166	GDA	55	429166	6148877	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0167	Yarrabee 429145	GDA	55	429145	6148881	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0168	Yarrabee 429158	GDA	55	429158	6148863	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0169	Yarrabee 428885	GDA	55	428885	6148355	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0170	Yarrabee 428931	GDA	55	428931	6148323	Open site	Valid	Aboriginal Resource and Gathering : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0171	Yarrabee 428939	GDA	55	428939	6148312	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		

Report generated by AHIMS Web Service on 02/05/2018 for Alyce Cameron for the following area at Search using shape-file Buffer.SHP with a buffer of 0 meters. Additional Info : ACHAR assessment. Number of Aboriginal sites and Aboriginal objects found is 56

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1689
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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0172	Yarrabee 428970	GDA	55	428970	6148301	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0173	Yarrabee 428974	GDA	55	428974	6148287	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0174	Yarrabee 429048	GDA	55	429048	6148273	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0175	Yarrabee 429033	GDA	55	429033	6148276	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0176	Yarrabee 429010	GDA	55	429010	6148273	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0177	Yarrabee 429050	GDA	55	429050	6148269	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0178	Yarrabee 429028	GDA	55	429028	6148259	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0179	Yarrabee 429032	GDA	55	429032	6148259	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0184	Yarrabee 426967	GDA	55	426967	6148830	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0180	Yarrabee 427045	GDA	55	427045	6148988	Open site	Valid	Aboriginal Resource and Gathering : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0181	Yarrabee 427541	GDA	55	427541	6147701	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0182	Yarrabee 427407	GDA	55	427407	6147591	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0183	Yarrabee 427254	GDA	55	427254	6148974	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0153	Yarrabee 435827	GDA	55	435827	6148759	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		

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Extensive search - Site list report

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-5-0154	Yarrabee 435595	GDA	55	435595	6147625	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0155	Yarrabee 435611	GDA	55	435611	6147840	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0156	Yarrabee 435740	GDA	55	435740	6147777	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0157	Yarrabee 435751	GDA	55	435751	6147614	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0158	Yarrabee 434700	GDA	55	434700	6146427	Open site	Valid	Artefact :-		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0159	Yarrabee 434683	GDA	55	434683	6146429	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Mr.Mark Saddler					Permits		
49-5-0160	Yarrabee 430457	GDA	55	430357	6148269	Open site	Valid	Artefact :-		
	Contact	Recorders	Mr.Mark Saddler					Permits		

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APPENDIX 3: UNANTICIPATED FINDS PROTOCOL

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

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

Protocol to be followed in the event that previously unrecorded or unanticipated Aboriginal object(s) are encountered:

1. If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:
    a. Not further harm the object;
    b. Immediately cease all work at the particular location;
    c. Secure the area so as to avoid further harm to the Aboriginal object;
    d. Notify OEH as soon as practical on 131 555, providing any details of the Aboriginal object and its location; and
    e. Not recommence any work at the particular location unless authorised in writing by OEH.
2. In the event that Aboriginal burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.
3. Cooperate with the appropriate authorities and relevant Aboriginal community representatives to facilitate:
    a. The recording and assessment of the find(s);
    b. The fulfilment of any legal constraints arising from the find(s), including complying with OEH directions; and
    c. The development and implementation of appropriate management strategies, including consultation with stakeholders and the assessment of the significance of the find(s).
4. Where the find(s) are determined to be Aboriginal object(s), recommencement of work in the area of the find(s) can only occur in accordance with any consequential legal requirements and after gaining written approval from OEH (normally an Aboriginal Heritage Impact Permit).