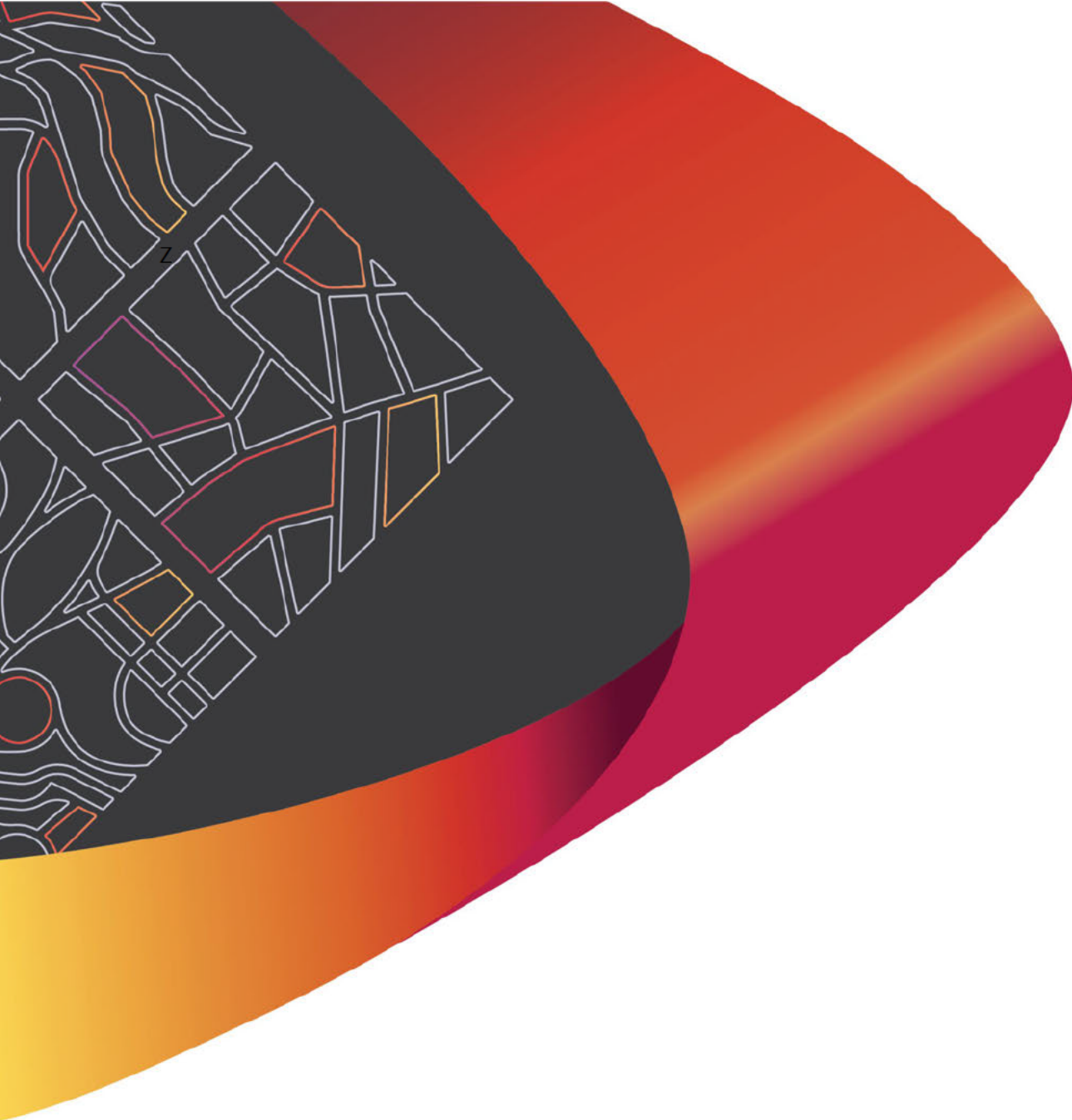




ACENERGY PTY LTD

Yanco Battery Energy Storage System

ABORIGINAL CULTURAL HERITAGE ASSESSMENT



Report No: 223155

Rev: 001E

18 February 2025

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ACKNOWLEDGEMENT

Premise would like to acknowledge the Traditional Custodians of the Leeton region and pay respect to the Elders, both past and present, of the Wiradjuri Nation. We recognise the Wiradjuri people/s ongoing spiritual connection with the land and respect their cultural heritage and beliefs.

**INFORMATION HAS BEEN REMOVED FROM THIS REPORT FOR ISSUE INTO THE
PUBLIC DOMAIN DUE TO SENSITIVE CONTENT WITH RESPECT TO ABORIGINAL
CULTURAL HERITAGE**

ABBREVIATIONS

Abbreviation	Abbreviated term
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
ACHCRs	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents.</i>
BESS	Battery Energy Storage System
Code of Practice	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> under Part 6 NPW Act. Issued by DECCW in 2010, the Code of Practice is a set of guidelines that allows limited test excavation without the need to apply for an AHIP. The test excavation program for this assessment was conducted under the Code of Practice.
DECCW	Department of Environment Climate Change and Water
DPE	NSW Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act
GSE	Ground surface exposure
GSV	Ground surface visibility
ha	hectares
LALC	Local Aboriginal Land Council
LLEP	<i>Leeton Local Environmental Plan 2014</i>
LGA	Local Government Area
LSC	Leeton Shire Council
MW	Megawatt
NPW Act	NPW Act National Parks and Wildlife Act 1974. Primary legislation governing Aboriginal cultural heritage within NSW.

Abbreviation	Abbreviated term
OEH	Office of Environment and Heritage (now Heritage NSW)
PAD	Potential archaeological deposit. Indicates that a particular location has potential to contain subsurface archaeological deposits, although no Aboriginal objects are visible.
SEARS	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SSD	State Significant Development
SSDA	State Significant Development Application

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EXECUTIVE SUMMARY

Premise Australia Pty Ltd (Premise) have been commissioned by ACenergy to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support a State Significant Development Application (SSDA).

ACenergy is proposing to develop an approximately 250 megawatt (MW) Battery Energy Storage System (BESS) on Lots 516 and 521 DP 751745 at 120 Houghton Road in Yanco, NSW, 2703. The development site is situated in the northeastern extent of this larger land holding, comprising an area of approximately 10.3 hectares (ha), hereafter referred to as the 'development site'. The site is located in the Leeton Local Government Area (LGA). The development is known as the Yanco Battery Energy Storage System (Yanco BESS) (SSD-67478479).

Premise are preparing an Environmental Impact Statement (EIS) for the proposed development and have been engaged by ACenergy to prepare an ACHAR to accompany the EIS. An archaeological field survey was undertaken on 12 March 2024 by a team of two (2) archaeologists, two (2) RAPs and a representative of ACenergy.

It was found that:

- > One previously recorded Aboriginal Heritage Information Management System (AHIMS) sites is located in close proximity to the proposed development site [REDACTED]
- > No newly recorded Aboriginal sites were recorded during the archaeological survey.
- > The remainder of the study area is considered to have been subject to moderate levels of disturbance through historical irrigated cropping, infrastructure and road construction.
- > The study area demonstrates low archaeological potential.
- > No further archaeological investigations are required.

The following recommendations are made:

- > A proposed 10 m buffer is to be implemented around the previously identified [REDACTED] site so as to avoid any impacts to this item.
- > Prior to works commencing a Chance Finds Protocol (CFP) is to be developed for the site. The CFP must include the procedure and management of unexpected finds relevant to Aboriginal cultural heritage.
- > The CFP must include procedures for:
 - notifying Heritage NSW, a heritage consultant and RAPs or the Local Aboriginal Land Council (LALC) where unexpected finds are identified; and
 - If suspected human remains are located during any stage of the proposed works, work must stop immediately, and the NSW Police notified. An Archaeologist or Physical Anthropologist should be contacted in the first instance where there is uncertainty whether the remains are human.
- > All impacts must remain within the assessed study area or further archaeological investigation may be required.

1. INTRODUCTION

1.1 Project Background

ACEnergy Pty Ltd (ACEnergy) are proposing to develop a Battery Energy Storage System (BESS) on Lots 516 and 521 DP 751745 at 120 Houghton Road in Yanco, NSW, 2703.

Premise Australia Pty Ltd (Premise) have been engaged by ACEnergy to prepare an Environmental Impact Statement (EIS) to support the State Significant Development Application (SSDA). The development is known as the Yanco Battery Energy Storage System (Yanco BESS) (SSD-67478479). An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared to accompany the EIS.

The BESS has an estimated energy output of 250 MW/1,100 MW per hour and proposed works will also include the construction of BESS containers, medium voltage power stations (MVPS), control rooms and a dedicated connection asset. Other ancillary works include intersection upgrades at Houghton/Hume Road and Irrigation Way/Houghton Road, and development of a new property access from Hume Road.

The BESS site, connection area, access road and intersection upgrades form the development footprint. The development footprint has an approximate area of 10.3 hectares (ha). Most of the development will be located in the northeastern extent of Lots 516 and 521 DP 751745 (host lots). Proposed vehicle access roads and transmission lines associated with the BESS have also been assessed.

1.2 Approval Framework

The proposed development will be assessed as State Significant Development (SSD) under Part 4 of Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Part 2.2 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning SEPP). The consent authority is the Department of Planning, Housing and Infrastructure (DPHI).

The Secretary's Environmental Assessment Requirements (SEARs) for the project were issued on 28 February 2024 (SSD-67478479). The SEARS specify that an EIS must be prepared and include an assessment to identify and describe the Aboriginal cultural heritage values that may be impacted by the proposed development.

The SEARs relating to Aboriginal cultural heritage, and where they are addressed in this report, are listed in **Table 1** and are provided in **Appendix B**.

This ACHAR has been prepared in accordance with the following requirements and guidelines:

- > SEARs SSD-67478479.
- > *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) (Consultation Requirements).
- > *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (Code of Practice; (Department of Environment, Climate Change & Water [DECCW] 2010).

- > *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment & Heritage [OEH] 2011) (The ACHAR Guide).
- > The Burra Charter (ICOMOS 2013).

Table 1 – Secretary's Environmental Assessment Requirements – Aboriginal Heritage

SEARs	Requirements	Section
Planning Secretary's Environmental Assessment Requirements – Key Issues (Heritage)	<i>...an assessment of the impact (including impacts from proposed road upgrades) to Aboriginal cultural heritage items (cultural and archaeological) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), including results of archaeological test excavations (if required);</i>	Section 4, Section 8, Section 9 and Section 10
	<i>evidence of consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures), having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010); and</i>	Section 3 and Appendix C.

1.3 Study Area

The study area will be located at 120 Houghton Road in Yanco which is situated approximately 7 kilometres (km) south of Leeton and 25 km northwest of Narrandera in southwestern New South Wales. Yanco is situated within the Leeton Local Government Area (LGA) and is a part of the Riverina region. The Yanco Central Business District (CBD) is located approximately 1.5 km northeast of the development footprint and includes residential properties, a public school, hotels, a museum, a number of business and retail properties as well as the Yanco railway station. Yanco is a major agricultural centre located in the Murrumbidgee Irrigation Area. The regional context of the study area is shown in **Figure 1**.

The Yanco BESS is situated in the north eastern portion of a larger land holding consisting of two host lots (Lot 516 and Lot 521 DP 751745). The BESS will occupy a footprint of approximately 10.3 ha and includes the BESS, associated connection area, access roads and intersection upgrades.

The BESS development site is bound by Houghton Road in the north, Hume Road in the east, and agricultural lands to the south and west. The development site is located on land zoned as RU1: Primary Production under the *Leeton Local Environmental Plan 2014* (LLEP) and is used primarily for agricultural activities including irrigated cropping.

The Junee Hay Railway is located to the north of the site with Ronfeldt Road situated approximately 40 m north of the railway. 60 m north of Ronfeldt Road (towards the northeastern site boundary) is the Gogeldrie Branch Canal which meanders north and towards the Main Canal in the east. The Murrumbidgee River is located approximately 3.2 km south of the site at its nearest point.

The BESS will connect to the existing Yanco Transgrid substation to the east (Lot 10 DP 844961) along Houghton Road. The Yanco substation is bordered by Hume Road to the west and a vegetation screening to the east. The Yanco Sewerage Treatment Plant (STP) is also located in close proximity to the site.

The development site has a frontage to (and encroaches into) Hume Road in the east, which will be the point of access for construction and operation via a new access point.

The Yanco BESS study area is generally cleared of vegetation due to historic cropping activities. Elsewhere in the host lots, dense vegetation occurs towards the centre of the landholding as well as farming infrastructure and a farm dam.

The regional context is shown in **Figure 1**.

The development footprint defined in red is shown in **Figure 2**.



Legend

- Development Site
- LGA Boundary
- Cadastral
- Road
- Railway
- Runway
- Electricity Transmission Line
- Water Body
- Watercourse
- NPWS Reserve
- Renewable Energy Projects**
 - Under Construction
 - Approved

Map Labels: YANCO GRIFFITH RAILWAY, BROKENHILL ROAD, LEETON, CORBIE HILL, MERUNGLE HILL, YANCO SOLAR FARM, JUNEE HAY RAILWAY, YANCO, EUROLEY ROAD, LEETON SHIRE COUNCIL, MURRUMBIDGEE VALLEY, EUROLEY CREEK, EUROLEY, MURRUMBIDGEE RIVER, INNISVALE ROAD, STURT HIGHWAY, NARRANDERA SHIRE COUNCIL, DRY LAKE, IRRIGATION WAY, MAIN CANAL, CUDGEL, CUDGEL CREEK, 33KV, 132KV, 66KV, 132KV.

Scale: 0 1 2 km

File: 223155_Master.aprx **Prepared By:** malin.hoepfner **Date:** 2/18/2025

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Yanco Battery Energy Storage System

Figure 2 – Yanco BESS development footprint



1.4 Aboriginal Heritage in the locality

An extensive search of the online Aboriginal Heritage Information Management System (AHIMS) database has identified one (1) Aboriginal site, or place, located within close proximity to the site. The extensive search revealed 115 sites within the broader context of the Yanco and Leeton area. The location of the recorded Aboriginal sites is provided in **Section 6**.

1.5 Proposed Works

ACEnergy are proposing to construct an approximate 250 MW/1,100 MWh BESS, as well as on site energy storage containers, MVPS containers, and a dedicated connection asset including control rooms. A BESS is a type of energy storage system which makes use of batteries to store and then distribute energy in the form of electricity.

The development will be located at 120 Houghton Road, Yanco. The proposed BESS will align with, and be contained within, the development area towards the northeastern extent of the site (see **Figure 2**).

The BESS will connect to the Yanco Transgrid substation located adjacent to the BESS area (in the east) via an underground or overhead transmission line up to approximately 450 metres long. The development will have an area of approximately 10.3 ha.

A new site entrance and a new access road will be located at the northeastern corner of the BESS development site entering from Houghton and Hume Roads. A security fence will be constructed around the BESS along with two rows of landscaping outside of the fence to visually screen the BESS from nearby receivers.

An intersection upgrade is proposed at the intersection of Irrigation Way and Houghton Road and this also forms part of the development site.

The Yanco BESS will comprise of the following key components:

- > Enclosed lithium-ion batteries;
- > Power conversion systems including associated transformers;
- > Underground power and fibre optic cabling interconnecting the equipment;
- > Grid connection equipment including switchgear, protection and control equipment, metering, reactive power equipment, filtering equipment, auxiliary transformers and enclosures/buildings for housing equipment;
- > An underground or overhead transmission line of up to approximately 450 metres long to connect the BESS to the Yanco substation;
- > Earthing and lightning protection systems;
- > Site office, storage area/enclosure, internal access tracks, on-site parking, security fencing, CCTV, and temporary construction laydown area;
- > Vegetation screening;
- > Provision of a new site access from Hume Road to the east



- > Upgrade of the Hume Road/Houghton Road intersection.
- > Upgrade of the Houghton Road/Irrigation Way intersection.

The primary components associated with the installation of the BESS are as follows:

- > Site investigations, vegetation clearing, levelling, road upgrades, access way construction, drainage system installation and installation of foundations/supports to install equipment on;
- > Transport to site and installation of equipment;
- > Testing and commissioning of the equipment;
- > Operation and maintenance.

1.6 Proposal Refinements

The proposed development has undergone several design refinements related to road upgrades associated with the BESS access location. Considerations for minimising impacts to a known Aboriginal heritage site  immediately north of the proposed BESS site has occurred through design refinements. Intersection upgrades for access into the BESS have been designed to avoid this site along Houghton Road.

It is important to note that the archaeological survey area discussed in **Section 8** covers a much larger area, based on the earlier concept design provided by the client.

1.7 Assessment Objectives

The objectives of this ACHAR are to:

- > Assess the Aboriginal cultural heritage values of the site, including archaeological and community cultural values, and the significance of identified values.
- > Identify Aboriginal cultural heritage values that may be impacted by the proposed work and implement measures to avoid significant impacts to these elements.
- > Ensure appropriate Aboriginal community consultation is undertaken through the assessment process.
- > Identify any recommended further investigations, mitigation and management measures required, should the proposed works proceed.

This ACHAR includes:

- > A description of the scope of the proposed works and the extent of the study area.
- > A description of Aboriginal community involvement and Aboriginal consultation.
- > A significance assessment of the study area including cultural and archaeological values.
- > A description of the statutory requirements for the protection of Aboriginal heritage.
- > An impact assessment for recorded Aboriginal sites and areas of archaeological potential.

- > Provision of measures to avoid, minimise, and if necessary, offset the predicted impacts on Aboriginal heritage values.

1.8 Report Limitations

This report has been prepared to assess Aboriginal cultural heritage values only. An assessment of historic heritage values is not included.

1.9 Authorships and Acknowledgments

The report was prepared by Tamera Rudd (Graduate Archaeologist, Premise). Review was undertaken by Latisha Ryall (Archaeologist, Premise). Project direction and review was undertaken by David Walker (General Manager and Senior Town Planner, Premise).

A site inspection was undertaken on 12 March 2024 by Latisha Ryall and Tamera Rudd. 



 Jane Bai from ACenergy was also in attendance.

2. LEGISLATIVE CONTEXT

2.1 State Legislation

2.1.1 NATIONAL PARKS AND WILDLIFE ACT 1974

The *National Parks and Wildlife Act 1974* (NPW Act), provides statutory protection for all Aboriginal 'objects' and 'places' in NSW.

The NPW Act defines an Aboriginal 'object' as:

...any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.

The NPW Act defines an Aboriginal 'place' as:

any place declared to be an Aboriginal place under section 84.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared places where it is an offence to harm them without appropriate consent or defence. Harm is defined as destroying, defacing, damaging an Aboriginal object or place, or by moving an object from the land.

An Aboriginal place, as defined under Section 84, is declared by the Minister in recognition of its special significance with respect to Aboriginal culture. All Aboriginal objects are protected under the NPW irrespective of whether they are recorded or not and irrespective of their level of significance. However, areas are only gazetted as Aboriginal places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

There are no gazetted Aboriginal places in the study area.

As indicated in **Section 2.1.5**, pursuant to Section 4.41 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the development is SSD under Part 4 of Division 4.7 of the EP&A Act and permits under Section 90 NPW Act are not required.

2.1.2 NATIVE TITLE ACT 1994

The *Native Title Act 1994* was introduced to work in conjunction with the *Commonwealth Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under this Act.

The *Native Title Act 1993* (NTA) recognises native title for Aboriginal peoples and Torres Strait Islanders. It provides a mechanism for recognising Native Title claims in circumstances where native title has not been extinguished and claimants, in accordance with the requirements of the NTA, can prove their rights and

interests in land under traditional laws and customs. The NTA administers Native Title claims, registers and Indigenous Land Use Agreements.

The objects of the NTA are:

- (a) to provide for the recognition and protection of native title; and*
- (b) to establish ways in which future dealings affecting native title may proceed and to set standards for those dealings; and*
- (c) to establish a mechanism for determining claims to native title; and*
- (d) to provide for, or permit, the validation of past acts, and intermediate period acts, invalidated because of the existence of native title.*

A search of Native Title Vision (NTV) and review of the National Native Title Tribunal's (NNTT) Native Title Register was undertaken 1 November 2023 to identify any Native Title claims or applications, or Indigenous Land Use Agreements at or near the site.

There are no Native Title claims currently registered in the study area.

2.1.3 ABORIGINAL LAND RIGHTS ACT 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) was established to reinstate ownership of traditional Aboriginal land to Aboriginal peoples. It recognises the spiritual, social, cultural and economic importance of land for Aboriginal people and provides a compensatory regime that recognises Aboriginal Land rights. The ALR Act allows land in NSW to be returned to Aboriginal peoples through a process of lodging claims for Crown lands.

The ALR Act established the NSW Aboriginal Land Council (NSWALC) and a collection of Local Aboriginal Land Councils (LALCs) throughout the State. These bodies have a function to:

- (a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and*
- (b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.*

The study area is within the boundary of the Leeton and District LALC.

2.1.4 HERITAGE ACT 1977

The *NSW Heritage Act 1977* (Heritage Act) provides recognition of native title for Aboriginal and Torres Strait Islanders and protects the state's natural and cultural heritage.

The Heritage Act provides protection for items of 'environmental heritage' including places, buildings, works, relics, movable objects or precincts considered significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values.

While Aboriginal heritage is primarily protected under the NPW Act, it may be subject to provisions of the Heritage Act if it is listed on the State Heritage Register (SHR) or subject to an Interim Heritage Order (IHO).

Items considered to be significant to the state are listed on the SHR. Items listed on the SHR or subject to an IHO cannot be destroyed, demolished, altered, moved or damaged without approval from Heritage NSW and until the significance of the item has been assessed.

2.1.4.1 State Heritage Register

Section 22 of the Heritage Act established the SHR which lists places and object of state significance.

While the development is assessed as SSD and is therefore not subject to approvals under the Heritage Act, consultation with Heritage NSW and DPE would be conducted as part of the consultation process to ensure appropriate management of potential heritage impacts.

A review of the SHR indicates that there are no Aboriginal places of significance listed under the NPW Act located within the site.

2.1.5 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) establishes a framework for assessing cultural heritage values in the land use planning and development consent process.

The proposed works will be assessed under Part 4, Division 4.7 of the EP&A Act, which establishes an assessment and approval regime for SSD. Part 4, Division 4.7 applies to development that is declared to be SSD by a State Environmental Planning Policy (SEPP).

Pursuant to Part 4.41 of the EP&A Act an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act is not required for SSD.

The EP&A Act also requires local governments to prepare planning instruments (such as Local Environmental Plans [LEPs] and Development Control Plans [DCPs]) in accordance with the EP&A Act to provide guidance on the level of environmental assessment required. The study area falls under the *Leeton Local Environmental Plan 2014* (LEP) and the *Leeton Development Control Plan 2022* (DCP).

2.1.6 LEETON LOCAL ENVIRONMENTAL PLAN 2014

The aim of the LEP in relation to Aboriginal heritage is to conserve Aboriginal objects and Aboriginal places of heritage significance. Heritage sites of local significance within the Leeton Shire LGA are listed under Schedule 5 of the Leeton LEP.

The LEP also stipulates development controls in relation to development proposed on or nearby heritage listed properties, archaeological sites, or Aboriginal places of heritage significance.

There are no heritage items with Aboriginal heritage values listed on the LEP within the site. The closest Aboriginal site is the 'Koonadan Aboriginal Place' (I51 under the LEP) located approximately 16 km north of the site.

2.1.7 STATE ENVIRONMENTAL PLANNING POLICY (PLANNING AND SYSTEMS) 2021

The *State Environmental Planning Policy (Planning Systems) 2021* (Planning SEPP) identifies development which is declared to be state significant.

Schedule 1, Clause 20 of the Planning SEPP identifies development for the purpose of electricity generating works and heat or co-generation that has a capital investment value of more than \$30 million, or more than \$10 million and is located in an environmentally sensitive area of State significance, as State Significant Development.

The proposed works have a capital investment value of more than \$30 million and have been classified as SSD under SSD-67478479.

Development control plans do not apply to state significant projects.

2.2 Commonwealth Legislation

2.2.1 ENVIRONMENTAL PROTECTION AND BIODIVERSITY ACT 1999

The *Environment and Heritage Legislation Amendment Act (No.1) 2003* amends the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to include 'national heritage' as a matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution.

The EPBC Act further establishes and lists protected heritage items under the National Heritage List and the Commonwealth Heritage List.

Chapter 3 of the EPBC Act assists the Minister to:

...decide whether an action that has, will have or is likely to have a significant impact on certain aspects of the environment should proceed.

Any action, including a project, development, undertaking, activity, series of activities or alteration, that will or is likely to have a significant impact on Matters of National Environmental Significance (MNES) may only occur with approval of the Minister for the Environment and Energy obtained under Part 9 of the EPBC Act.

The *Australian Heritage Council Act 2003* established a new heritage advisory body, the Australian Heritage Council, to advise the Minister and retain the Register of the National Estate (RNE). The RNE was closed in 2007 and no longer remains statutory, however retains an archive of heritage places throughout Australia.

The Acts outlined above provide protection for Australia's natural, Indigenous, and non-Indigenous heritage to include:

- > A new National Heritage List of places of national heritage significance.
- > A new Commonwealth Heritage List of heritage places owned or managed by the Commonwealth.
- > The creation of the Australian Heritage Council, an independent expert body to advise the Minister on the listing and protection of heritage places.
- > Continued management of the non-statutory Register of the National Estate.

A review of the National Heritage List, Commonwealth Heritage List and RNE was undertaken on 1 November 2023 and is summarised in the following subsections.

2.2.2 NATIONAL HERITAGE LIST

The National Heritage list contains heritage places of outstanding heritage significance to the nation, protected under the EPBC Act. It prohibits any person from taking an action that has, will have, or is likely to have, a significant impact on the national heritage values of a national heritage place without the approval of the Minister for the Environment.

The Australian Heritage Council, with the support of the Department of Environment and Energy, seeks to ensure that all places recommended by it to the Minister for listing meet the stringent criteria set out in legislation.

There are no items listed on the National Heritage List located within the study area.

2.2.2.1 Commonwealth Heritage List

The Commonwealth Heritage List is a list of Indigenous, historic, and natural heritage places owned or controlled by the Australian Government.

There are no items listed on the Commonwealth Heritage List located within the study area.

2.2.2.2 Register of the National Estate (RNE)

The Register of the National Estate (RNE) is a list of natural, Aboriginal, and historic heritage places throughout Australia, originally established under the *Australian Heritage Commission Act 1975*. The RNE ceased to be a statutory register in February 2012, however, is now a publicly available archive (Australian Heritage Database) that is maintained on a non-statutory basis.

There are no Aboriginal significant items or places listed on the RNE located within the study area.

2.2.3 ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSHP Act) provides for the preservation and protection of Aboriginal cultural property in Australia and in Australian waters that are of particular significance to Aboriginal peoples such as places, objects, and folklore in accordance with Aboriginal tradition.

Aboriginal tradition as defined under the ATSIHP Act, refers to:

...the body of traditions, observances, customs and beliefs of Aboriginals generally or of a particular community or group of Aboriginals, and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships.

Archaeological sites or objects registered under State legislation will typically be recorded as Aboriginal places subject to the provisions of the Commonwealth.

The ATSHIP Act takes precedence over State cultural heritage legislation where there is conflict. Under Section 10 of the ATSIHP Act, The Minister may make a declaration that overrides state or territory decisions in situations where state or territory laws do not provide adequate protection of heritage.

No declarations relevant to the proposal site have been made under the ATSIHP Act.



3. ABORIGINAL COMMUNITY CONSULTATION

Consultation with Aboriginal people is an integral part of the process of investigating and assessing Aboriginal cultural heritage.

Consultation with Aboriginal community members was undertaken in accordance with clause 80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010 and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

The consultation steps outlined in the 2010 Guide are listed below:

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

Opportunity for providing input into the cultural heritage values of the study area was provided:

- > During field survey undertaken in March by Premise; and
- > During consultation undertaken between February and August 2024 by Premise.

A consultation log has been maintained through the assessment process which details all correspondence with the Registered Aboriginal Parties (RAPs) for the proposed works (refer **Appendix C**).

3.1 Identification of Stakeholders and Registrations of Interest

In accordance with Stage 4.1.2 of the Consultation Requirements, notification letters were issued on 12 December 2023 to the below listed organisations requesting details of Aboriginal people who may hold cultural knowledge relevant to determining the Aboriginal significance of Aboriginal objects and/or places within the Yanco and Leeton LGA.

- > National Native Title Tribunal;
- > Native Title Services Corporation Limited (NTSCORP);
- > Heritage NSW;
- > The Registrar, Aboriginal Land Rights Act 1983 (Office of the Registrar);
- > Riverina Local Land Services (RLLS);
- > Leeton and District Local Aboriginal Land Council; and
- > Leeton Shire Council.

In accordance with Stage 4.1.3 of the Consultation Requirements, Premise placed an advertisement in the Koori Mail on 13 December 2023 and online content was published in The Irrigator (Leeton) newspaper on 12 December 2023.

The advertisement invited all Aboriginal persons and organisations who hold cultural knowledge relevant to determining the significance of Aboriginal objects and places in the study area to register their interest (see **Appendix D**).

Also, in accordance with Stage 4.1.3, registration of interest letters and/or emails were sent on 15 January 2024 to all Aboriginal persons and organisations identified through responses from the agencies contacted during Step 4.1.2 (refer **Appendix E**). The letters provided details on the location and nature of the proposed works, as well as an invitation to register as an Aboriginal stakeholder. 14 days were allowed for registrations.

The following groups or individuals registered their interest for the Yanco BESS project. These groups or individuals comprise the Registered Aboriginal Parties (RAPs) for the Yanco BESS and are listed below:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

In accordance with Step 4.1.6 of the Consultation Requirements, a list of RAPs, a copy of the newspaper advertisement, and a copy of the invitation to register an interest, were forwarded to Heritage NSW and Leeton and District LALC on 2 February 2024 (refer **Appendix G**).

3.2 Review Assessment Methodology

A copy of the proposed ACHAR methodology was distributed to RAPs on 6 February 2024 with a mandatory 28-day period for review and comment. The document included details of the proposed works, and a summary of the proposed ACHAR assessment and survey methodology (refer **Appendix F**).

A follow up email was sent to all RAPs on 26 February 2024 to confirm if there was any feedback on the proposed methodology.

- > Comments were received from James Ingram on 4 March 2024 expressing an interest in attending the site survey.
- > One response indicated support of the methodology.
- > No other comments were received regarding the proposed methodology.

Plans provided to RAPs during the consultation phase have been superseded and are not reproduced in **Appendix F**.

No comments were received from the RAPs on the significance of the site through review of the assessment methodology, via initial correspondence or during site survey.

3.3 Site Survey

A site survey was undertaken on 12 March 2024 by Premise Archaeologists (Latisha Ryall and Tamera Rudd), together with [REDACTED] Jane Bai from ACEnergy. The survey included the BESS development footprint impact area as well as identified vehicle access routes and intersection road upgrades.

The Aboriginal Heritage Information Management System (AHIMS) was consulted prior to the site visit to determine if any previously recorded sites were located in, or near, the subject area. Previous archaeological studies were also reviewed to familiarise the consultant with local archaeology and recent investigations in the area. The site card and photographs of the previously recorded Aboriginal site was shown to the RAPs on site.

Discussions held during the field survey and post survey between archaeologists and RAPs indicated that the area had been subject to intense agricultural disturbance and that the site has a low archaeological potential. A comprehensive discussion of the site survey is provided in **Section 8**.

No Aboriginal heritage objects/places were identified during the site inspection. The previously recorded AHIMS site located to the north of the BESS site could not be located, and most likely has moved through natural weather events such as heavy rain and or natural deposits have covered this artefact. Consultation [REDACTED] site also revealed that vehicles are often seen driving along the bank of the irrigation channel where the isolated find was recorded. This is likely to have also resulted in the movement or destruction of the Aboriginal site.

3.4 Aboriginal Cultural Values

An invitation for RAPs to provide input or comments on Aboriginal Heritage cultural values for the Yanco BESS were provided through the assessment process and during site survey.

No specific information was provided on the significance of the Yanco BESS study area.

Previous reports undertaken in the region indicate that the broader Yanco, Leeton and Narrandera area does hold strong cultural ties with the local Aboriginal community, however the study area does not indicate a high cultural sensitivity area and has been extensively modified from the original landform.

During the site survey [REDACTED]
[REDACTED] the study area was determined to have nil to low cultural heritage significance.

Sites located outside of the study area, such as AHIMS ID [REDACTED], are representative of the cultural values historically expressed by local Aboriginal groups. Prior to European arrival to the Leeton region, the local Aboriginal community utilised land located approximately 16.5 km north of the study area, known as 'Koonadan.'

Cultural knowledge of the surrounding area was obtained through verbal discussions [REDACTED]
[REDACTED] advised areas to the north and west of Yanco including Wamoon, Stanbridge, Whitton and Gogeldrie were main the occupation areas. Sensitive sites have been recorded across these areas, including burials in Wamoon, however, the study area does not retain the same level of sensitivity. Cultural evidence including an abundance of artefacts have also been observed on farming properties in the locality, with this material remaining in private collections. However, a study undertaken by Robyn McPherson of the Australian National University titled 'The Gift of Stones' has provided an opportunity for the Aboriginal community to reconnect with these Aboriginal collections.

It is noted that in respecting the Aboriginal community, not all cultural heritage sites should be mapped or identified, therefore unknown cultural sensitivities may be present across the landscape.

3.5 Review of Draft ACHAR

A review of the DRAFT ACHAR was provided to RAPS for a 28-day review period on 19 August 2024, requesting comments and feedback to be provided by 16 September 2024.

A follow up email was issued to all RAPs on 2 September 2024 as a gentle reminder asking for feedback or comments on the ACHAR, noting the closing date for response is 16 September 2024.

3.5.1 RESPONSE RECEIVED TO DRAFT ACHAR

No comments or feedback were provided by RAPs on the draft ACHAR.

Any cultural information provided by RAPs through the ongoing consultation process has been included in this report and addressed in **Section 3.4** and **Section 11**.

3.5.2 HERITAGE NSW AGENCY RESPONSE

On review of the ACHAR, agency advice was received from Heritage NSW as part of the response to submissions process. Items have been addressed throughout the report where necessary.



4. ENVIRONMENTAL CONTEXT

4.1 Landform, Geology and Soils

The site is located within the Riverina Interim Biogeographical Regionalisation of Australia (IBRA) bioregion, and within the Murrumbidgee IBRA Sub Region. The site is within an area predominantly comprising agricultural land uses, with a flat topography, and with sparse occurrences of native vegetation. The development site does not contain any natural watercourses. Watercourses within the surrounding area comprise man-made irrigation channels that typically traverse road reserves and adjoining lots.

The Riverina Bioregion is located in southeast NSW which also extends into the central-north of the state of Victoria (NSW NPWS, 2003:91). The Riverina Bioregion includes outlying remnants of the Murray Darling Bioregion towards the western boundary as well as the Victorian Midlands Bioregion to the south.

The upper catchment landscape of the Riverina Bioregion is a series of overlapping, low gradient alluvial fans while the lower tract of the river is a floodplain which has overflow lakes. Patterns of sediment deposition, soils, landscapes and vegetation are controlled by the discharge from past and present streams (NSWNPWS, 2003:92). The bioregion is dominated by river channels, swamps, lakes, floodplains, back plains and lunettes which are all of Quaternary age. The bioregion comprises three overlapping alluvial fans which are centred on the eastern half of the Murray Basin.

Modern river channels within the Riverina Bioregion consist mostly of sandy soils, whilst on higher terrace landforms that are rarely subject to flooding, saline soils and heavy grey and brown clays are found (National NSW NPWS, 2003:92). These red-brown and grey clays support grassland communities in the bioregion which are considered naturally significant. Similarly, Malle communities are supported in the Riverina by calcerous, sandy soils. Levees, old channels, dunes and lunettes are also formed by sandy soils.

The Australian Soil Classification (ASC) Soil Type map identifies that the BESS and proposed access roads are located on Chromosols (CH) soils. This landscape consists primarily of red-brown earths.

A review of the eSPADE soil technical reports in the locality indicate the soil profile is representative of silty clay loams in the A Horizons down to 25 centimetres (cm) transitioning to weak clays (B Horizons) up to 1 m west of the development area. Coarse clays and alluvial plains are located in the east of the study area in the area of the Sportsground. A summary of the bore hole reports in the surrounding locality are outlined in **Table 2**.

The development site does not indicate a likelihood of potential subsurface deposits to be insitu given the highly disturbed nature of the landscape.

Soil landscapes and Bioregions are shown in **Figure 3**.



Table 2 – Soil Reports. Source eSPADE

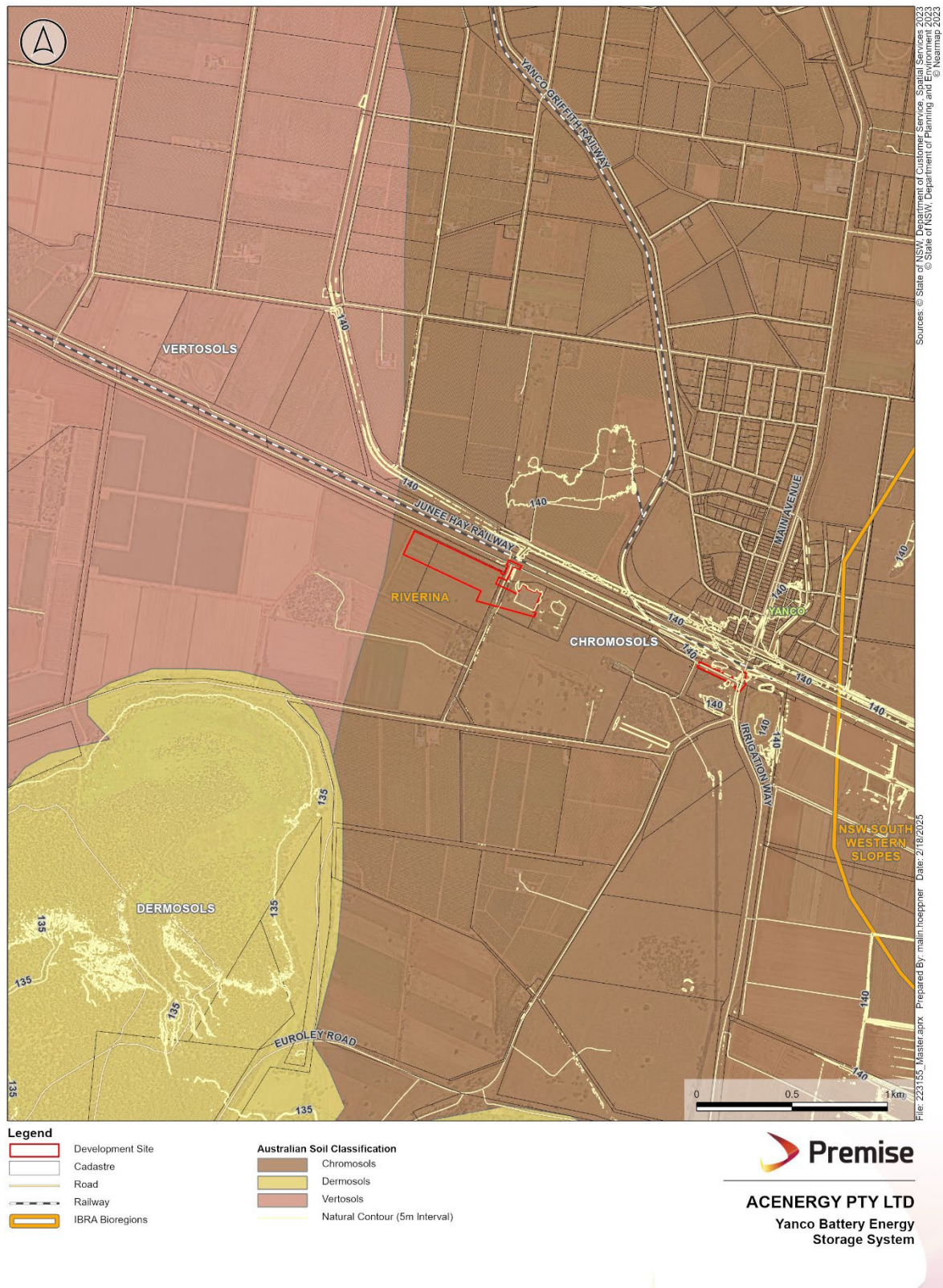
Report Name	Lot/DP	A Horizon analysis	B Horizon analysis	Relationship to development site
Railway Line, N Boundary of Pr. 481, Farm 8.	Lot 1 DP 855215	Alluvial plain Medium sandy clay down to 1.8 m	Fine sandy clay loams to fine clayey sand ranging from 1.8 m -4.2 m	Outside
Dunns	Lot 763 DP 257321	Silty clay loams with weak soil structure between 10 cm to 25 cm	transitioning to weak clay or clay loams down to 25 cm, medium clay to 64 cm, light clay to 88 cm all with weak soil structure	Outside
Dunns	Lot 764 DP 257321	Silty clay loam dark brown in colour transitioning to reddish brown with weak soil structure down to 25 cm	Light medium clays down to 60 cm	Outside
Sportsground	Lot 438 DP 751745	Coarse sands to 20 cm	Light clays maximum depth of 1.05 m	Outside
Leeton	Lot 516 DP 751745	Fine sandy loams to 30 cm, clay down to 65 cm, sandy clay to 1 m	clay down to 65 cm, sandy clay to 1 m	Adjacent to development site on host lot, located outside of the assessment area.

4.2 Vegetation

Vegetation in the Riverina Bioregion consists of river red gum and river cooba communities, particularly on areas around river channels with sandy soils. Black box woodlands are found on saline heavy grey and brown clays on the outer perimeter of floodplains which also support naturally significant grassland communities. Yellow box, cypress pine and grey box communities are also common in areas which have low levels of flooding. Saltbush shrubland, cotton bush, malle, bluebush, lignum, samphire and native grasses are also dominant across the Riverina (National Parks and Wildlife Service NSW, 2003:92).

Vegetation across the BESS site consists mostly of irrigated crops. Vegetation surrounding the access roads were thick and consisted primarily of weeds and introduced exotic species.

Figure 3 – Soil Landscapes and Bioregions



4.3 Hydrology

The Murray River and the Murrumbidgee River are the major tributaries of the Riverina Bioregion while the Lachlan River and Goulburn Rivers flow from the highlands in the east towards the Riverina Plain in a westward direction.

The Murrumbidgee River lies approximately 4.3 km south of the proposed BESS development site at its nearest point. Guises Creek which flows off the Murrumbidgee River, meanders through the woodland located approximately 1.3 km south of the site. The woodlands and Murrumbidgee River to the south of the site make up part of the Murrumbidgee National Park.

McCaughys Lagoon is also located south of the site approximately 2.8 km from the BESS site and 1.6 km north of the Murrumbidgee River. The lagoon is situated in a woodland setting and forms part of the Murrumbidgee National Park.

An unnamed irrigation channel is located to the south of Houghton Road and is utilised for irrigation cropping on the proposed BESS site. Irrigation channels are common within the Leeton LGA and are characteristic of the Murrumbidgee Irrigation Area.

4.4 Historical Context and Land Use

The broader areas of Leeton and Yanco have been utilised by European settlers since the mid to late 1800s for large pastoral properties. Irrigation cropping is particularly common across the region and has historically been utilised across the study area with an unnamed irrigation channel located along the northern boundary of the proposed BESS development site. The study area has been subject to historic ground disturbance as a result of agricultural activities which would have resulted in soil loss, particularly top soils, as well as the loss of any potential archaeological deposits which may have been present.

A review of the NSW Government Historical Imagery Viewer (NSW Government, 2022) has confirmed the site has been used for agricultural production since at least 1967 (see **Figure 4**). Aerial imagery from this year onwards identifies extensive vegetation clearing (see **Figure 5**) and agricultural land use across the study area and in the surrounding landscape. However, extensive agricultural land use across the Leeton LGA has taken place since at least approximately 1912 with the implementation of the Murrumbidgee Irrigation Area scheme. This included the construction of irrigation channels across the region and the utilisation of these for irrigation farming. The town of Leeton was purpose built and designed for the Murrumbidgee Irrigation Area project in 1914.

Overall, the use of the landscape for irrigation cropping has resulted in significant ground disturbance across the Leeton LGA, including the study area.



Figure 4 – Historic Aerial Imagery - 1967



Figure 5 – Historic Aerial Imagery - 1993



4.5 Current Site Conditions

The proposed BESS site is currently utilised for agricultural activities, primarily irrigation cropping. The site has been disturbed through the historic cropping of the landscape and through the implementation of the irrigation channel to the north of the site. The irrigation channel (approximately 10 m wide) is located approximately 20 m from the northern extent of the proposed BESS and appears to have been built with soils and materials from offsite locations. A second irrigation channel (known as the Gogeldrie Branch Canal) has also been introduced on the northern extent of Houghton Road (on Ronfeldt Road) and is approximately 18 m wide.

Electricity infrastructure has also been constructed in the study area, just south of the proposed BESS location. The development of this infrastructure has resulted in further ground disturbance to the site. Surrounding landscapes have also been disturbed through the construction of the Transgrid Substation and the Sewerage Treatment Plant to the east of the BESS site.

The construction of surrounding road reserves including Houghton Road (the eastern extent of which is sealed while the western extent is unsealed road), Irrigation Way and Hume Road has also resulted in extensive ground disturbance. The continued use of these roads similarly increases the level of disturbance across these areas. Reserves on either side of these roadways contain dense vegetation and scattered materials which have been introduced from the sealed and unsealed roads.

The study area is mostly cleared of vegetation with an isolated tree located to the south of the BESS area. A dense area of mature trees and vegetation are situated along Hume Road in the location of the proposed transmission lines. Scattered trees are also situated along Irrigation Way and Houghton Road.



5. ABORIGINAL ARCHAEOLOGICAL CONTEXT

5.1 Ethnographic Aboriginal Context

Aboriginal communities are based largely on varying language groups rather than the geographical boundaries of an area. It is likely that these boundaries in pre-European Aboriginal society were fluid and often intersected into different towns or regions. The Wiradjuri Aboriginal people/s are associated with the Leeton region, although other Aboriginal language groups were likely to have also existed within the region. It is also important to note that when referring to traditional Aboriginal groups, terms such as 'clan' and 'tribes' have been historically used in documentation and may not be considered appropriate in today's context.

The Wiradjuri Nation extends from Albury and Corowa in the south of New South Wales, north to Nyngan and Gilgandra, extends east to Mudgee and Lithgow and across to the west to Hay. The Wiradjuri Nation is the largest Aboriginal tribe in both geographical size and population, in all central NSW (Tindale 1974:156). Wiradjuri people/s are commonly known as 'the people of three rivers' as they camped and made use of the abundance of resources along the Wambool River (also the Macquarie River), the Murumbidgee River (the Murrumbidgee River) and the Kalari River (the Lachlan River).

The study area also forms part of the Murray Darling region which contains some of the oldest known Aboriginal sites in Australia, including the human remains which were discovered at Lake Mungo, dating back to approximately 40,000 years ago (Heritage Insight Pty Ltd, 2012: ii). This evidence suggest that the Aboriginal community have occupied the lands within the Murray Darling region for at least 40,000 years prior to European colonisation of Australia. The Murray River in particular, was one of the most densely populated areas in pre-contact Australia, with Aboriginal occupation likely to have been the heaviest in the lower and central portions of the river (Macgregor, 2020: 16). This is likely due to the abundance of protein which was sourced from the Murray River and associated tributaries including shellfish, crayfish and fish (Hill 2015: 9).

It is thought that Aboriginal society focused on small familiar groups with immediate family members making shelter, sourcing food and performed daily rituals within their campsite. This is seen in the archaeological landscape in the form of small campsite areas characterised by small artefact scatters. However, these small family units formed part of a larger band which comprised a number of families. Places that were frequented more often would often develop into larger site complexes represented by higher artefact densities and a more diverse archaeological record (NGH 2019: 18).

The local Aboriginal community within the Leeton region lived at a site known as 'Koonadan' prior to the arrival of Europeans to the area. Koonadan is located approximately 16.5 km north of the study area and is characterised by sand hills and is situated adjacent to the Tuckerbil Swamp (L&DLALC). A number of scarred trees existed across the site, however, have since been removed. Stone tools are also present across the site including pieces of grinding dishes which have been scattered across the whole area as well as ground ovens, hearths and open campsites (NGH, 2019: 29). Human remains have also been identified within Koonadan suggesting that the site was used as both a domestic space, and as an ancestral Wiradjuri burial



ground and ceremonial activities. Moreover, according to oral histories amongst the local Aboriginal community, the land between the Koonadan dune and Tuckerbil Swamp was used for ceremonial purposes. This land was known as the Bora Ground, also referred to as 'burbung' grounds (Wiradjuri) (NPWS 1996: 3).

The term 'Bora' refers to the Aboriginal ceremony whereby young males transition from boyhood to manhood. Growing up, these young boys are taught the customs, laws and traditions of their community and then undergo a rite of passage where they will typically undergo a form of body modification, most commonly tooth evulsion (Fuller, Hamacher and Norris, 2013: 1). Bora Grounds consist of two circles of different sizes which are connected via a pathway. The smaller of these two circles is used only by Aboriginal elders and the young boys or initiates about to partake in the Bora ceremony. The larger Bora circle is generally situated away from the smaller circle and was used as a public space (Fuller, Hamacher and Norris, 2013: 2). It is likely that the local Wiradjuri community of Leeton also took place in these ceremonies within the Bora Ground at Koonadan.

The Wiradjuri community of Leeton made use of the abundance of resources at the Fivebough Wetlands and Tuckerbil Wetlands which were located towards the north of Leeton. There was an abundance of natural edible plants year-round at these wetlands also which alongside the prevalence of animal species in the area, meant these were popular sites for hunting, gathering and fishing (L&DLALC). Aboriginal men would typically be in charge of hunting, while the women were tasked with the gathering vegetables, nuts, seeds, grasses and more. Aboriginal women would commonly use wooden sticks to collect vegetables from the ground and dig up grubs, ants and Mallee roots using a small wooden spade known as a 'grub shove' (NGH 2019: 19). Different varieties of saltbush were also in abundance here including ruby saltbush (*Enchylaena tomentosa*), old man saltbush (*Atriplex nummularia*), spiny saltbush (*Rhagodia spinescens*) and Hills Indigo (*Indigofera australis*), all of which were consumed by the Aboriginal population (NGH 2019: 20).

The Murrumbidgee River to the south of Leeton would also have provided Aboriginal people subsistence with the abundance of fish and shellfish. Other sources of food would have also included kangaroos, possums, emu, reptiles and waterfowl (as well as their eggs) all of which was sourced from the floodplain and back-plains of the region (Hill 2015: 9).

Aside from providing a food source, animals were also hunted and used for the production of a number of everyday objects or tools. Bark troughs and animal skins were used to create a bucket which was used to transport and hold water. Mussel shells were used as scrapers in the manufacturing process of possum and kangaroo skins which were manufactured into cloaks. Kangaroo sinew was also used to create head ornaments for Aboriginal men and women (NGH 2019: 19). Tree bark was also utilised as a structural material for the manufacture of canoes and shields.

A common item found amongst the archaeological record are scar trees which are caused from the removal of bark off trees for the manufacture of objects. Items made of animal skins, timber or tree bark would decay quickly. Tools and weaponry were crafted from tree bark, stones and other materials found amongst the landscape, particularly around water sources, and included spears, shovels, parrying shields, broad shields and throwing sticks. Stone tools and shell materials commonly survive and are found in an archaeological context in the places they were created, dropped or left behind (NGH 2019: 19).



The Tuckerbil Swamp and surrounding areas gave strong connections also to the corroboree site at Yanco. After a corroboree at Yanco was complete, the Aboriginal people/s would then head to Tuckerbil Swamp and gather food (NPWS 1996: 3).

5.1.1 POST-CONTACT

The European fleet arrived at Australia in 1788 however it was not until 1817 that the first European explorer (John Oxley) passed through the Leeton area. In 1838, Charles Sturt passed through the region however neither explorer believed the lands had agricultural potential (Australian Geographic, 2023). European squatters began to set up tent settlements across the area and between 1838 and 1841, Wiradjuri warriors drove these European settlers out of the Leeton and Narrandera region (L&DLALC). This was an open war which resulted in a number of massacres of both the local Wiradjuri and the European groups. However, in the late 1800s, a number of Wiradjuri people/s were forced into Aboriginal reserves and Missions in surrounding areas. Most commonly, the Leeton Wiradjuri people were moved to Aboriginal Reserves in Warangesda (at Darlington Point) and in Euabalong and often to other areas across NSW (L&DLALC).

Mission managers prevented Aboriginal people/s from speaking their languages and participate in traditional practices and ceremonies. Aboriginal Reserves and Missions were closed down in the 1920s and 1930s with more closing in the 1950s and 1960s across NSW by the Aboriginal Protection Board (ABP), and later by the Aboriginal Welfare Board (NSW Government, 2012). Following the closure of these Reserves, the Aboriginal people/s of Leeton were further dispersed across NSW with only a small number returning back to the Koonadan site (L&DLALC). The return to Koonadan was important in the 'cultural re-awakening' for the local Aboriginal community (NPWS, 1996: 3). During this period, 40 Aboriginal families also lived in the suburb of Wattle Hill on the outskirts of Leeton. These families relied on those living at, and the resources of Koonadan (SHI 2015).

Following the 1950s however, the lands at Koonadan were cleared for further agricultural production for the European settlers of the area, all the resources from Koonadan and the Tuckerbil and Fivebough Wetlands were diminished. The clearing of these lands for cropping purposes resulted in the destruction of a number of scarred trees as well as the Bora Grounds (NGH, 2019: 29).

In 1983, Koonadan was gazetted as an Aboriginal Place. As a result, all sand mining which was occurring in the area was ceased and the area was fenced off and interpretation signage was erected.

5.2 Previous Archaeological Assessments

The area of Koonadan was quarried for sand from the early 1960s up until skeletal remains were identified at the site in 1982 (NPWS Griffith District, 1990: 4). Investigations at the site has estimated that over 2,000 burials exist on the site, two of which have been identified. Artefact scatters including stone tools (in some areas) and pieces of grinding dishes (disbursed across the entirety of the site), and ground ovens have also been identified across the area (L&DLALC).

In 1977, an archaeological survey was conducted at the Tombullen Swamp located approximately 25 km southwest of the study area. This site included a dried-up meander channel of the Murrumbidgee River with

dunes situated to both the north and southwest of the swamp. The archaeological survey identified eighteen sites including three artefacts and fifteen scarred trees, three of which are considered likely to be caused by Aboriginal cultural scarring (NGH, 2019: 28). The sand hills along the swamp were also identified as being an area of possible burials and cultural sensitivity, and a stop works procedure was implemented for all future works on site.

The Warrangesda Aboriginal Mission at Darlington Point located approximately 45 km west of the study area was archaeologically surveyed in 1978. There are two recorded scarred trees at this site as well as two burials.

In 1982, a survey was undertaken on land between Darlington Point to Yanco for a proposed transmission line. This assessment identified thirty-two scarred trees on varying species of trees across the investigation area. Larger scars which are likely associated with the construction of canoes and were commonly located on trees further away from the Murrumbidgee River. These scars were assessed as likely being carved during flood events (NGH, 2019: 28). A number of possible ovens were also identified during this assessment as well as four isolated stone artefacts including a grindstone and axe fragments, which had likely been brought to the area from elsewhere. A secondary assessment of this area was conducted one year later of the same area with a 10 km deviation. This survey identified a further two scarred trees and two occupation sites which included artefact and hearth sites (NGH, 2019: 29).

In 2001, Vanessa Edmonds prepared an Indigenous cultural heritage assessment for the proposed Euroley Bridge Replacement on the Murrumbidgee River located approximately 3 km southwest of the study area. A search of AHIMS of the area with a 5 km buffer indicated no previously recorded Aboriginal sites although a secondary search encompassing a wider search area indicated that there was a recorded hearth, one scarred tree, a mound and open campsite sites all located southwest of the Euroley Bridge. A surface survey of the land surrounding the bridge identified one new Aboriginal scarred tree located approximately 19 m east of the bridge. This tree was located outside of the impact area of the proposed bridge replacement works and so it was recommended that the works could continue without negatively impacted upon Aboriginal cultural heritage (Intern Heritage, 2021: 87).

OzArk Environment & Heritage (OzArk) undertook an Aboriginal heritage assessment at the Coononcoocabil Lagoon located approximately 14 km west of the study area in 2009. No Aboriginal sites or objects were identified during this assessment although this land was assessed as having moderate archaeological sensitivity due to the surrounding landforms and woodland (NGH, 2019: 31).

OzArk prepared an ACHAR in 2015 on land approximately 10 km west of the study area for a proposed expansion of the Euroley Poultry Production Complex. Site survey identified two Black Box tree species with cultural scarring on them, located along an access track on land which was described as being predominately cleared. A hearth was also identified approximately 40 m northwest of the ephemeral floodway, in a cleared and ploughed land on site. This hearth included pieces of fired clay and was relatively intact despite the ploughing activities that had historically been undertaken in the area (OzArk, 2015: 22).

In 2018, OzArk prepared an ACHAR for the proposed Yarrabee Solar Farm located approximately 22 km south of the study area. A total of twenty-five Aboriginal objects were identified at the site and recorded



on AHIMS. These Aboriginal sits included nine isolated finds, thirteen artefact scatters, two scarred trees as well as one earthen mound. Twelve of these artefacts were discovered on a large dune formation, seven were identified in the tree line, five were found on flat plains across the site and one artefact was identified within a drainage channel (OzArk, 2018: 30).

In 2019, NGH prepared an ACHAR for the proposed Yanco Solar Farm located to the north of the Yanco BESS development site. This assessment involved two surveys, the first of which did not identify any Aboriginal sites or objects. The second survey however, identified one isolated find along a red cracked clay channel bank. The find was identified as a single fine-grained red silcrete core with three negative flake scars (NGH, 2019: 41). It was determined that there was negligible potential for any intact subsurface artefacts to be discovered on site due to past disturbances of the area. It was recommended that the proposed transmission line for the solar farm avoid the isolated find to mitigate impacts to Aboriginal cultural heritage (NGH, 2019: 49).



6. ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

The locations and details of Aboriginal sites are considered culturally sensitive information. It is recommended that this information, including the AHIMS data, is removed from this report if it is to enter the public domain.

Heritage NSW (formerly OEH) maintains the Aboriginal Heritage Information Management System (AHIMS) database, a register of Aboriginal archaeological sites that have been recorded in New South Wales. A preliminary basic search of the AHIMS database within of the proposed BESS location with a 1 km buffer, was undertaken on 16 November 2023 ().

The AHIMS search provides an archaeological context for the area and identifies whether any previously recorded Aboriginal sites are located within or near the study area. The parameters of the search were as follows:

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Overall, 115 previously recorded Aboriginal sites and one (1) Aboriginal place, are location within the wider regional context of the site.

Heritage NSW-lists 20 standard site features that can be used to describe a site registered with AHIMS, and more than one feature can be used for each site. The Aboriginal site types recorded as being located within the Leeton region are identified in **Table 3**.

Table 3 – Previously Recorded Aboriginal Sites: Regional Context

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Figure 6 – Aboriginal Sites in the Locality

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Figure 7 – AHIMS sites within 50 m of development area

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7. PREDICTIVE MODEL

Aboriginal site features occur across the entire landscape; however, some parts of the landscape have a greater capacity to contain certain site features or features of different types. The variation in site feature likelihood across the landscape is useful for planning assessments of potential site impacts.

The Aboriginal Sites Decision Support Tool (ASDST) is an online tool accessible through the SEED online portal, which is an extension of the AHIMS database and details the potential distribution of Aboriginal site type features which are recorded on AHIMS. A review of ASDST Pre-1750 Models v7.5 (2020) has been undertaken for the site. The likelihood of each site type being present within the site prior to the arrival of European settlers, is determined on a scale ranging from 'low' (0) and 'high' (999). The results of this search are as follows:

- > 'All combined features' likelihood of prevalence: 761/999
- > 'Artefact' likelihood of prevalence: 398/999
- > 'Burial sites' likelihood of prevalence: 455/999
- > 'Grinding grooves' likelihood of prevalence: 133/999
- > 'Hearths' likelihood of prevalence: 761/999
- > 'Stone quarries' likelihood of prevalence: 160/999
- > 'Scarred trees' likelihood of prevalence: 604/999

Overall, according to the ASDST modelling, there is a 76% likelihood of Aboriginal artefacts having been located on the site prior to the European colonisation of the region. There is similarly, a 76% likelihood that this would have included hearths and a 60% chance that scarred trees were also situated on the land. The clearing of the land by European settlers has evidently reduced the likelihood of scarred trees being located on site with an overall likelihood of Aboriginal sites existing on the site having reduced to 16% due to agricultural and ground disturbance activities which have occurred post 1750.

There is a 46% likelihood that Aboriginal burial sites are also present at or within proximity to the site. Areas with Aboriginal burial sites are highly culturally significant with a number of these site types being identified within the Leeton LGA since the arrival of European settlers to the region. There is a 40% likelihood that artefacts were scattered across the landscape prior to 1750, which has dropped to 16% post European arrival. There is inevitably, a lower likelihood of grinding grooves or stone quarries being located within the site as it does not contain watercourses or sandstone outcrops.

It is important to note however, that this model is a predictive tool only, and is based off surrounding land formations and previously recorded Aboriginal site type patterns. Physical landform attributes were assessed during the site survey.



7.1 Previously Recorded Sites

Previously identified Aboriginal sites recorded on the AHIMS database are detailed in **Section 6**.

Further information on Aboriginal cultural heritage in the region is provided through a summary of past archaeological assessments (see **Section 5.2**). Both sources of information indicate that Aboriginal culturally modified (scarred) trees are the most common site type in the Leeton region and are commonly recorded within proximity to waterways.

Isolated artefacts are commonly identified in association with tree lines and located within drainage lines or channels. Artefact scatters of open campsites are generally located within proximity to watercourses or an ephemeral floodway and often include a hearth site. Raw materials used for artefact manufacture commonly include silcrete and quartz.

Burial sites have also been identified in the Leeton region and are commonly situated along sand hills and dunes. Earthen mounds have also been identified within the area and are typically situated in tree lines or are found on flat plains.

A predictive model for the Murrumbidgee Province was prepared by Pardoe and Martin (2001) for Aboriginal site distribution within areas along the Murrumbidgee River (such as Yanco). This model was based off previously recorded Aboriginal sites located within the Murrumbidgee Province and developed a map which identifies the likelihood of sites occurring on land on a scale of 0-100.

This model has determined that site distribution is typically greatest near water sources. The average distance of sites from a water source was least for minor streams (an average of 1.8 m), varies in distance for major streams (average of 2.2 m) and are at a greater distance from lakes (average of 5.2 m) and swamps (average of 22.7 m) (Pardoe and Martin, 2001: 105). No sites were identified more than 12 km away from the Murrumbidgee, Yanco, Box or Mirrool rivers.

Moreover, areas where prior stream channels and modern major river channels intersect, major concentrations of past Aboriginal occupation occurs (Pardoe and Martin, 2001: 118). These areas contain large numbers of mounds and possible cemeteries, with the mounds marking the most visible record of past occupation in the Riverine Plain, which is typically characterised as being flat. Mounds varied in size from 4-140 m in diameter with their height varying from 2 cm-2 m.

The AHIMS search undertaken for the Leeton region (see **Section 6**) has identified 115 Aboriginal sites and one (1) Aboriginal place. Culturally modified trees make up the majority of site types within the region (63%) while artefact sites make up 24%. Burials, hearths and earth mounds, PADs and stone arrangements make up the remaining site types in the region. The distribution of these sites is identified in **Figure 6** and are predominately located within proximity to the Murrumbidgee River, as well as associated minor streams, lakes and swamp lands.



7.2 Landform Modelling

Based on Pardo and Martin's predictive model of the Murrumbidgee Province, archaeological sensitive areas occur most commonly in association with water sources, including minor and major streams, swamps, lakes and even ephemeral streams. The site is located within 5 km of the Murrumbidgee River and is therefore, likely to contain Aboriginal objects.

Burials are commonly identified along scalded, channelled and depressed plains within the Murrumbidgee Province (Pardoe and Martin, 2001: 110). They are commonly identified within mounds, although some occur away from mounds in a cemetery or as separate burials away from main occupation sites. These landform characteristics do not conform to the existing landforms present across the study area, burials are therefore, not considered highly likely according to Pardoe and Martins predictive model, although the ASDST suggests there is a low to moderate likelihood.

Based on the previous archaeological investigations in the region, predictive modelling of the landform suggests that archaeological sensitive areas mainly occur along rivers and water courses, along crests or knolls where there are suitable stone resources, and that the most common site type is Aboriginal cultural modified trees.

Overall, the BESS site consists of flat plains which have been utilised for extensive agricultural activities and is located within proximity to the Murrumbidgee River and the associated marshlands to the south, although areas of sensitivity increase closer to water courses.

7.3 Predictive Modelling for the Study Area

Limited site modelling for the Leeton region to date suggests that although Aboriginal sites may be recorded in all landscapes, the archaeological sensitive areas are most likely to occur in close proximity to water, with the availability of raw material resources. However, Aboriginal people in all regions moved throughout the landscape and utilised different resources.

Based on previous archaeological assessments, recorded sites in the region and the predictive model prepared in 2001 by Pardoe and Martin for the Murrumbidgee Province, a predictive model for the study area has been developed below. The following conclusions can be drawn from this information on the likelihood of Aboriginal heritage sites being present or located in the landscape of the study area.

7.3.1 ISOLATED FINDS

Isolated finds are present across the entire landscape and may be indicative of loss or deliberate discard of a single artefact be the result of limited stone knapping activity. The presence of isolated artefacts may indicate the likelihood of more extensive, in situ buried archaeological deposits, or a larger deposit obscured by low ground visibility.

24% of previously recorded Aboriginal sites in the Leeton region are characterised as artefacts (isolated or scattered). Isolated finds have commonly been identified within proximity to the Murrumbidgee River or swamps across the region, or within tree lines in areas of high erosion. One (1) previously recorded isolated



find is located to the north of the BESS site on an irrigation channel bank (see **Section 6**). Due to the presence of the previously recorded isolated find, there is a high likelihood that similar artefacts are present in the study area.

Overall, as isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the study area.

7.3.2 OPEN ARTEFACT SCATTERS

Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 m away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short- or long-term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or 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.

There is potential for artefact scatters to be found in all environmental contexts and landforms, although larger and denser sites are predominantly located on the riverbanks and lower slopes facing watercourses, and on elevated ridgelines. This site type usually appears as surface scatters of stone artefacts in areas where vegetation is limited, and ground surface visibility increases. Such scatters of artefacts are also often exposed by erosion, agricultural events such as ploughing, and the creation of informal, unsealed vehicle access tracks and walking paths.

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 routes across the landscape to available resources such as the open valley slopes and the valleys of creeks, will tend to contain larger and higher density of sites, mostly camp sites evidenced by open artefact scatters.

There are nine (9) previously recorded open camp sites (or open artefact scatters) located within the Leeton region. These sites are located within proximity to a watercourse, particularly swamps, with low levels of ground disturbance. Due to the high levels of historical agricultural activities at the BESS site and associated access roads, it is unlikely that a high-density artefact scatter will be identified. A low-density scatter is more likely to occur on site, particularly with its proximity to watercourses.

7.3.3 ABORIGINAL SCARRED/CARVED TREES

Aboriginal culturally modified scarred trees/carved trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, which formed a scar. Bark was removed from trees for various resource use. It was used as a raw material for manufacture of tools, weapons and vessels and used for building materials for shelters or for transport such as canoes.



Vegetation within the study area has been relatively cleared, particularly in the proposed BESS area, and there are few native trees. It is therefore considered that this site type is not expected to be recorded in the study area. Mature trees located along Hume Road are likely to contain signs of cultural modification due to their proximity to swamp lands and the Murrumbidgee River.

It is likely that the site contained culturally modified trees prior to the clearing of the land by European settlers.

7.3.4 QUARRY SITES

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.

Quarry sites are not likely to be recorded within the study area as rock outcroppings are not present on site.

7.3.5 BURIAL MOUNDS

Burials are generally found in soft sediments such as aeolian sand, alluvial silts close to rivers and creeks with known sites occurring in the Murrumbidgee Province, most notably at the 'Koonadan' Aboriginal Place. Burials are generally only visible where there has been some disturbance of subsurface sediments or where some erosional process has exposed them.

No landscape features exist within the study area and remains relatively flat. Although, there are recorded sites in the general area, and the occurrence of waterways and suitable camping grounds are located at a distance away from the study area, the likelihood of burial mounds to occur is low and are unlikely to occur.

7.3.6 BORA GROUND/CEREMONIAL SITE

Bora Grounds and/or ceremonial sites are places which have ceremonial or spiritual connections. Ceremonial sites may comprise of natural landscapes or have archaeological material. Bora sites are ceremonial sites which consist of a cleared area and earthen rings. Bora grounds were often located, some distance from frequented campsites in a discreet location. Several bora grounds are known to have existed in the region through ethnographic accounts, although many sites have been destroyed or lost, most notably the Bora Ground at Koonadan.

This site type does not necessarily follow landform predictability and are, overall, a rare site type with a low likelihood of being present and remaining extant due to the historical land use of the study area.

7.3.7 GRINDING GROOVES

Grinding grooves are the physical evidence of Aboriginal tool making or food processing activities. Grinding grooves are represented as an imprint in the flat surface of soft rocks such as sandstone as a result of the manual rubbing of stones against each other to create grooves. The suitable rock types are usually found



in areas of creek beds and other water sources. Grinding grooves and carvings are most likely to occur in areas along the Murrumbidgee River in association with sandstone or granite formations.

Due to the lack of sandstone or granite formations within the study area, it is unlikely that this site type will be identified.

7.3.8 STONE ARRANGEMENTS

Stone arrangements and cairns are thought to be ceremonial in nature. Their locations are usually isolated from known campsite areas and are often a considerable distance from water. A stone arrangement has been previously recorded in the Leeton region, approximately 12.5 km southeast of the study area in a woodland area.

There is a low likelihood of stone arrangements or cairns to be located within the study area, due to the relatively flat landform and historical ground disturbance across the site.

7.3.9 SUMMARY

In summary predictive modelling of the landform suggests that archaeological sensitive areas mainly occur in close proximity to water, particularly the Murrumbidgee River, swamplands and lakes within the Murrumbidgee Province and Leeton region. However, the transient use of the landscape and utilisation of available resources such as raw materials and trees are also prevalent in the Leeton area. There is some potential for archaeological evidence to occur across the proposal site. This would most likely be in the form of stone artefacts, such as isolated finds or low density artefact scatters. There is, similarly, a potential for culturally modified trees to exist in along the proposed access roads.



8. ARCHAEOLOGICAL SURVEY

An archaeological survey was undertaken on 12 March 2024. The survey was undertaken by Premise Archaeologist, Latisha Ryall and Graduate Archaeologist, Tamera Rudd. Premise Archaeologists [REDACTED]
[REDACTED] Jane Bai, a Senior Project Development Engineer from ACEnergy (the applicant) also accompanied the site survey.

The survey included the entirety of Lot 521 DP 751745 and land located to the west in Lot 516 DP 751745 as identified as the BESS development impact area in **Figure 2**.

Land located within Lot 10 DP 844961 (the Transgrid Substation) was also surveyed with a focus primarily on the southern and western portions of the Lot where the transmissions line connections are proposed.

Proposed access road upgrades were surveyed as a part of this assessment including Houghton Road, from the eastern extent (off Irrigation Way) towards the west, to approximately 100 m past the proposed BESS access point. Survey also included parts of Irrigation Way, approximately 500 m south of the Houghton Road and Irrigation Way intersection, and an additional 50 m north of this intersection towards the railway line on the western side

The archaeological survey area was based on the earlier concept design provided by the client.

The archaeological survey area is shown in **Figure 8**.

Figure 8 – Archaeological Survey Area

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The archaeological survey was undertaken in accordance with the survey methodology discussed below, along predefined transects.

The Yanco BESS site was actively used for agricultural activities and had recently been cropped. Survey transects were modified slightly to maximise visibility across the site. This included utilising erosion areas and other moderate visibility locations where they were encountered, particularly where vehicle tracks had impacted the ground surface.

Vehicle access roads were surveyed with the majority of which consisting of unsealed roads, including Houghton Road. Land on each side of Houghton Road and Irrigation Way (approximately 5 m) was also surveyed to accommodate for possible future road widening works.

No newly recorded Aboriginal sites or objects were identified during the archaeological survey of the area.

No specific cultural knowledge was provided on the development site, however, it was noted that Aboriginal people once camped along the irrigation areas north west of the study area [REDACTED].

No concerns with the proposed development were raised during this period

The main objective of the site survey was to:

- > Assess the Aboriginal archaeological values of the study area in accordance with the Code of Practice.
- > Identify Aboriginal archaeological and cultural heritage values that may be impacted by the proposed works.
- > Identify any further investigations, and mitigation and management measures that may be required, should the project proceed.

Overall, the proposed BESS site, road corridor and easements are characterised as a disturbed context and did not include any signs of Aboriginal materials.

As set out in the Code of Practice, the aim of any survey is to adequately assess all representative landforms within the study area so as to identify and understand archaeological characteristics. The survey therefore provides information on the likelihood of archaeological potential within the study area. This information is then assessed and is used to develop management strategies for Aboriginal heritage on site.

8.1 Survey Methodology

As defined in **Section 3.3** a survey methodology was prepared for the Yanco BESS project and issued to RAPS on 6 February 2024.

The survey methodology was prepared considering the following requirements:

- > Survey an adequate sample area that will be impacted by the proposed BESS development.
- > Consult with the local Aboriginal community on cultural values associated with the development and the likelihood of archaeological significance and potential.
- > Assess the Aboriginal archaeological values of the study area in accordance with the Code of Practice.

- > Identify Aboriginal archaeological and cultural heritage values that may be impacted by the proposed works.
- > Identify any further investigations and identify any constraints and management for the proposed development area, should the project proceed.

The field survey was conducted using pedestrian transects. A focus on areas with higher archaeological potential such as exposures along drainage lines, tracks or where ground disturbance had occurred such as boundary fence lines were undertaken.

A photographic record was kept of the landform elements, disturbance of the site and ground conditions. The previously recorded site location was surveyed to try and identify its current condition, however no sites could be located.

8.2 Survey Results

The survey was undertaken by foot using a hand-held GPS to record tracks. Predefined transects were followed during the survey in an east to west direction. However, due to low sensitivity observed across the development site with ground disturbance showing increased visibility, a mutual decision between Archaeologists and RAPs present on site, was made to expand the distance between transects. Transects were initially spaced at 10-15 m then expanded to approximately 20-30 m.

The transects across the surrounding landscape, which is not subject to development impacts, were expanded to approximately 50-80 m. Pedestrian transects were undertaken by all attendees present. **Figure 9** shows an aerial image with delineated survey tracks of two (2) out of the four (4) surveyors.

Observation undertaken during the survey indicated that the proposed development site is relatively flat, currently used for irrigated cropping. Th220357

The surrounding landscape is relatively flat, with scattered remnant trees and remnant woodland areas along Hume Road, approximately 700 m to the west and 950 m to the east of the BESS site, and along the swamplands approximately 1 km to the south. One (1) isolated tree was located within the survey area however it did not contain any signs of cultural modification.

An irrigation channel is located to the north of the BESS development site (adjacent to Houghton Road) and is characterised by dense vegetation and introduced fill and materials. The entirety of the BESS site consists of recently cultivated crops. Land along the boundary of the survey area contained eroded dirt tracks with high visibility. Materials identified across these areas consisted primarily of quartz, quartzite as well as some silcrete.

The BESS development site had been recently cropped at the time of site inspection. The majority of the BESS development site contained moderate to low surface visibility due to historic cropping activities and increased along vehicle access tracks along the area. Soils across the area consist primarily of red-brown earths, some clays and fine silty soils were observed along access tracks. This is consistent with the Chromosol soil classification of the area which consists of red-brown earths which are used primarily for



agricultural purposes, including cereal cropping. Limited parent rock were observed in the BESS development site although some silcrete, quartz and quartzite materials were identified across the site.

Land within the Transgrid allotment had been modified through the construction of the electricity infrastructure together with the electricity easements across the southern portion of the site. Overall, there was limited visibility in this area with dense vegetation coverage in the easements and electricity infrastructure with the substation.

The survey area along Houghton Road consisted of a disturbed context association with construction and grading of the road. The soil profile along this area consisted of fine silty deposits with a mix of gravel fills. This area was characterised as being highly disturbed with low visibility on either side of the road due to dense vegetation.

The survey area along Irrigation Way consisted of a disturbed context in association with the construction and grading of the road and drainage channels with introduced fills. It was observed in some areas the land had been subject to fire, most likely as a result of back burning, noticeably south of the railway line and along the northern extent of Houghton Road.

During the survey no Aboriginal objects/places were identified. Testing was not required given the landform context and low likelihood of sensitivity resulting from heavily irrigated cropping disturbance of the area and in consultation with RAPS.

One previously recorded site AHIMS ID: [REDACTED] is located in close proximity to the development area. at a distance of approximately 50 m. This location was inspected as part of the survey, however, [REDACTED] could not be identified. Details of the AHIMS site are provided in **Section 8.2.1**.

Overall, the study area has been heavily modified through historical cropping across the site and vehicle (heavy and light) access to surrounding infrastructure along Houghton Road. Moreover, the landscape has been disturbed through the development of the Transgrid Substation, GrainCorp and associated infrastructure as well as nearby road corridors. No previously recorded AHIMS sites were identified during the site survey nor were any newly identified Aboriginal materials identified on site.

A preliminary summary from the survey indicates that the study area has been heavily modified through historical agricultural use and construction of Houghton Road and nearby infrastructure. The survey did not indicate a high potential for archaeological significance in the proposed development area.

8.2.1 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

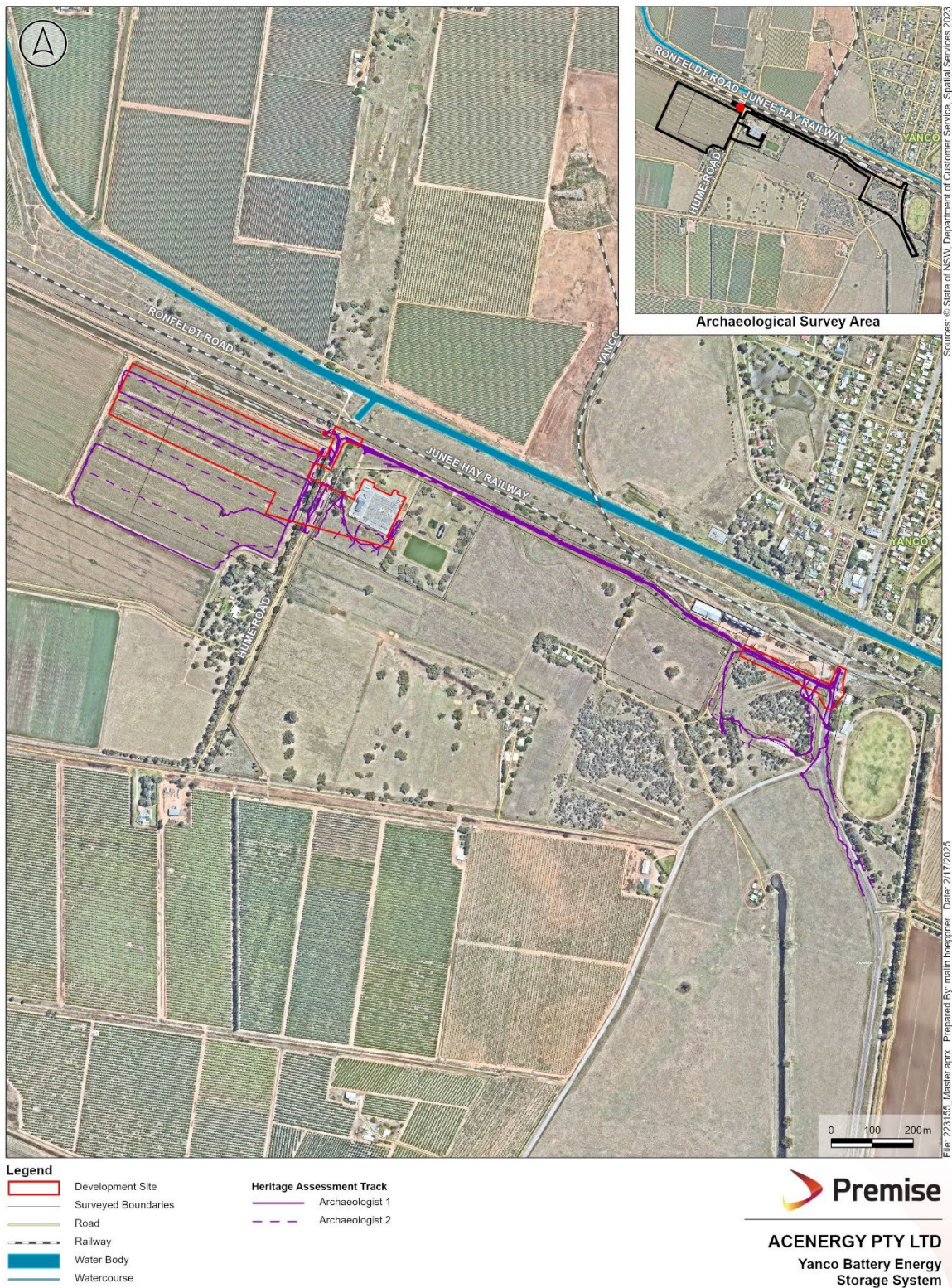
[REDACTED]

[REDACTED]

[REDACTED]



Figure 9 – Archaeological Survey Tracks



8.3 Landforms Likely to Preserve Archaeological Deposits

Survey areas were assessed for their archaeological sensitivity based on previous archaeological research, topography, and prior land use. Due to the small size of the study area and areas subject to low archaeological sensitivity, the need for targeted intensive survey was not needed. However predetermined survey tracks were followed, and the impact area was assessed. Three (3) survey unit areas were identified during the survey defined by the BESS area, the Transgrid area and the access roads. Two (2) landform units were identified within these survey areas including flats and drainage lines (see below).

The substation infrastructure with the Transgrid area was not surveyed as this location was fenced, with access restrictions in place. This landform is characterised by a completely disturbed context through for urban service facilities.

8.4 Survey Unit Areas

The study area is located within land which has been heavily disturbed and subject to extensive agricultural cropping and clearing of natural vegetation. Further disturbance across the landscape has occurred through the development of infrastructure, including permanent transmission lines and power poles across the BESS impact area, the Transgrid substation to the east, and through the development of the surrounding roads.

Three (3) survey units were identified during the site inspection:

- > The indicative BESS area
- > Transgrid
- > Access roads

These survey units are shown in **Figure 10**. There were two (2) different landform units within each of these three (3) surveys units (or survey areas). These landform units are categorised as follows and are shown in **Figure 11**:

- > Flats
- > Drainage Lines

Overall, the survey coverage area for this assessment was 33.54 hectares (ha).



Figure 10 – Survey Units

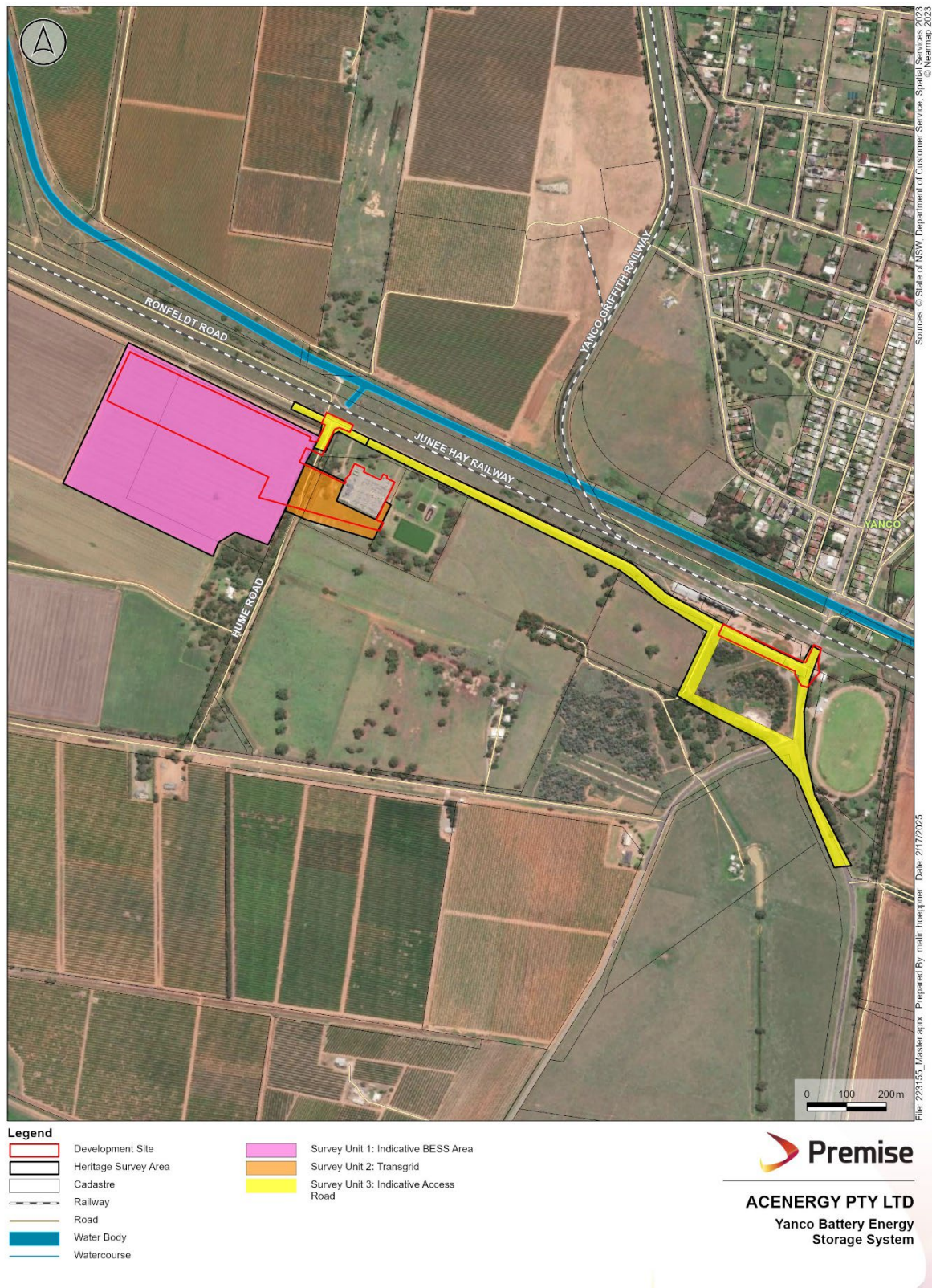


Figure 11 – Landform Units



8.4.1 SURVEY UNIT 1 – BESS AREA

Survey Unit 1 (SU1) consists of a flat profile and encompasses the entirety of the BESS impact area, located to the west of the study area. The landform consists of cleared pastoral lands which had recently been cropped, with moderate to high ground visibility. Areas of exposure and higher visibility were mostly identified along vehicle access tracks, along fence lines and through ploughed transects of the paddock.

A second landform unit also existed across SU1 including drainage lines, which were located along the northeastern corner of the site as well as the southeastern corner (see blue in **Figure 11**). Areas of exposure increased along drainage lines which were surrounded by thick vegetation.

In total, approximately 69,187m² of SU1 was effectively surveyed with a 37% effective survey coverage.

Figure 12 – SU1 BESS Area view east



Figure 13 – SU1 BESS Area view west



Figure 14 – SU1 drainage line on left



Figure 15 – SU1 flats ground visibility



8.4.2 SURVEY UNIT 2 – TRANSGRID

Survey Unit 2 (SU2) consists of a flat profile and encompasses the Transgrid substation site as well as the proposed transmission line between the substation and the BESS area (SU1). SU2 consists of large electricity infrastructure and mature trees and vegetation along the western extent. Ground coverage across this landscape was moderate and increased at the base of mature trees, along the vehicle access track and adjacent to fence lines.

One (1) drainage line landform unit is located within SU2, situated along the Hume Road, between the BESS area and the substation (see blue in **Figure 11**). This landform unit was surrounded by a mature tree line with areas of exposure increasing along the drainage line and on Hume Road (an unsealed, dirt road).

In total, approximately 1,178m² of SU2 was effectively surveyed with a 5.5% effective survey coverage.

Figure 16 – SU2 Transgrid view east



Figure 17 – SU2 Transgrid view northwest



Figure 18 – SU2 Hume Road (drainage line on left)



Figure 19 – SU2 Transgrid view west



8.4.3 SURVEY UNITS 3 – ACCESS ROAD

Survey Unit 3 (SU3) consists of a flat landscape and encompasses land along Houghton Road and Irrigation Way. SU3 also includes land containing spoil piles of introduced fill. SU3 consists of both sealed and unsealed roads, surrounded by dense vegetation with low visibility. Areas of ground exposure increased along Houghton Road, however, these materials are introduced and is highly disturbed from vehicle movements.

In total, approximately 385m² of SU3 was effectively surveyed with a 0.5% effective survey coverage.

Figure 20 – SU3 (Irrigation Way) view south



Figure 21 – SU3 (Irrigation Way) view north



Figure 22 – SU3 (Houghton Road) view east



Figure 23 – SU3 Access Road spoil piles



8.5 Survey Coverage

The survey focused on areas subject to impact and areas determined to have a higher level of sensitivity, with consideration of land use history. Previous archaeological assessments in the area were used to inform archaeological potential.

In accordance with the Code of Practice a summary of survey coverage is outlined in **Table 4**. Overall, the majority of the study area contained moderate to high ground exposure and visibility levels. The topography was flat across the study area with drainage lines located within proximity to land surrounding Hume Road. Archaeological potential was greater along ploughed areas of the BESS impact area (SU1), along vehicle access tracks and in proximity to fence lines.

Table 5 indicates that the lack of recordings made during the survey may be attributable to the low survey efficacy. However, archaeological investigations in the region indicate that the flat plain landforms have a lower artefact density when compared to landforms closer to permanent water sources or areas with old growth trees that have not been subject to extensive clearing. Therefore, while low density artefact scatters or isolated finds may have been obscured during the site inspection, the available information suggests that large, significant sites are absent in the landforms that characterise most of the study area.

Table 4 – Survey Coverage

Survey Unit	Landform	Survey unit area (sq m)	Visibility %	Exposure %	Effective coverage area (sq m)	Effective coverage %
SU1	Flat	197,617	70	40	69,166	35%
SU1	Drainage lines	1,074	20	10	21	2%
SU2	Flat	26,054	30	15	1,172	4.5%
SU2	Drainage lines	611	20	5	6	1%
SU3	Flat	77,000	10	5	385	0.5%

Table 5 – Landform Summary

Landform Unit	Landform area (sqm)	Area effectively surveyed	% of landform effectively surveyed	Number of sites	Number of artefact features
Flats	333,700	70,723	21%	0	0
Drainage Lines	1,600	27	1.7%	0	0

9. DISCUSSION

No newly recorded Aboriginal sites were identified in the study area during the site survey. The proposed BESS is, therefore, not likely to impact upon items of Aboriginal cultural heritage.

The previously identified Aboriginal site [REDACTED] could not be identified during the site survey. [REDACTED]

[REDACTED] As outlined in **Section 14**, an appropriate 10 m buffer exclusion zone as discussed with RAPS on site is to be implemented around the recorded location of the site during the construction works to avoid any impacts to the site.

9.1 Ground Disturbance

A review of historical records and the site survey has identified that the majority of the study area has been subject to extensive levels of ground disturbance associated with road construction, electricity transmission infrastructure development and cropping. Further disturbance has occurred on site through vehicle movements along access tracks used throughout the property and on surrounding road corridors.

Surrounding landscapes have also been heavily disturbed, particularly through the development of irrigation channels for irrigation cropping. This includes the introduction of fill from offsite locations and earthworks activities.

Ground disturbance and impacts to Aboriginal archaeology in the study area is discussed in **Section 12**.

9.2 Analysis of Archaeological Potential

Archaeological potential of a site is determined by several factors including landform, location and the level of disturbance that has impacted the area. In areas where there is a high level of disturbance, the archaeological potential is lowered. The archaeological potential of the study area is based on the landform elements and predictive modelling discussed in **Section 5** and **Section 7**.

The study area consists of a relatively flat landform with high areas of exposure located along vehicle movement areas. There are no watercourses running through the study area or any farm dams, however, an irrigation channel is located to the north of the site which is orientated east to west. This flat landscape, which is devoid of watercourses, was not likely to have been favoured landform features for long term occupation by Aboriginal people/s. More favoured areas for occupation would have been within closer proximity to the Murrumbidgee River or its tributaries, lakes or the Tuckerbil Swamp and Fivebough Wetlands.

In areas where there is a high level of disturbance such as the study area which has been subject to extensive agricultural activities, it is unlikely that surface finds in these areas are in their original context. For example, previously identified [REDACTED]

[REDACTED] The identification of the artefact on this soil indicates the possibility that this item is in a secondary context and was introduced to the site along with

the soil fill. In some instances, it is also unlikely that sub-surface archaeological deposits are intact due to extensive ground disturbance activities.

10. ABORIGINAL CULTURAL HERITAGE ASSESSMENT

10.1 Methodology

The Aboriginal cultural heritage assessment in this report includes information collected through site survey, desktop assessment and consultation conducted throughout the ACHAR. This information was collected by Latisha Ryall (Archaeologist Premise) and Tamera Rudd (Graduate Archaeologist, Premise).

10.2 Cultural Landscape

The relationship between Aboriginal Australians and the land is conceived in spiritual terms rather than primarily in material terms (Andrews et al 2006). Aboriginal cultural knowledge has been defined as:

Accumulated knowledge which encompasses spiritual relationships, relationships with the natural environment and the sustainable use of natural resources, and relationships between people, which are reflected in language, narratives, social organisation, values, beliefs and cultural laws and custom (Andrews et al 2006).

Aboriginal cultural knowledge was traditionally passed on through oral traditions from generation to generation. Within all Aboriginal communities there was a time of dislocation and upheaval associated with the arrival of colonial settlers. This widespread disruption resulted in much of the detailed knowledge and understanding of many of the elements of the cultural landscape being lost from the Aboriginal community, nonetheless many Aboriginal people maintain a strong connection to the land of their ancestors and collectively possess a wealth of knowledge passed down through the generations.

11. IDENTIFIED ABORIGINAL CULTURAL HERITAGE VALUES

11.1 Identified Social Values

The Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011: 8–9) notes that cultural significance is comprised of an assessment of social values, scientific values, aesthetic values, and historic values. Essentially, assessing the cultural significance of a place means defining the reasons why a place is culturally important. These values are described as:

Social or cultural value

Social or cultural value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them.

Places of social or cultural value have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events.

Communities can experience a sense of loss should a place of social or cultural value be damaged or destroyed.

There is not always consensus about a place's social or cultural value. Because people experience places and events differently, expressions of social or cultural value do vary and, in some instances, will be in direct conflict (Johnston 1992). When identifying values, it is not necessary to agree with or acknowledge the validity of each other's values, but it is necessary to document the range of values identified.

Social or cultural value can only be identified through consultation with Aboriginal people. This could involve a range of methodologies, such as cultural mapping, oral histories, archival documentation and specific information provided by Aboriginal people specifically for the investigation.

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.

Scientific (archaeological) value

This refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information (Australian ICOMOS 1988).

Information about scientific values will be gathered through any archaeological investigation undertaken. Archaeological investigations must be carried out according to OEH's Code of practice for archaeological investigation of Aboriginal objects in NSW, available at www.environment.nsw.gov.au/licences/archinvestigations.htm.

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 (Australian ICOMOS 1988).

11.2 Social or Cultural Values Associated with the Study Area

An invitation to provide social and/or cultural values for the Yanco BESS was provided to RAPs through the community consultation process via the Advertisements, Registration of Interest notification letters and via draft ACHAR and Survey Methodology. Opportunities to provide verbal social and/or cultural values for the Yanco BESS were also encouraged during the site survey. No specific information was provided on the significance of the study area. It was noted that an Aboriginal community camp settlement was located northwest of the study area [REDACTED].

Koonadan Aboriginal Place, however, is an important Aboriginal cultural site for the local Wiradjuri people of Leeton and surrounding areas. There are estimated to be over 2,000 Aboriginal burials located within this area and is therefore holds spiritual connections and values for the Wiradjuri people/s. The historic ceremonial use of this land also adds to the social and cultural values of this place.

It is important to note that the cultural landscape is central to Aboriginal identity, with respect to both traditional and contemporary society. The relationship between Aboriginal community and the landscape is expressed through stories, art, ceremonies, and other cultural forms, both physical and non-physical. These factors determine the significance of the area and cultural sites of the Wiradjuri within the Leeton LGA.

11.3 Identified Historic Values

Historic values specific to the Yanco BESS investigation area have yet to be identified. However, there has been no previous investigations which indicate that the study area has an association with a known individual or historical event.

11.4 Identified Scientific Values

The scientific values of the Yanco BESS investigation area discussed in **Section 5**. Assessment of scientific value is often based on the research potential of the area.

Identified scientific values of the site may contribute to our broader understanding of the Yanco BESS investigation area regarding the importance of landscape features and/or rarity of objects or places.

During the archaeological field survey, no particular locations were identified as sensitive landforms likely to contain subsurface archaeological deposits where conservation values are present.

Survey areas were assessed for their archaeological sensitivity based on previous archaeological research, topography, and prior land use. Due to the size of the study area, the entirety of Lot 521 DP 751745 and only the northeastern portion of Lot 516 DP 751745 was surveyed.

In terms of previous Aboriginal settlement in the study area, it is considered that the smaller irrigation channels closer to the study area would not have existed prior to European settlement of the area and that their construction has been undertaken purposely for the Murray Irrigation Scheme in approximately 1914.



However, the larger channels located north of the BESS site, were known occupation areas for Aboriginal communities in the twentieth century, as identified by one of the RAPs on site during the inspection.

The archaeological potential of an area is rated high, moderate or low, based on all of the above considerations. A definition of each ranking is provided below:

High - Intact archaeological material is likely to be found in this area.

Moderate – Intact archaeological material may be found in this area.

Low - It is unlikely that intact archaeological material will be found in this area.

The results from the archaeological field survey indicate that the study area has been assessed as having an overall low archaeological potential, with no Aboriginal sites identified within or surrounding the study area.

11.5 Identified Aesthetic Values

There are no identified aesthetic values located in the impact area. Proposed impacts to existing roadway upgrades would not impact on any aesthetic values as this area has been disturbed through construction of the road, with road easements and drainage fills.

The development of the BESS will cause moderate visual impacts to the site which has historically been utilised for irrigation cropping. The BESS site does not however, possess significant aesthetic values nor is it considered rare.

11.6 Social Values Investigation

No specific comment or feedback was provided through the consultation process on social values relevant to the Yanco BESS study area. Opportunity to provide feedback was undertaken both on site during field work and through review of the ACHAR documentation.

It is noted that social values are important for identifying tangible and intangible heritage associated with country.

It was noted that social values most likely occurred outside of the development footprint in areas north of the study area where temporary camping villages were established along the irrigation channels [REDACTED] [REDACTED] The important 'Koonadan' site, Wattle Hill and the surrounding wetlands areas where available resources would bring people together, would also hold a higher level of social significance than that of the development site.



11.7 Significance Assessment

11.7.1 ABORIGINAL MATERIAL CULTURE

Aboriginal materials in and surrounding the study area have been discussed **Section 5**, **Section 6** and **Section 8**. No archaeological material was identified within the study and the previous recorded isolated find located to the north of the BESS site could not be relocated.

It should also be noted that the isolated find located to the north is likely presented in a secondary context and was introduced to the site with the fill used to create the irrigation channel.

11.7.2 SIGNIFICANCE ASSESSMENT

An assessment of the cultural heritage significance of an item or place is required, so as to inform its management. The NSW OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2011) provides guidelines for heritage assessment with reference to the *Burra Charter* (Australia ICOMOS, 2013) and the *Assessing Heritage Significance* guidelines (NSW Heritage Office, 2001). The assessment is made in relation to four values or criteria as outlined above.

As defined by the Burra Charter:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

It is also important to note that:

Changes which reduce cultural significance should be reversible and be reversed when circumstances permit.

A statement of heritage significance has been developed and provided below:

The study area has nil to low scientific and or social heritage significance. Previously recorded sites in the locality, occurring on the surface and recorded as isolated finds, are typical of the assemblage recorded in the local area and form a small part of the wider archaeology of the Yanco/Leeton area. The information contained in these objects will be readily available in the broader local landscape.

The study area is overall, considered to demonstrate a low level of significance value.

The significance of the site in association with relevant heritage assessment criteria is provided in **Table 6**.

Table 6 – Cultural Heritage Assessment – Significance

Criteria	Significance
Research Potential	All archaeological sites have the potential to contribute to our understanding of Aboriginal occupation. However, the study area shows no surface or likely subsurface Aboriginal cultural material. Evidently, the absence of archaeological material on site does not provide a contribution to the research of the Yanco region. A Previously recorded site [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]
	<u>Integrity:</u> The study area has undergone modification through extensive agricultural activities, particularly irrigation cropping. Any potential archaeological deposits across the study area are likely to have been impacted by this modification, resulting in the likely downward movement of artefacts. The study area has, therefore, be assigned as a having a low level of integrity.
	<u>Complexity:</u> Archaeological material within the Leeton and Yanco context are situated in higher frequencies along permanent watercourses including the Murrumbidgee River, lakes, swamps and creeks. These areas were frequented by Aboriginal people/s more commonly (particularly those areas with woodland shelters) than areas at a further distance from water courses such as the study area. This is evidenced by the lack of Aboriginal materials identified within the study area. The study area has been assigned a low level of complexity.
Archaeological Potential	There is a low potential for archaeological materials to be recorded at the study area due to levels of land modification and the lack of materials identified during the site survey. If archaeological materials were identified in the future, they are likely to be of a low density. A previously recorded site [REDACTED], located adjacent to the BESS site, was recorded along an irrigation channel bank, however, could not be relocated at the time of survey. It is likely that this was recorded in a secondary context.
Connectedness	No cultural materials were identified within the study area during the site survey.
Representativeness	No cultural materials were identified within the study area during the site survey.

Criteria	Significance
Rarity	The study area is not identified as being rare and is consistent with nearby agricultural lots in the surrounding area. No cultural materials were identified within the study area.
Education Potential	No Aboriginal sites were identified within the study area which evidently provides no archaeological materials which may be used for educational purposes. The lack of Aboriginal sites does, however, allow for a more complex predictive model of Aboriginal sites across the region to be established. This includes the prediction of landform characteristics in which sites are not likely to occur.
Archaeological Landscapes	No archaeological materials were identified within the study area. Significant Aboriginal sites are located within the surrounding landscape with particular frequencies along permanent water sources. The archaeological landscape will not be significantly altered if the study area is developed as planned.
Aesthetic Value	The study area has a low aesthetic value within the meaning attributed in a heritage assessment.
Historic Value	The study area in question is not directly associated with an important individual or identifiable historic event.
Social or Cultural Value	Local Aboriginal people value evidence of their ancestors' occupation of the land extremely highly. Any evidence of occupation activity is afforded high cultural value. No evidence of Aboriginal occupation was identified within the study area.

12. IMPACT ASSESSMENT AND HERITAGE MANAGEMENT

12.1 Aboriginal Heritage Impact

ACEnergy are proposing to develop an approximately 250 MW/1,100 MWh BESS, as well as on site energy storage containers, MVPS containers, and a connection station including control rooms within the study area.

The proposed development will have no impacts to Aboriginal cultural heritage.

12.1.1 IMPACT TO ABORIGINAL OBJECTS

The definition of harm to Aboriginal objects under the NPW Act is limited to impacts which:

'...destroys, defaces, damages an object or place or in relation to an object – moves the object from land on which is has been situated.'

No newly recorded Aboriginal sites/objects were identified during the site survey. An attempt to relocate previously recorded [REDACTED] [REDACTED] [REDACTED] could not be visually seen. Overall, this assessment has identified that there will be no impacts to Aboriginal sites or places during the proposed works.

To further mitigate potential impacts to Aboriginal heritage, it is proposed that a buffer zone be implemented around the recorded co-ordinates of the AHIMS [REDACTED] [REDACTED]. A mitigation of a 10 m buffer would be appropriate in this instance, to be determined by RAPS.

12.1.2 IMPACTS TO CULTURAL HERITAGE VALUES OF THE AREA

There will be no impact to the cultural heritage values of the broader area. The study area has been assessed as having nil to low archaeological sensitivity. The previously recorded Aboriginal site [REDACTED] [REDACTED] would not be subject to development impacts and will remain in situ with a 10 m buffer zone surrounding it.

13. MANAGEMENT AND MITIGATION MEASURES

The overall guiding principle for cultural heritage management is that where possible Aboriginal sites should be conserved. There will be no impacts to known Aboriginal sites and areas of archaeological potential within the study area and subsequently management and mitigation measures related to this aspect of cultural heritage is outlined below.

The study area is not located within a culturally significant precinct with regards to both pre contact and post contact use of the region. However, there is evidence of Aboriginal occupation across the Leeton and Yanco regions.

The study area has been defined as having low archaeological significance determined by the landform assessment in **Section 8.3**.

13.1 Modifications to Detailed Design

No other proposed modifications to the detailed design will occur. A buffer of 10 m around the previously identified Aboriginal site referred to as [REDACTED] has been implemented in the design process and project refinement. This buffer is recommended to mitigate impacts to Aboriginal cultural heritage. It is noted that the BESS will not impact upon this artefact, however it may be impacted upon by uncontrolled vehicular access along Houghton Road.

13.2 Changes to the Proposed Works

This ACHAR has been prepared based on the most recent information made available to Premise at the time this report was submitted. Any changes made to the proposed works should be assessed by an archaeologist in consultation with the registered Aboriginal stakeholder groups. Any changes that may impact areas not assessed during the current study may warrant further investigation and result in changes to the recommended management and mitigation measures.

13.3 No Further Investigation Required

No previously recorded or newly recorded Aboriginal sites or sensitive landform features were identified during the survey of the study area. As such, no further archaeological investigations are warranted at the site. Following project approval, works can proceed without harm or further investigations.

13.4 Chance Finds

A Chance Finds Procedure (CFP) would be implemented as part of the management considerations for Aboriginal Cultural Heritage associated with the Yanco BESS. Previously referred to as unexpected finds policy, the CFP should be included as part of the proposed works Construction Environment Management Plan.

If unanticipated Aboriginal objects are uncovered during works, all work in the vicinity should cease immediately. A qualified archaeologist should be contacted to assess the find and Heritage NSW and the Leeton and District LALC must be notified.

If any chance find is suspected to be human remains, work at the location must cease and the following authorities must be contacted immediately:

- a. NSW Police – **Leeton Police Station. Phone: (02) 6953 1399.**
- b. Contact: compliance@planning.nsw.gov.au

Alternatively Heritage NSW as part of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) can be contacted via the following details.

- > – Heritage NSW - **Phone (02) 9873 8500. Email: heritagemailbox@environment.nsw.gov.au**

The location of suspected human remains should be made secure to prevent unauthorised access.

13.5 Ecologically Sustainable Development Principles

In accordance with the ACHAR Guide, Ecologically Sustainable Development (ESD) principles have been considered in preparation of this ACHAR. Considerations for ESD include options to avoid impacts to Aboriginal cultural heritage, assessment of unavoidable impacts, identification of mitigation and management measures, and taking account of Aboriginal community views. The principles of ESD are detailed in the *NSW Protection of the Environment Administration Act 1991*. ESD principles relevant to assessment of the proposed works as it relates to Aboriginal cultural heritage are considered below.

13.5.1 THE INTEGRATION PRINCIPLE

Decision-making processes should effectively integrate both long term and short term economic, environmental, social, and equitable considerations (the 'integration principle').

The proposed works would comply with the integration principle in regard to Aboriginal heritage. There are no identified areas of high archaeological significance within the study area that will be impacted. Recommendations to limit the impact to Aboriginal cultural values have been included within this report.

13.5.2 THE PRECAUTIONARY PRINCIPLE

If there are threats of serious or irreversible environmental damage, lack of full scientific confidence should not be used as a reason for postponing measures to prevent environmental degradation (the 'precautionary principle').

Current assessments of the study area have identified most of the study area having moderate to high levels of disturbance and subsequently demonstrating low archaeological potential.

The previously identified Aboriginal site [REDACTED] will not be impacted upon by the proposed development as outlined in **Section 12**. A 10 m buffer has been implemented as part of the design process around the Aboriginal site to mitigate impacts. This buffer is however, yet to be confirmed by RAPS.

Potential impacts to social and cultural values of the study area have been investigated as part of the current ACHAR investigation for the proposed works. Impacts to cultural heritage have been assessed as negligible.

13.5.3 THE PRINCIPLE OF INTERGENERATIONAL EQUITY

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (the 'principle of intergenerational equity').

No recorded Aboriginal sites will be impacted upon as a result the proposed works. There is one site located to the immediate north of the study area [REDACTED] which was could not be relocated or identified during the site survey. There is an additional 115 Aboriginal sites in the surrounding landscape, therefore, the archaeological resource within the region will continue to be available for investigation by future generations. Where impacts to social, cultural or aesthetic values of the Yanco and Leeton area have been identified, measures to reduce and mitigate the impact of the proposed development have been provided in **Section 12** and **Section 13**.



14. CONCLUSION AND RECOMMENDATIONS

The study area and surrounding landscape was occupied by Aboriginal people within the last 40,000 years indicative from background research and consultation undertaken in preparation of this ACHAR. The presence of Aboriginal cultural material was not identified during the archaeological survey.

In summary it was found that:

- > No Aboriginal sites/places are recorded in the study area.
- > One previously recorded Aboriginal Heritage Information Management System (AHIMS) sites is located in close proximity to the proposed development site [REDACTED]
- > No newly recorded Aboriginal sites were recorded during the archaeological survey.
- > The remainder of the study area is considered to have been subject to moderate levels of disturbance through historical irrigated cropping, infrastructure and road construction.
- > The study area demonstrates low archaeological potential.

The following recommendations are made:

- > A proposed 10 m buffer is to be implemented around the previously identified [REDACTED] site so as to avoid any impacts to this item.
- > Prior to works commencing a Chance Finds Protocol (CFP) is to be developed for the site. The CFP must include the procedure and management of unexpected finds relevant to Aboriginal cultural heritage.
- > The CFP must include procedures for:
 - notifying Heritage NSW, a heritage consultant and RAPs or the Local Aboriginal Land Council (LALC) where unexpected finds are identified.
 - If suspected human remains are located during any stage of the proposed works, work must stop immediately, and the NSW Police notified. An Archaeologist or Physical Anthropologist should be contacted in the first instance where there is uncertainty whether the remains are human.
- > All impacts must remain within the assessed study area or further archaeological investigation may be required.
- > No further archaeological investigations are required. The proposed development should proceed, conditional upon the recommendations outlined in this report



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APPENDICES

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