



Denman BESS

Aboriginal Cultural Heritage Assessment Report

PREPARED FOR



Denman BESS Holdings Pty Ltd

DATE

23 April 2025

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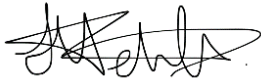
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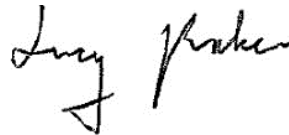
Aboriginal Cultural Heritage Assessment Report 0717735



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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AAR	Aboriginal Ancestral Remains
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHAR Guide	Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>
BESS	Battery Energy Storage System
Burra Charter	Australia International Council on Monuments and Sites, Charter for Places of Cultural Significance
Chf	Central Hunter Foothills
CHL	Commonwealth Heritage List
CMT	Culturally Modified Tree
Code of Practice	Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010)
Consultation Requirements	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010)
DECCW	Department of Environment, Climate Change and Water (former)
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERM	Environmental Resources Management Australia Pty Ltd
ESD	Ecologically Sustainable Development
GPS	Global Positioning System
GW	Gigawatt
GWh	Gigawatt Hour
ha	Hectare
Heritage Act	<i>Heritage Act 1977</i>
IBRA	Interim Biogeographic Regionalisation for Australia
ICOMOS	International Council on Monuments and Sites
km	Kilometre
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area

Acronyms	Description
MWp	Megawatt peak
Native Title Act	<i>Native Title Act 1994</i>
NHL	National Heritage List
NNTT	National Native Title Tribunal
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NSW	New South Wales
NSW NPWS	New South Wales National Park and Wildlife Services
NTS Corp	Native Title Services Corporation
OEH	Office of Environment and Heritage (former)
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
RNE	Register of National Estate
SEARs	Secretary's Environmental Assessment Requirements
SHR	State Heritage Register
SSD	Significant State Development
SU	Survey unit

TERMINOLOGY LIST

Terms	Description
Project	A Battery Energy Storage System and associated infrastructure as described in Section 1.3
Project Area	The area encompassing the Project delineated by red boundary shown on key figures to which the Application applies (unless otherwise stipulated)
Site Boundary	The property encompassing the Project Area delineated by black boundary shown on key figures; 1711 Denman Road, Denman, NSW (Lot 4, DP 6090)
The Applicant	Denman BESS Holdings Pty Ltd
Development Footprint	Areas requiring works for the proposed Battery Energy Storage System for the Project (totaling 38.6 hectares).
Survey Area	Area surveyed within the Project Area nominated by the Applicant.

EXECUTIVE SUMMARY

Denman BESS Holdings Pty Ltd (the Applicant) is proposing to develop a Battery Energy Storage System, with a capacity of 2.4 gigawatt / 4.8 gigawatt hours, located at 1711 Denman Road, Denman, within the Upper Hunter Region of New South Wales (NSW). The Project will be assessed as a State Significant Development (SSD) application under the *NSW Environmental Planning and Assessment Act 1979*.

The Applicant has engaged Environmental Resources Management Australia Pty Ltd to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support an Environmental Impact Statement for the project.

This report has been prepared to identify, assess, and develop management recommendations for any identified Aboriginal cultural heritage within the Project Area. Preparation has included community consultation with the Registered Aboriginal Parties (RAPs) who have expressed interest in the overall Project.

Field surveys to inform this assessment report was undertaken by ERM and RAP representatives on 11 September 2024 and 4 December 2024. The following is a summary of the findings of this report:

- A total of four previously registered Aboriginal sites are within the Project Area, all consisting of Artefacts;
- A total of 12 new Aboriginal sites were identified within the Project Area as part of the development of this ACHAR (comprising Artefacts and Potential Archaeological Deposits (PADs));
- Based on the current development footprint, harm to 11 sites (either site extents and their buffer, if applied) has been identified; and
- Of these 11 sites, six will be directly impacted by the development footprint. Five other sites have the potential to be impacted as the development footprint extends into the site buffer.

Proposed key measures to manage and mitigate impacts to identified heritage sites are summarised below:

Recommendation 1: Design development and Refinement

- Preservation and management of Aboriginal sites and heritage values will form a key objective of development controls for the Project. It should be noted that substantial amendments to the Project disturbance footprint in December 2024 have reduced direct impact to four sites; three sites from high to moderate and one site from high to low;
- ERM recommends further changes to the Project design, where practical to do so during detailed design to avoid impacting the six Aboriginal sites identified above; and
- Changes to the Project design should occur within the boundary of the area previously surveyed. If changes are to occur within any areas that have not been previously surveyed, additional survey will need to be undertaken.

Recommendation 2: Site Buffers for Newly Recorded Sites

- The proposed Project should limit impacts to identified Aboriginal sites as well as identified associated cultural values as much as possible. ERM recommends a buffer of at least 50 m be provided to recorded PADs. This would affect the following sites:
 - DBESS 02: Artefact (multiple), PAD;
 - DBESS 03: Artefact (multiple), PAD;
 - DBESS 04: Artefact (multiple), PAD;
 - DBESS 05: Artefact (multiple), PAD; and
 - DBESS 10: Artefact (multiple), PAD.

Recommendation 3: Aboriginal Cultural Heritage Management Plan

- As this is an SSD an ACHMP must be developed to record and describe the processes and procedures required to be implemented regarding Aboriginal cultural heritage prior and during the construction and operational phases of the Project. This should be developed in partnership with the RAPs and should at a minimum include:
 - Where harm to sites is unavoidable through detailed design of infrastructure, archaeological test excavation and/or archaeological salvage excavation should be undertaken for areas of PADs which will be subject to harm as part of clearing of the disturbance footprint. A detailed salvage excavation methodology would be included within the ACHMP and developed in consultation with the RAPs and Heritage NSW;
 - Measures to manage archaeological material that needs to be relocated away from development activities;
 - Measures such as fencing or signage be installed during and possibly post the construction phase to protect and conserve archaeological material that will not be impacted by development activities (including the buffer zones of sites);
 - The requirements regarding heritage training and inductions for employees and contractors;
 - Any requirements regarding monitoring of ground disturbance activities by RAPs;
 - The possible development and provision of cultural awareness training by RAPs; and
 - An Unexpected Finds Protocol that includes mechanisms for managing any additional Aboriginal cultural material found during construction activities.
- Note - No mitigation measures are recommended for four newly recorded sites within the Project Area as they have low potential to be impacted by the current development footprint, and do not require the application of a buffer.

1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) has been engaged by Denman BESS Pty Holdings Ltd (the Applicant) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support the development of the proposed Denman Battery Energy Storage System (BESS) located at 1711 Denman Road, Denman, New South Wales (NSW) (the Project). The Project will be assessed as a State Significant Development (SSD) application under the *NSW Environmental Planning and Assessment Act 1979*.

This report has been prepared to assess the known and potential Aboriginal cultural heritage values across the Project Area to support an Environmental Impact Statement (EIS) for the project.

1.1 OBJECTIVES

This report aims to:

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

1.2 PROJECT AREA

The Project Area is within 1711 Denman Road, Denman, NSW (Lot 4, DP 6090; the Site Boundary, totalling 325 hectares [ha]). The Site Boundary is also the boundary of the adjacent Upper Hunter South Solar Farm Project. It is within the Muswellbrook Local Government Area (LGA).

1.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Project will comprise a BESS with a capacity of 2.4 gigawatt (GW) / 4.8 gigawatt hour (GWh) and infrastructure associated. summarises the key indicative Project components and specifications.

TABLE 1.1 INDICATIVE PROJECT DESIGN-COMPONENTS AND SPECIFICATIONS

Component	Feature	Specification
Energy storage	BESS	BESS with 2.4 GW / 4.8 GWh capacity

Component	Feature	Specification
Electrical Reticulation Network	On-site substations	New high voltage substation proposed along Denman Road.
	Internal electrical reticulation network	Electrical reticulation will connect into the main substation directly via overhead or underground cables and connection to existing 500 kV transmission line.
	Switchyard	Switchyard and other electrical equipment providing connection to the existing 500 kV transmission network.
Access Roads	Access to site	Access to the Project Area is proposed from Denman Road, Denman.
Additional Infrastructure and associated works	• Underground electrical layout connection; • Internal access roads to connect BESS and ancillary infrastructure; • Operations and Maintenance Building; • Substations; and • Additional Switchyard.	
Temporary facilities	• Temporary construction facilities such as offices, car park, and amenities; • Fencing and landscaping works; • Delivery of project components, including panels, battery modules, substations, transformers, and associated components; • Installing maintenance and environmental managements processes and equipment; • Internal access roads; • Earthworks required to establish hardstand and laydown areas; and • Installation of underground and overhead cabling.	

The indicative preliminary Project layout is displayed in **Figure 1.2**, which shows the proposed indicative development footprint for the BESS, totaling 38.6 ha.

1.4 METHODOLOGY

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

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

Preparation of this report included:

- Desktop research and archaeological site database searches;
- Review of previous assessment for the Project Area, and within the local area;
- Consultation with the local Aboriginal community;
- Field surveys of the Project Area;

- Assessment of heritage significance;
- Impact assessment; and
- Preparation of management and mitigation recommendations.

1.5 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARS)

The SEARs (SSD-76189216) for the project were issued on 17 October 2024. The requirements for Aboriginal heritage assessment and where they have been addressed is summarised in Table below.

TABLE 1.2 SUMMARY OF SEARS REQUIREMENTS FOR ABORIGINAL CULTURAL HERITAGE AND WHERE ADDRESSED IN THE CURRENT REPORT

SEARs Requirement	Where addressed
An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the <i>Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i> (OEH, 2011) and the <i>Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site (including impacts from any proposed earth works, construction works and road upgrades), including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements; and	Whole report
Provide evidence of consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW 2010).	Section 4 and Section 11

1.6 AUTHORSHIP

This report was prepared by ERM Managing Consultant Victoria Gleeson and ERM Senior Consultant Charles Barnett. Erin Finnegan, ERM Technical Consulting Director - Heritage, and Elspeth Mackenzie, ERM Principal Technical Consultant provided technical reviews and ERM Partner Lucy Baker provided quality assurance reviews. A summary of the ERM staff involved in the preparation of this report and their relevant qualifications is provided in below.

TABLE 1.3 AUTHORSHIP

Name	Title	Role	Relevant Qualifications and years of experience in cultural heritage management
Victoria Gleeson	Managing Consultant - Heritage	Fieldwork, Data manager, Author	• Bachelor of Archaeology (Anthropology), Macquarie University, 2017; and • Six years' professional experience.
Charles Barnett	Senior Consultant - Heritage	Fieldwork, Data manager, Author	• Bachelor of Arts (Ancient History), Macquarie University, 2012; • Master of Arts (Ancient History), Macquarie University, 2014; • Doctor of Philosophy (Archaeology), Macquarie University, 2019; and • Four years' professional experience.

Name	Title	Role	Relevant Qualifications and years of experience in cultural heritage management
Erin Finnegan	Technical Consulting Director - Heritage	Technical Review	• Bachelor of Arts (Cultural Anthropology), Macalester, 1998; • Post Graduate Diploma – Museum and Heritage Studies, University of Cape Town 2003; • Master of Philosophy (Archaeology), University of Cape Town, 2006; and • 20 years’ professional experience.
Elspeth Mackenzie	Principal Technical Consultant - Heritage	Technical Review	• Bachelor of Arts (Hons) Anthropology & Archaeology, University of Queensland, 2002; • Post Graduate Diploma of Museum Studies, Deakin University, 2003; • Master of Cultural Heritage, Deakin University, 2005; and • 20 years’ professional experience.
Lucy Baker	Partner	Quality Assurance Review	• Master of Environmental Engineering Management, University of Technology Sydney, Australia, 2008; • Graduate Diploma of Management, Deakin University, Australia; • Bachelor of Engineering Civil, University of Technology Sydney, Australia, 1990; • Registered Planner with Planning Institute of Australia; • Technical Fellow with Engineers Australia; and • 30 years’ professional experience.

1.7 LIMITATIONS

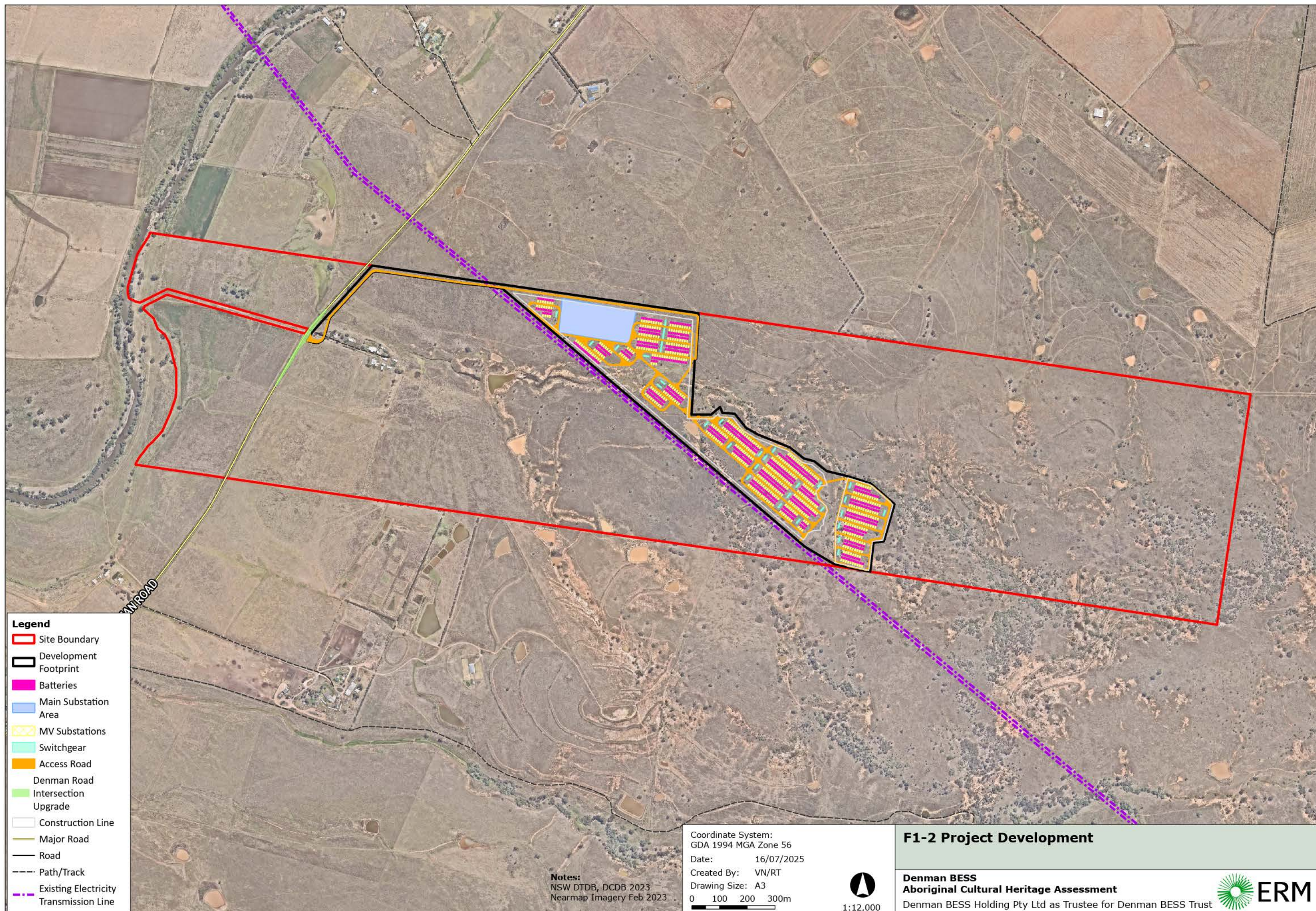
ERM acknowledges that limitations exist within the background research for archaeological reports. No responsibility can be taken by ERM for errors or omissions in primary and secondary source material cited in this report; which may include:

- Aboriginal people involved in previous studies may not have disclosed relevant cultural knowledge and the cultural significance of certain areas due to cultural sensitivities and political reasons;
- Information from ethnographic sources is often based on limited or localised interaction with Aboriginal people which was recorded through a European lens. It is unlikely that information provided through ethnographic sources accurately reflect the complexity of past Aboriginal occupation, land use and culture; and
- The AHIMS search results presented below are based on previous archaeological work and are therefore limited to specific locations and field conditions (visibility, time constraints, etc.); and therefore, may not necessarily be a true reflection of the archaeological record.

1.8 ACKNOWLEDGEMENTS

ERM would like to acknowledge the Registered Aboriginal Parties (RAPs) who registered an interest to participate in consultation for the project and gratefully thank them for the information provided throughout the consultation process and for their participation in the site surveys.





2. LEGISLATION AND GUIDELINES

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

2.1 COMMONWEALTH LEGISLATION

2.1.1 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; as amended 2021) provides the framework for the Commonwealth Government's environmental legislation. The EPBC Act outlines a legal framework for the protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places. A number of heritage lists have been established under the EPBC Act including the Commonwealth Heritage List (CHL), National Heritage List (NHL), and Register of National Estate (RNE) (now repealed). There are no CHL, NHL or RNE listings within one kilometre (km) of the Project Area.

2.1.2 ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984

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

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

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

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

2.2 NSW LEGISLATION

2.2.1 NSW ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

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

2.2.1.1 LOCAL ENVIRONMENTAL PLANS

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

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

The Project Area is within the Muswellbrook LGA and is therefore subject to the Muswellbrook LEP 2009.

2.2.2 NSW NATIONAL PARKS AND WILDLIFE ACT 1974

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

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

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

Aboriginal objects and places are recorded on the Aboriginal Heritage Information Management System (AHIMS) database. The results of a search of the AHIMS database for registered Aboriginal objects and places is detailed in **Section 6.3**.

2.2.3 HERITAGE ACT 1977 (NSW)

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

State Heritage Register

The SHR was established under Section 22 of the Heritage Act and is a list of places and objects of particular importance to the people of NSW, including archaeological sites. The SHR is maintained by Heritage NSW and includes a diverse range of over 1,500 items, in both private and public ownership.

To be listed, an item must be deemed to be of heritage significance for the whole of NSW. Listing on the SHR controls activities such as alteration, damage, demolition and development. When a place is listed on the SHR, the approval of the Heritage Council of NSW is required or any major work.

There are no State Heritage Items with Aboriginal heritage values within one km of the Project Area.

Section 170 Heritage and Conservation Register (S170 Register)

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

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

There are no s170 items with Aboriginal heritage values within one km of the Project Area.

2.2.4 NATIVE TITLE ACT 1994

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

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

2.2.5 ABORIGINAL LAND RIGHTS ACT 1983

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

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

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

2.3 NON-STATUTORY CONSIDERATIONS

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

The Clean Energy Council's *Leading Practice Principles: First Nations and Renewable Energy Projects* (2024) is the first comprehensive national Guide on First Nations engagement, participation and benefit sharing for renewable energy projects.

The Guide was co-designed with First Nations peoples and is an important link between community and industry. The Guide established ten principles that are practical and culturally appropriate:

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

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

A copy of the guidelines can be accessed at:

<https://assets.cleanenergycouncil.org.au/documents/resources/reports/Leading-Practice-Principles-First-Nations-and-Renewable-Energy-Projects.pdf>

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

3. ASSESSMENT METHODOLOGY

The current report has utilised the following methodology to identify and assess impacts to Aboriginal heritage values.

3.1 DESKTOP INVESTIGATION

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

3.2 ABORIGINAL COMMUNITY CONSULTATION

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

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

- Determine potential harm on Aboriginal cultural heritage from proposed activities; and
- Inform management and mitigation measures.

3.3 ABORIGINAL HERITAGE SURVEY

The first Aboriginal heritage survey of the Project Area was undertaken on 11 September 2024 by ERM Managing Consultant Victoria Gleeson, and representatives of Wanaruah LALC and Gomery Cultural Consultants.

A second survey of the Project Area was undertaken on 4 December 2024 by ERM Managing Consultant Victoria Gleeson, and representatives of Wanaruah LALC and Gomery Cultural Consultants.

A sample survey was undertaken which focused on small areas of ground surface visibility and areas that coincided with areas of proposed ground disturbance. The archaeological potential of the Project Area is detailed in **Sections 8.3** and **8.4**.

GPS-enabled devices were carried by the survey team and used to direct the survey, track log areas covered throughout the survey, and record new sites. A photographic record was kept of the Project Area. Photographs were taken to document the existing environment and landform context of each survey unit (SU).

During the surveys a total of 12 Aboriginal heritage features were identified within the Project Area. No locations with potential Aboriginal Ancestral Remains (AAR) were identified.

3.4 RECORDING AND ASSESSMENT METHODOLOGY

3.4.1 PREVIOUSLY RECORDED ABORIGINAL SITES

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

3.4.2 NEWLY IDENTIFIED SITES

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

Recorded details for each newly identified site included:

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

3.4.3 CULTURAL HERITAGE VALUES ASSESSMENT

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

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

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

Cultural heritage values for the Project Area were identified through a combination of desktop assessment and consultation undertaken during the preparation of the heritage report (see **Section 4**). This information was collected by ERM Managing Consultant Victoria Gleeson.

3.5 IMPACT ASSESSMENT

Following the identification and assessment of Aboriginal cultural values an impact assessment has been completed to identify whether any Aboriginal objects, places, or cultural values have the potential to be harmed by the Project.

The impact assessment for the proposal was guided by the definition of harm under the NPW Act, which is limited to impact which ‘...destroys, defaces, damages an object or place or in relation to an object – moves the object from land on which it has been situated’ (Section 5 of the NPW Act).

4. ABORIGINAL COMMUNITY CONSULTATION

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

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

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

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

In order to identify people with a potential interest in the project (as per 4.1.2 of the Consultation Requirements) a public advertisement stating the location and nature of the Project and seeking registration of interested Aboriginal parties was run in the Muswellbrook Chronicle and Hunter River Times on 7 June 2024 (**Appendix B**).

In addition, a letter providing project details and requesting a list of potentially interested parties (dated 03 June 2024, **Appendix C**) was sent to the following agencies:

- Wanaruah LALC;
- Hunter Local Land Services;
- National Native Title Tribunal (NNTT);
- Native Title Services Corporation (NTS Corp);
- Heritage NSW;
- Office of the Registrar, *Aboriginal Land Rights Act 1983*; and
- Muswellbrook Shire Council.

Responses received from these agencies indicated a total of 59 Aboriginal individuals or organisations may have an interest in the Project (**Appendix D**). An invitation to register letter was sent to each of these identified parties on 12 June 2024 and a period of 14 days was provided for the parties to respond. An example copy of this letter is provided as **Appendix E**.

On 2 August 2024 a Section 4.1.6 notification letter was sent to the Wanaruah LALC and Heritage NSW to notify them of the 20 interested registered parties for the project (**Appendix F**).

A full list of the registered RAPs can be found in below, and copies of relevant registrations provided in writing can be found at **Appendix G**. One group requested that their details not be disclosed to the LALC.

TABLE 4.1 REGISTERED ABORIGINAL PARTIES

Individual/Organisation
A1 Indigenous Services
AGA Services
Cacatua Culture Consultants
Corroboree Aboriginal Corporation
Didge Ngunawal Clan
Gomery Cultural Consultants
Hunter Traditional Owner
Hunters & Collectors
Jumbunna Traffic Management Group Pty Ltd
Konanggo Aboriginal Cultural Heritage Services
Long Gully Cultural Services
Murra Bidgee Mullangari Aboriginal Corporation
Ngagga Ngagga
Robert Syron
Thomas Dahlstrom
Ungooroo Aboriginal Corporation
Wanaruah Local Aboriginal Land Council
Widescope Indigenous Group
Wonnarua Nation Aboriginal Corporation
Yarrawalk Pty Ltd

4.2 STAGE 2: PRESENTATION OF INFORMATION ABOUT THE PROPOSED PROJECT

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

The proposed survey and assessment methodology was sent to each of the RAPs on 23 July 2024 providing 28 days in which to respond (**Appendix H**). The letter included:

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

Interest in participating in the survey program was received from several RAPs. All responses are recorded in the consultation log at **Appendix A**.

4.3 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

Stage 3 of the consultation process involved discussion of cultural values and intangible elements of significance. Feedback on the cultural heritage significance of the Project Area was requested as part of the survey and assessment methodology. No feedback on cultural values was provided during review of the methodology.

Cultural values were also discussed during the heritage surveys on 11 September 2024 and 4 December 2024. A total of three RAP representatives were invited to participate in the initial site survey (with only two attending). Three RAP representatives were invited to participate in the second survey. Survey attendees are listed in **Section 7.2**.

4.4 STAGE 4: REVIEW OF DRAFT CULTURAL HERITAGE ASSESSMENT REPORT

The draft ACHAR was provided to RAPs on 19 November 2024, via email. Each of the RAPs was provided 28 days to provide comments on the report and any recommended management and mitigation measures, prior to finalisation. A comment received by Gomery Cultural Consultants is provided in **Appendix J**.

The Final ACHAR was issued to registered RAPs on 11 February 2025, as there have been changes to the Project design since their review. An example email sent to each of the RAPs providing 28 days to comment is provided in **Appendix K**.

5. ENVIRONMENTAL BACKGROUND

5.1 ENVIRONMENTAL CONTEXT

Interactions between people and their surroundings are of integral importance in both the initial formation and the subsequent preservation of the archaeological record. The nature and availability of resources, including water, flora, fauna, and stone materials had (and continues to have) a significant influence over the way in which people utilise the landscape.

Alterations to the natural environment also impact upon the preservation and integrity of cultural materials within that environment. Current vegetation and erosional regimes also affect the visibility and detectability of archaeological evidence.

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

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

5.2 GEOLOGY

The geology of a region is not only reflected in the environment (landforms, topography, geomorphology, vegetation, climate, etc.), it also influences past occupation and its manifestation in the archaeological record. The nature of the surrounding and local geology, along with the availability and distribution of stone materials, has implications for Aboriginal land use and archaeological implications. The implications for past Aboriginal land use mainly relate to location of stone resources or raw materials, and their procurement for manufacturing and modification for stone tools. Evidence of stone extraction, and manufacture, can be predicted to be concentrated in the areas of stone availability. However, stone can be transported for manufacture and/or trading across the region.

Geologically, the Hunter Subregion is underlain by the Hunter Coalfield which extends for approximately 50 km north-west from Cessnock to Muswellbrook and a further 120 km north to Murrurundi. The Hunter Coalfield comprises three main coal measure sequences: the Greta Coal Measures, the Whittingham Coal Measures, and the Newcastle Coal Measures () (Hutton 2009: 48-49).

5.3 TOPOGRAPHY

The topographical context is important to identify potential factors relating to land use patterns. For Aboriginal people topographical features can also be associated with spiritual and cultural values which would have also had a significant influence over their day to day lives with different places being associated with specific land uses and life events. Topography also often influenced early placements of colonial settlements and infrastructure generally being located in areas which would be easily built upon. Often landscapes with lower gradients were preferred for construction.

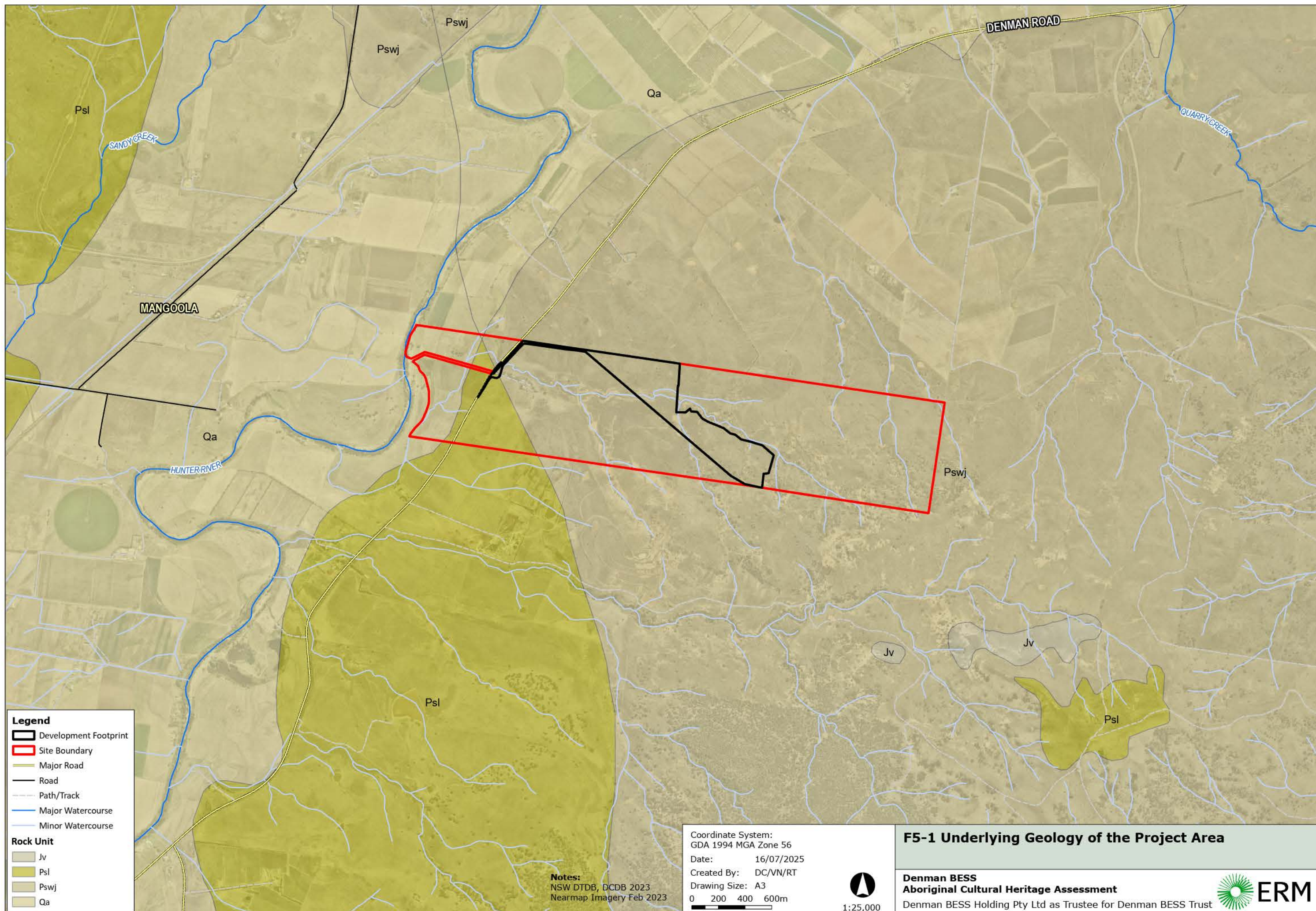
The Project Area is located within the Sydney Basin Bioregion (IBRA 5.1). The bioregion extends from just north of Batemans Bay to Nelson Bay on the central coast, and almost as far west as Mudgee. The bioregion is bordered to the north by the North Coast and Brigalow Belt South bioregions, to the south by the South East Corner Bioregion and to the west by the South Eastern Highlands and South Western Slopes bioregions. The Sydney Basin Bioregion lies on the east coast and covers a large part of the catchments of the Hawkesbury-Nepean, Hunter and Shoalhaven River systems. It consists of a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age that overlie older basement rocks of the Lachlan Fold Belt. The sedimentary rocks have been subject to uplift with gentle folding and minor faulting during the formation of the Great Dividing Range.

Erosion by coastal streams has created a landscape of deep cliffed gorges and remnant plateaus across which an east-west rainfall gradient and differences in soil control the vegetation of eucalypt forests, woodlands and heaths. The Sydney Basin Bioregion includes coastal landscapes of cliffs, beaches and estuaries (NSW NPWS 2003).

The Project Area is located within the Hunter subregion of the Sydney Basin bioregion. The Hunter subregion extends across approximately 17,045 square km and is associated with several key landscape features including the Hunter River, Macquarie-Tuggerah Lakes and the ridgelines associated with the Hunter Range, Liverpool Range and Great Dividing Range. General landscape characteristics of the subregion are summarised in .

TABLE 5.1 CHARACTERISTICS OF THE HUNTER SUBREGION (NSW NPWS, 2003: 191)

Sub-region	Landforms
Hunter	Rolling hills, wide valleys, with a meandering river system on a wide flood plain. River terraces are evident, the highest with silicified gravels. Streams can be brackish or saline at low flow. Numerous small swamps in upper catchment, extensive estuarine swamps behind the coastal barrier of beach and dunes.

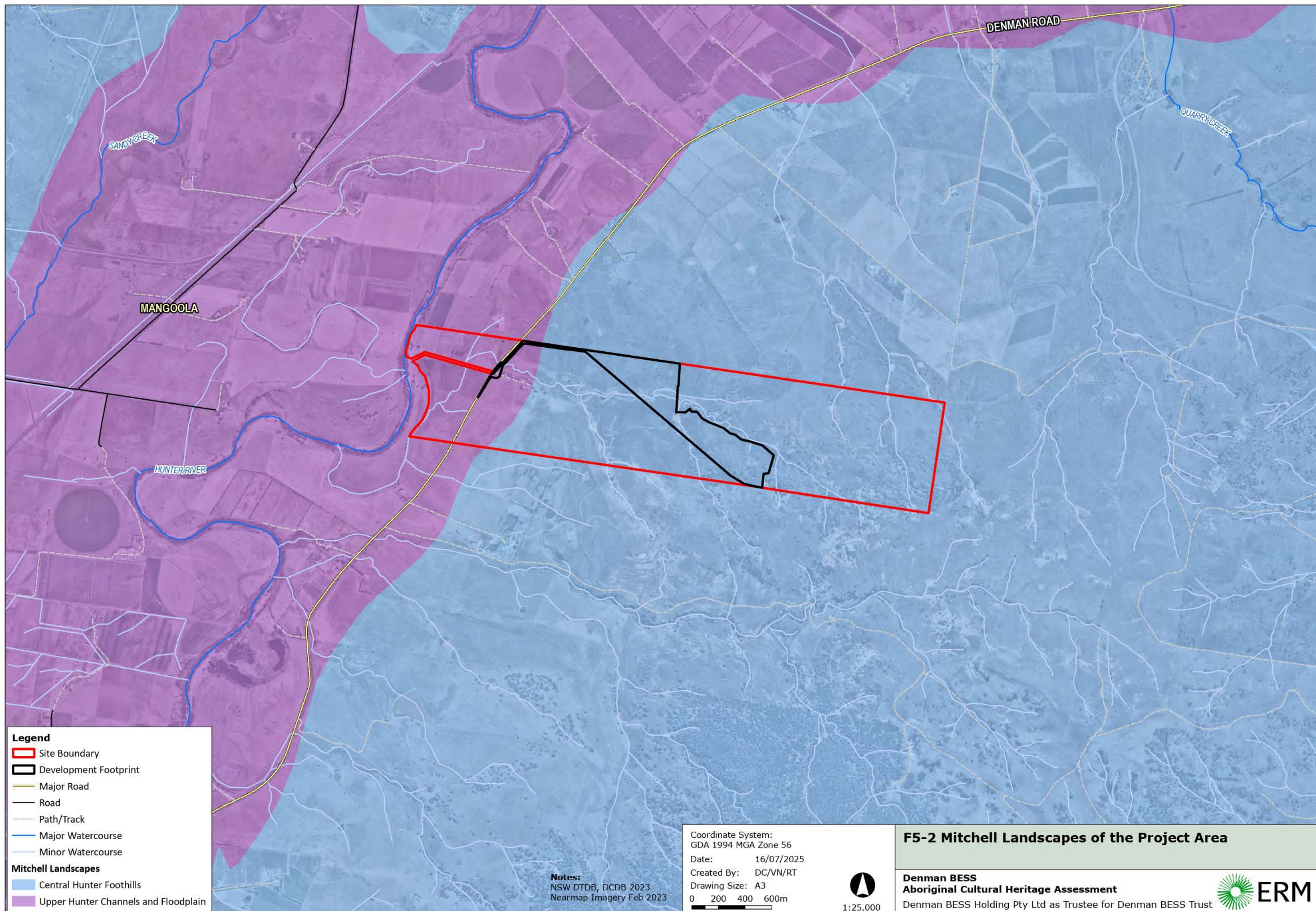


The underlying nature of the Project Area is further reflected by its classification within the Mitchell NSW Ecosystem Study. The Project Area is encompassed within the Central Hunter Foothills (Chf) Mitchell Landscape. A summary of the landscape characteristics of the Project Area is provided in **Table 5.2** and **Figure 5.2**.

TABLE 5.2 MITCHELL LANDSCAPES OF THE PROJECT AREA

Mitchell Landscape	Description
Central Hunter Foothills (Chf)	The Chf is comprised of undulating lowlands, rounded to steep hills with rock outcrop on ridges on Permian lithic sandstone, conglomerate, shale and coal. Elevation within Table 5.2 this landscape is generally between 40 m - 300 m above sea level, with a local relief of 30 m – 120 m. Soils are generally comprised of red-brown to yellow brown harsh texture-contrast soils on sloped, dark coloured clays in valleys and limited accumulations of sand and gravel in streams.

The Project Area includes a variety of landforms including gullies/ drainage lines, as well as low lying alluvial flats and steep slopes. The southern portion of the Project Area comprises substantial ridgeline features.



Legend

- Site Boundary
- Development Footprint
- Major Road
- Road
- Path/Track
- Major Watercourse
- Minor Watercourse

Mitchell Landscapes

- Central Hunter Foothills
- Upper Hunter Channels and Floodplain

Notes:
NSW DTDB, DCDB 2023
Nearmap Imagery Feb 2023

Coordinate System:
GDA 1994 MGA Zone 56
Date: 16/07/2025
Created By: DC/VN/RT
Drawing Size: A3
0 200 400 600m
1:25,000



F5-2 Mitchell Landscapes of the Project Area

**Denman BESS
Aboriginal Cultural Heritage Assessment**

Denman BESS Holding Pty Ltd as Trustee for Denman BESS Trust

5.4 SOILS

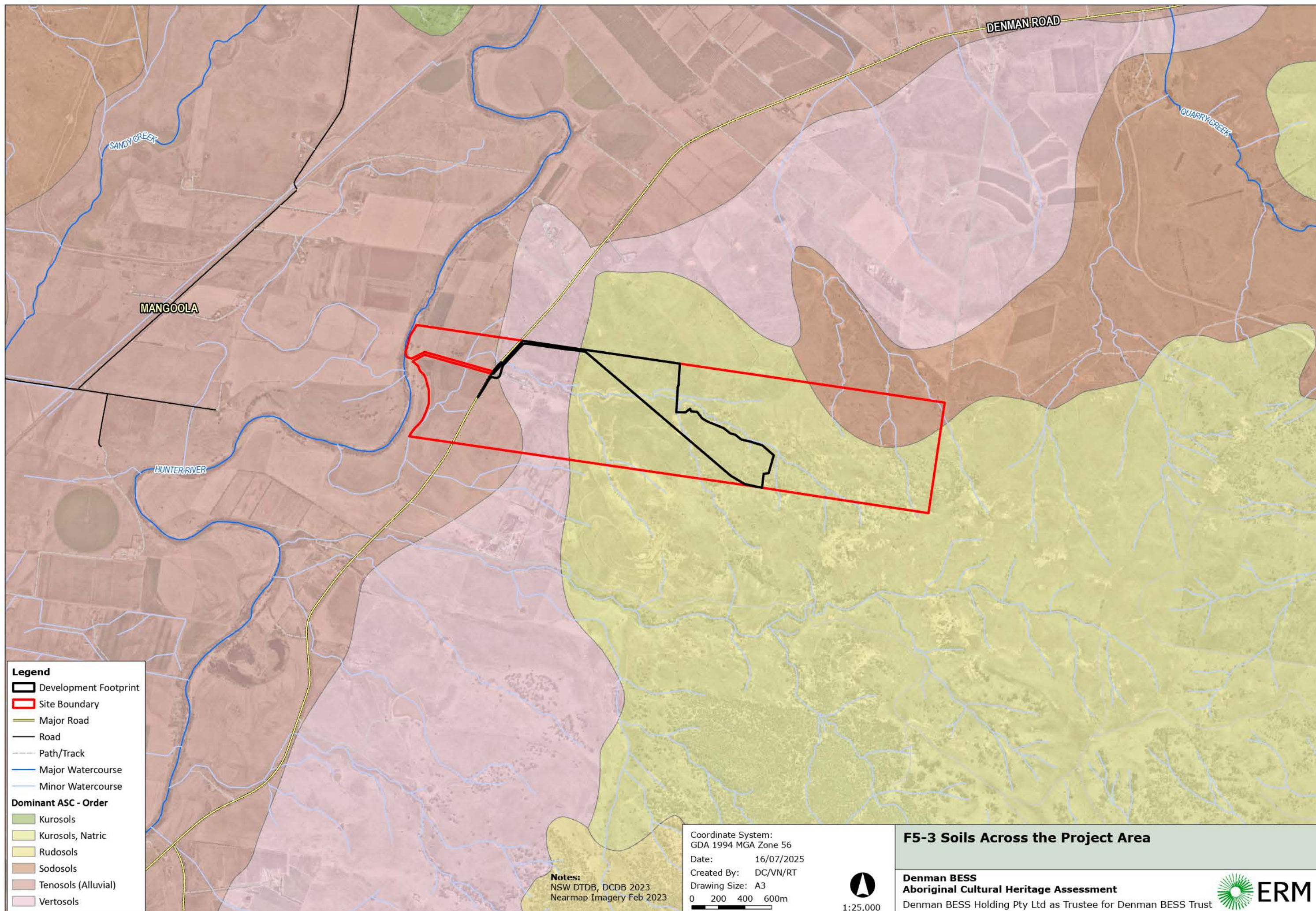
The nature of the surrounding soil landscape also has implications for land use and site preservation, mainly relating to supporting vegetation and the preservation of organic materials and burials. The deposit of alluvial and aeolian sediments and colluvium movement of fine sediments (including artefacts) results in the movement and burying of archaeological materials. The increased movement in soils by this erosion is likely to impact upon cultural materials through the post-depositional movement of materials, specifically small portable materials such as stone tools or midden remains, contained within the soil profiles.

The Project Area comprises two soil landscape units: the Dartbrook and Liddell soil landscapes ().

The Dartbrook soil landscape occurs in the far western end of the Project Area and is generally found over smooth undulating rises and low hills and overlies the Singleton Coal Measures and Quaternary alluvium. The characteristic soils are Brown Clays (Ug5.32) and Black Earths (Uf6.22, Ug5.14) on upper to midslopes, Euchrozems (Gn4.23) and Non-calcic Brown Soils (Dr4.12, Dr2.12) on mid to lower slopes, and Prairie Soils (Gn3.42) on the alluvial flats. In other areas there are Red-brown Earths (Dr2.13) on the upper slopes, Chocolate Soil - Red-brown Earth intergrades (Gn4.13) on midslopes and Chocolate Soils (Gn3.23) on the lower slopes. There is minor to moderate sheet erosion on some hillslopes. The native vegetation across the soil landscape includes woodland of white box, grey box, yellow box and Blakely's red gum; however, the area has been extensively cleared for grazing (eSpade, 2023a).

The Liddell soil landscape is dominant across the Project Area and undulating terrain, overlying the Singleton Coal Measures. The predominant soil types are Yellow Soloths (Dy2.41, Dy3.81), with some Yellow Solodic Soils (Dy3.32, Dy2.42, Dy3.42) on upper slopes and Earthy and Siliceous Sands (Uc5.22, Uc5.11) on mid to lower slopes where the parent material is sandier. Less common soils include Red Soloths (Dr2.41), Red Solodic Soils (Dr2.41) and Red Podzolic Soils (Dr5.11). Minor to severe sheet erosion is common across the landscape, with some minor rill erosion. The soil types within the landscape have low fertility, are poorly to well drained and have a low to moderate available water holding capacity. The native vegetation across the soil landscape comprises an open-woodland of narrow-leaved red ironbark, yellow box, white box and spotted gum with some Blakely's red gum, rough-barked apple and kurrajong. Bull oak and swamp oak are also common, and there are some smooth-barked apple present (eSpade, 2023b).

The soil landscapes across the Project Area have the potential to support the development of archaeological deposits. The deposits may, however, have been subject to significant displacement associated with sheet wash and erosion.



5.5 CLIMATE

Climatic conditions have also played a part in past Aboriginal and historic occupation of the area (NSW NPWS 2003). More generally the climate of the Sydney Bioregion is dominated by a temperate climate characterised by warm summers with no dry season. A sub-humid climate occurs across significant areas in the northeast of the bioregion. A small area in the west of the bioregion around the Blue Mountains falls in a montane climate zone. Snow can occasionally occur in this area of higher elevation.

Rainfall can occur throughout the year but varies across the bioregion in relation to altitude and distance from the coast, with wetter areas being closer to the coast or in higher altitudes. Temperature varies across the bioregion, with areas of higher temperature occurring along the coast and in the Hunter Valley and areas of lower temperature on the higher plateau and western edge.

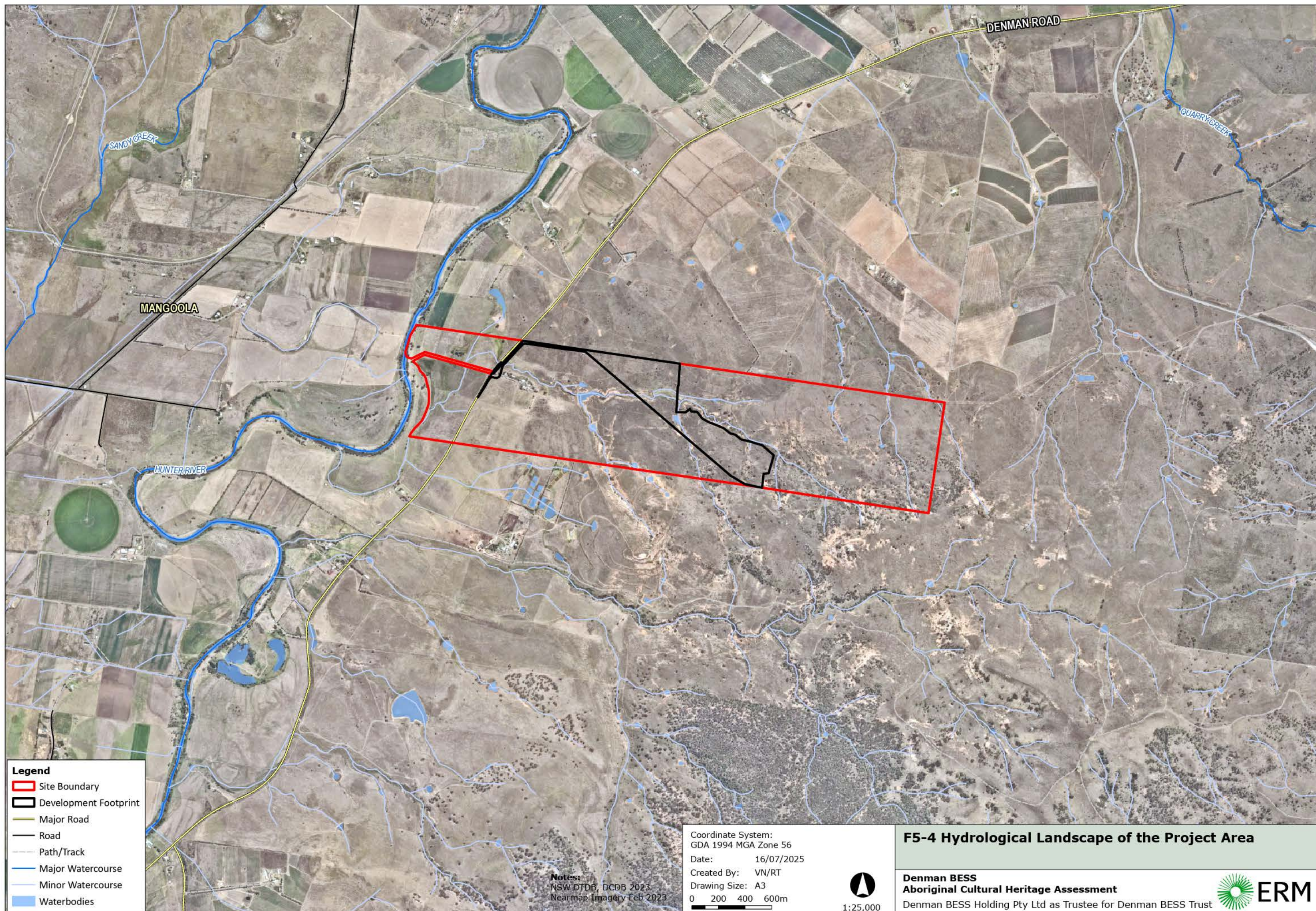
The bioregion has an annual mean temperature range of 10–17 °C. Newcastle, at latitude 32.9283°S and longitude 151.7817°E, is classified as warm and temperate, with an annual mean maximum temperature of 18.6°C (ClimateData.org). The highest mean maximum temperature is during January, with average of 23.3°C, while the lowest mean minimum temperature is during July, 13.4°C. Precipitation averages approximately 40 inches per annum; mean local rainfall ranges from 57 mm in September to higher falls of 118 mm in June.

5.6 WATERWAYS

When assessing the relationship between sites and water sources it must be noted that the Australian continent has undergone significant environmental changes during the past 65,000 years that people have lived here and that Pleistocene sites (older than 10,000 years) would have been located in relation to Pleistocene water sources that may not exist today.

One of the major environmental factors influencing human behaviour is water, as it is essential for survival and people will therefore not travel far from reliable water sources. In those situations, where people did travel far from reliable water, this indicates a different behaviour such as travelling to obtain rare or prized resources and/or trade. Proximity to water not only influences the number of sites likely to be found but also artefact densities.

The Hunter subregion, encompassing the Project Area, is largely defined by the river basins of the Hunter River and the Macquarie-Tuggerah Lakes, which are in part defined by the ridge lines associated with the Hunter Range, Liverpool Range and Great Dividing Range. The Project Area is approximately 1km from the Hunter River which would have been heavily frequented by Aboriginal people as an attractive locale for camping and as a source of fresh water ().



5.7 FLORA AND FAUNA

The availability of flora and associated water sources affect fauna resources, all of which are primary factors influencing patterns of past Aboriginal land use and occupation. The assessment of flora has two factors, first being a guide to the range of plant resources used for food and medicine and to manufacture objects including nets, string bags, shields and canoes which would have been available to Aboriginal people in the past. The second is what it may imply about current and past land uses and to affect survey conditions such as visibility, access and disturbances.

The Project Area is moderately vegetated with native white box (*Eucalyptus albens*), river red gum (*Eucalyptus camaldulensis*), and eucalypt trees, along ridgelines and water courses. Invasive species such as St. John's wort (*Hypericum perforatum*), and African boxthorn (*Lycium ferocissimum*) are present within the Project Area.

5.8 HISTORIC LAND USE AND DISTURBANCES

Colonial exploration of the Hunter Region began as early as 1796; however, the Hunter River and Hunter Valley were explored in greater detail in 1801. In 1823 the Hunter Valley was surveyed, and substantial settlement of the area followed. The expansive river systems allowed many people to settle in the region because of the richness of the alluvial plains that supported various agricultural pursuits. Settlement was clustered along the Hunter, Peterson and Williams Rivers and their tributaries (Heritage Council of NSW, 2013).

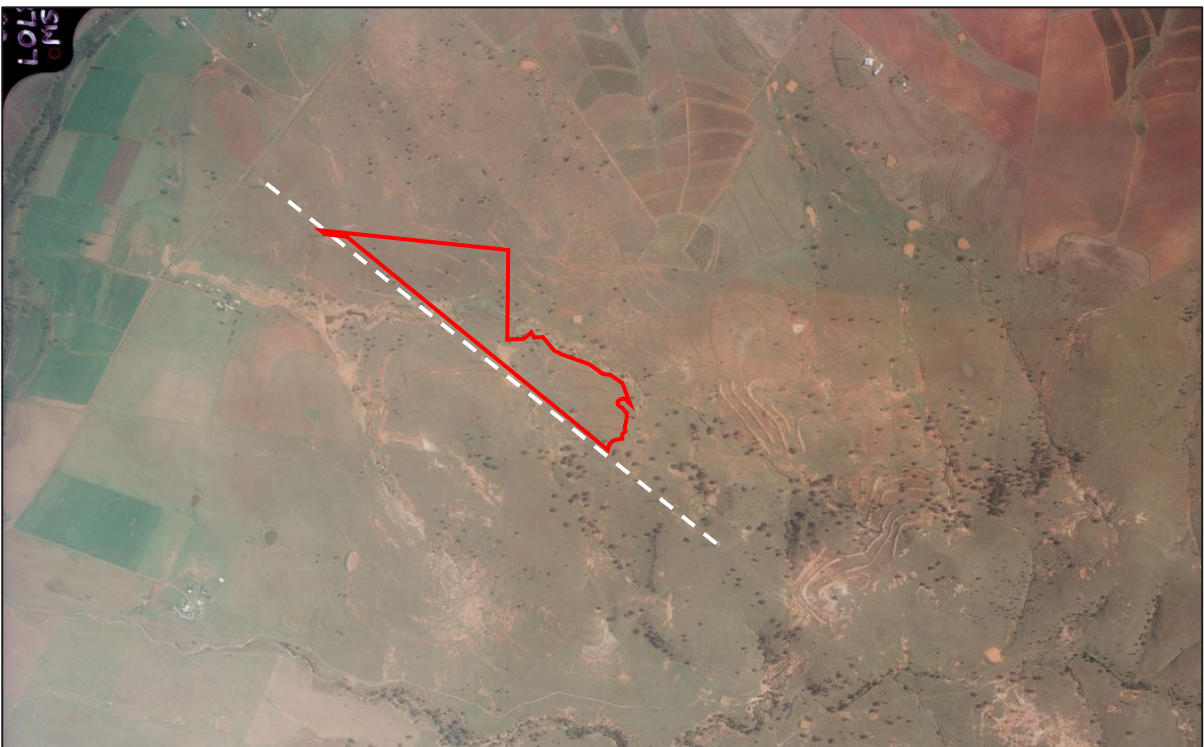
The Project Area is within the historic Vaux Parish of Durham County. The Project Area is encompassed within historic Portion 4 (1000 acres) that was granted to William Carter in 1828. This portion of land was utilised for agricultural pursuits and later became part of the Piercefield Estate, totaling over 8,000 acres. In c.1879, the Estate was acquired by James Withycombe, who maintained ownership until the subdivision of the Estate in 1909. By this time, one house had been constructed in Portion 4, and within the Project Area a series of fences and a dam. By 1916 further structures had been established within Portion 4 including houses, hayshed, sty, dam and other outbuildings as well as an engine pump and a series of fences. Some of these structures remained extant on the property into the mid twentieth century (), though they are located outside and to the west of the Project Area.



The mid twentieth century saw the development of the coal mining and electricity generation industries in the region. The land encompassing the Project Area was established as a State Coal Mine Reserve in May 1964. The Bayswater to Mount Piper electrical transmission line was constructed in c.1988, running north-west to south-east adjacent to the Project Area on its western boundary (). The Project Area remains largely unchanged since the 1980s; it continues to function as an agricultural property.



PHOTOGRAPH 5.1 1957 AERIAL SHOWING THE PROJECT AREA (RED) AS AGRICULTURAL LAND (WITH CLUSTER OF STRUCTURES ARROWED) (NSW HISTORICAL IMAGERY)



PHOTOGRAPH 5.2 1988 AERIAL OF THE PROJECT AREA SHOWING NEWLY CONSTRUCTED ELECTRICAL TRANSMISSION LINE (DASHED WHITE) (NSW HISTORICAL IMAGERY)

6. ABORIGINAL ARCHAEOLOGICAL BACKGROUND

6.1 ETHNOGRAPHIC HISTORY

Prior to colonial settlement, the Central Lowlands of the Hunter Valley were inhabited by the Wonnarua¹ people. The Wonnarua were bound to the north by the Geawegal people, to the north-east by the Worimi people, to the south-east by the Awabakal people, to the south by the Darkinung people, and to the west by the Wiradjuri people.

Due to the rapid and violent invasion of the Hunter Valley by colonists, there is very little detailed information available about the Aboriginal way of life prior to their arrival. Thus, reliance must be placed on secondary sources and ethnographic references. However, ethnographers were not trained archaeologists and anthropologists, and their records reflected biased and ethnocentric interpretations. Additionally, they often relied on letters from informants who lived in the area and did not travel there themselves (Umwelt, 2007; Miller, 1985).

A dreamtime story from the Wonnarua explains how the hills and rivers in the Hunter Valley were created by a spirit called Baiame. Baiame also created Kawal to watch over the Wonnarua people; the spirit of Kawal is embodied in the wedge tailed eagle, found throughout the Hunter Valley (GML, 2019).

The Wonnarua was a large grouping of small individual kinship groups that were related to each other by their kinship classification, common language, and law. Kinship groups moved within various allotted areas of their land in search of food, and only occasionally gathered for religious and ceremonial functions, and to discuss important matters concerning their people as a whole (Miller, 1985). People also travelled beyond their own group territories to attend ceremonies with neighbours, to trade and develop social networks; the Wonnarua are recorded as having had social links from the coast to the western plains of NSW (Umwelt, 2007).

The country of the Wonnarua has been described as encompassing extensive grasslands with few trees and extensive floodplains. The grasslands are thought to have occurred through continual burning by Aboriginal people, as part of their responsibility to look after the land and as a hunting strategy; fire stick farming was a major economic activity of the Wonnarua people. Burning cleared the undergrowth and fresh growth attracted prey animals.

The Wonnarua followed a hunting and gathering lifestyle; each kinship group moved in a cyclical pattern through their allotted lands. Men were responsible for hunting the larger game, including kangaroo, emu, dingo, and fish, whilst women gathered smaller game such as lizard, mouse, possum as well as bush fruits, yams, grubs, and roots (Miller, 1985; Cunningham, 1827). Suitable trees were also available to provide bark for shelters and wooden implements including shields, as well as timber to fashion boomerangs, spears, and throwing sticks (Miller, 1985; Umwelt, 2007).

It is unclear how many Aboriginal people lived in the Hunter Valley prior to the arrival of colonists; however, the population is thought to have declined dramatically following settlement. An influx of settlers caused disruption to the movement of Aboriginal groups, and there was increasing frontier violence throughout the early nineteenth century.

¹ The Wonnarua have also been referred to as Wanaruah, Wonaruah and Wanarua. Wonnarua is the spelling that has been used throughout this report.

The Aboriginal people lost their traditional lands to agricultural pursuits, and the introduction of alcohol, tobacco, and disease impacted their health. By the 1860s, Aboriginal people were encouraged to settle on government run reserves; the St Clair Mission (also referred to as Mount Olive) was established in the Hunter region in 1893, approximately 45 km east of the Project Area. The Wonnarua people made up a significant portion of the population at the St Clair Mission (Gray, 2019). There is evidence to suggest that the location of St Clair Mission and other reserves in the area were the location of Aboriginal camp sites prior to colonial settlement (Umwelt, 2007).

Despite the impact of colonial settlement on their traditional lands and culture, the Wonnarua people have maintained a strong sense of their cultural identity and links with the land. They continue to reinvigorate their traditional culture, and language (Gray, 2019).

6.2 LOCAL ARCHAEOLOGICAL CONTEXT

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

The intensity of archaeological survey in the area has resulted in many sites being recorded on the AHIMS database. The relatively high number of sites identified, especially when considering the limited visibility available during each previous survey effort, has been assessed as indicative of a highly used landscape. The identification of these sites is consistent with predictive modelling for this location which indicated that this landscape is likely to have been used by Aboriginal people for multiple purposes.

6.2.1 UPPER HUNTER SOUTH SOLAR FARM (ERM, 2023)

In 2023, ERM prepared the Scoping report for the Upper Hunter South Solar Farm, located at 1711 Denman Road, Denman NSW (the current Site Boundary for the Denman BESS Project). The proposed Upper Hunter South Solar Farm will include the construction of a solar farm and BESS and associated infrastructure. The proposed Solar Farm is anticipated to have installed capacity of up to 90MW, and the BESS will have a 30 MW / 60 MWh capacity. The Project will have a Development Footprint of approximately 188.4 ha. Three valid AHIMS registered sites were identified as being within the Upper Hunter South Solar Farm during the preparation of the Scoping report.

The EIS report for the project is currently being prepared. The ACHAR prepared as part of the EIS identified a total of 48 new Aboriginal sites were identified.

6.2.2 DENMAN SOLAR PARK, ABORIGINAL CULTURAL HERITAGE ASSESSMENT (EVERICK HERITAGE, 2021)

Everick Heritage undertook an archaeological survey and test excavation in 2021 for a Solar Park at 400 Denman Road, Muswellbrook NSW, approximately one km north of the Project Area. 54 stone artefact sites were identified across crest, and sloped landforms, and five areas of PAD were identified on the basis of paddocks which generally corresponded to fence lines, landforms and soil landscapes. The test excavations involved one 1 x 1 m test pit and 34 shovel test pits being excavated in an approximate 100 m grid across the project area.

The survey and test excavation suggested that the most archaeologically sensitive landforms were crests, as they would have provided an elevated, relatively flat and well-drained campsite location with views across the floodplain to the Hunter River.

6.2.3 PROPOSED MINE PLAN MODIFICATION, MANGOOLA COAL, ABORIGINAL CULTURAL HERITAGE AND ARCHAEOLOGICAL ASSESSMENT (UMWELT, 2010)

In 2010 Umwelt undertook an Aboriginal archaeological assessment for proposed modifications to the Mangoola Coal Mine (formerly Anvil Hill Project) near Wybong, approximately 5 km north-west of the Project Area. The survey undertaken for the three proposed modification areas (totaling 11.7 ha) identified four new sites comprising artefact scatters and one scarred tree. The largest artefact scatter contained 13 artefacts. The dominant raw material type was mudstone, with lesser quantities of silcrete, tuff, fine-grained siliceous, quartz, and chalcedony. Artefact types were largely flakes and broken flakes, with lesser numbers of cores, retouched artefacts, flaked pieces and blade flakes. The sites were assessed as being of low to moderate archaeological significance.

The original proposal to construct the open cut coal mine involved an Aboriginal archaeological assessment undertaken by Umwelt in 2006. During that survey, 173 Aboriginal sites were identified, comprising 88 artefact scatters, 69 isolated finds, 16 rock shelters with deposit and PAD. Of these sites, the majority were found within 30 m of a watercourse and were recorded on creek banks and adjacent foot slopes. The dominant artefact types were flakes, followed by broken flakes and cores; the most common material type was mudstone, with silcrete also occurring frequently. The majority of the recorded sites were assessed as being of low archaeological significance.

6.2.4 MT ARTHUR UNDERGROUND PROJECT, ABORIGINAL ARCHAEOLOGICAL ASSESSMENT (UMWELT, 2007)

Umwelt completed an Aboriginal archaeological assessment for the proposed Mt Arthur Underground Project, south of Muswellbrook NSW. The assessment area was located to the south and east of the current Project Area, including areas approximately 300 m south of the boundary. The assessment area covered approximately 3800 ha and encompassed all areas of proposed disturbance and areas within the subsidence affection area that were outside areas previously salvaged and subject to detailed subsurface investigations as part of the currently approved Bayswater No.3 open cut mining area.

A total of 77 sites were identified within the survey area, with the majority comprising artefact sites (scatters and isolated finds), with the exception of one scarred tree. The main artefact category identified was flakes; the high frequency of broken flakes was assessed as indicative of the impact of stock grazing throughout the area. The sites identified were primarily low frequency artefact scatters with mudstone and silcrete as the most common raw materials.

It was stated that the portion of the survey area approximately 1 km east of the current Project Area contained large erosion scalds, caused by trampling and grazing by cattle.

Ground surface visibility was greatest in areas of gully erosion and scalding associated with the creek lines and their tributaries. The majority of the sites were identified on creek banks or within 50 m of a high order watercourse.

Site integrity was generally found to be low to moderate due to the high impact of previous land use history, particularly erosion accelerated by pastoralism.

6.2.5 BAYSWATER TO MOUNT PIPER TRANSMISSION LINE, ARCHAEOLOGICAL SURVEY (ANU ARCHAEOLOGICAL CONSULTANCIES, 1985)

In 1983-84, ANU Archaeological Consultancies undertook an archaeological investigation of the 222 km route of a 500 KV transmission line from Bayswater (south of Muswellbrook) to Mount Piper (near Lithgow) in NSW; the transmission line now runs adjacent to the western boundary of the Project Area.

A total of 44 Aboriginal archaeological sites were recorded along the transmission line route, comprising 41 artefact scatters, two rock shelters, and one complex axe grinding groove. One artefact scatter, BMP8 (AHIMS # 37-2-0508), was recorded approximately 250 m west of the Project Area's western boundary. It was described as comprising four stone artefacts, and was located in an area of exposure on the bank and surrounding hill slopes of an ephemeral stream, with good ground visibility.

6.3 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

The AHIMS database provides information concerning previously recorded Aboriginal sites in NSW. AHIMS stores data regarding a site's location, site type, site features, and a unique site identification number for all registered Aboriginal heritage sites in NSW. Mapping of an AHIMS database search results was undertaken to identify any known sites which could be impacted by proposed works as well as determine the overall pattern of recorded Aboriginal sites in an area.

6.3.1 SEARCH RESULTS

A search of the AHIMS register was undertaken on 1 July 2024 to identify registered Aboriginal sites within the Project Area and its vicinity. The search was conducted utilising the parameters provided in .

TABLE 6.1 AHIMS DATABASE SEARCH DETAILS

Parameters	Search 1
Client Service ID	905848
Datum	GDA Zone 56
Lat, Long From	-32.3673, 150.7288
Lat, Long To	-32.3311, 150.7906
Number Sites ²	97

The extensive AHIMS search identified that there were 97 registered sites within the search area (encompassing an approximate 2 km radius of the Project Area) (*Appendix I*). These sites are summarised in .

A total of four registered Artefact sites were identified within the Project Area, located in open contexts (detailed in). The registered site location of each AHIMS site is shown in .

² Number of sites registered following data download on 01 July 2024.

TABLE 6.2 SUMMARY OF AHIMS RESULTS WITHIN THE SEARCH PARAMETERS

Site Type	Number	% of Total Sites
Artefact	92	95
Artefact with Potential Archaeological Deposit (PAD)	3	3
Stone Quarry	1	1
Hearth	1	1
Total	97	100

TABLE 6.3 SUMMARY OF AHIMS SITES WITHIN THE PROJECT AREA

Site Name	Site Type	Previous permits	Within Project Area ³
AHIMS # 37-2-6033	Artefact	-	Yes
AHIMS # 37-2-6579	Artefact	-	Yes
AHIMS # 37-2-6591	Artefact	-	Yes
AHIMS # 37-2-6608	Artefact	-	Yes

6.4 AHIP REGISTER

A review of the following public AHIP registers was undertaken during the preparation of this report:

- AHIP public register 2023-2024 (as accessed on 9 July 2024); and
- AHIP public register archive 2010-2023 (as accessed 9 July 2024).

No AHIPs have been registered within the Project Area.

6.5 COLONIAL FRONTIER MASSACRE MAPPING

A review of the Colonial Frontier Massacre Mapping project developed by the Newcastle University has revealed that there are no known massacre sites within the Project Area. However, a number of massacres occurred within the broader region, with the closest of these being the Bridgeman Estate, Fal Brook massacre in the Hunter Valley located approximately 16 km north of the Project Area.

³ Based on currently registered AHIMS data

6.6 PREDICTIVE MODEL OF ABORIGINAL LAND USE AND ITS MATERIAL TRACES

Based on the review of background information and comparative studies, the following predictions are made for Aboriginal cultural heritage in the Project Area:

- Evidence of Aboriginal occupation is most likely to be found within close proximity to water (particularly the Hunter River);
- Visibility across the Project Area is likely to be low. Aboriginal sites are most likely to be identified in areas of erosion and exposure;
- Stone artefact sites (scatters and isolated finds) are the most likely site type to be encountered within the Project Area. Artefact sites are considered likely to be located on ridges and terraced landforms in close proximity to water;
- Culturally Modified Trees (CMTs) are unlikely to be found in the Project Area due to the heavy clearance of mature trees associated with previous and current land use;
- As high-quality stone outcropping locations have not been identified in the Project Area it is unlikely that stone quarry sites, shelter sites, rock art/engravings, and axe grinding grooves would occur; and
- It is unlikely that burials will be identified within the Project Area.

Figure 6.1 AHIMS Sites

Figure redacted for Public View

7. SURVEY METHODOLOGY

7.1 AIMS

The aims of the cultural heritage surveys were to:

- Cover a representative sample of the Project Area that will potentially be impacted by the Project;
- To consult with RAPs over the course of the project life and provide the RAPs an opportunity to provide feedback on the cultural values and elements of cultural heritage significance within the Project Area; and
- Record all Aboriginal objects, sites, or places identified during survey.

7.2 PARTICIPANTS

The first cultural heritage survey was undertaken on 11 September 2024. The second was undertaken on 4 December 2024. Participants in the survey is shown in .

TABLE 7.1 SURVEY ATTENDANCE

Name	Organisation	Role	Date
Victoria Gleeson	ERM	Survey supervisor	First Survey 11/09/2024 Second Survey 04/12/2024
David Horton	Gomery Cultural Consultants	RAP site officer	First Survey 11/09/2024 Second Survey 04/12/2024
Briana Matthews	Wanaruah LALC	RAP site officer	First Survey 11/09/2024
Wayne French	Wanaruah LALC	RAP site officer	Second Survey 04/12/2024
Raymond French	Wanaruah LALC	RAP site officer	Second Survey 04/12/2024

7.3 METHODOLOGY AND COVERAGE

Archaeological surveys of the Project Area were undertaken in accordance with the Code of Practice.

Due to the general lack of visibility across the site, archaeological survey used a sample survey approach. Survey also included detailed inspection of areas of exposure across the Project Area. Transects were completed across the survey area (encompassing the development footprint), using a combined method of pedestrian and driving survey. Survey of each transect was undertaken with the team spaced approximately 10 - 50 m apart. Where areas of exposure or visible potential archaeological features were identified members of the transect team temporarily deviated from their assigned transect to inspect in closer detail.

Sites were defined in accordance with the methodology defined in **Sections 3.4.2 and 3.4.3**.

A GPS track log was used to track the path of the members of the survey team, as shown in , record the coordinates of survey transects as well as the location of Aboriginal sites.

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

7.4 SURVEY COVERAGE

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

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

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

In accordance with the Code of Practice, a summary of the survey coverage as delineated into survey units and landform units is provided in .

TABLE 7.2 SURVEY COVERAGE SUMMARY – SURVEY UNITS

Survey Unit	Survey Unit Area (m ²)	Landform	Visibility (%)	Exposure (%)	Effective Coverage (m ²)	Effective Coverage (%)
SU 1	303,667	Valley flat, crest, rolling hills, stream bank and channel, and undulating plains	20	30	18,220	5.99%
SU 2	51,347	Crest, rolling hills, and undulating plains	10	20	1,027	2%

7.5 SURVEY UNITS

7.5.1 SURVEY UNIT 1

The main portion of the Project Area was investigated as a single survey unit (SU 1) during the initial survey. The general landscape of the SU comprised undulating and gentle slopes in the far northern and southern areas, with occasional steep ridges and eroded drainage channels in the central portion (to). The channels and washouts created areas of exposure that could be investigated for archaeological material.

A deep and wide gully traversed the central portion of the SU; some household/agricultural rubbish was noted within the gully. One main access track runs east to west across the northern portion of the SU and one dam was present within the central area of the SU ().

The overall ground visibility throughout the SU was very low due to vegetation cover. Some larger trees were present across the SU; however, it was largely grassed. Invasive species such as St. John's wort (*Hypericum perforatum*), and African boxthorn (*Lycium ferocissimum*) dominate the SU. Kangaroos and lizards were identified throughout the survey.

Archaeological material recorded during the survey included isolated stone artefacts, artefact scatters, and PADs. Artefact lithology was predominantly mudstone, silcrete, and basalt.

Identified Aboriginal heritage values:

- Previously registered sites: AHIMS #37-2-6033, AHIMS #37-2-6579, AHIMS #37-2-6591, AHIMS #37-2-6608; and
- New sites: Five Artefact sites, and five Artefact & PADs.

Historic heritage values:

- None



PHOTOGRAPH 7.1 VIEW SOUTH-EAST
ACROSS NORTHERN PORTION OF THE SU
(ERM 2024)



PHOTOGRAPH 7.2 VIEW SOUTH OF THE
SOUTH PORTION OF THE SU (ERM 2024)



PHOTOGRAPH 7.3 VIEW NORTH OF THE
DEEP GULLY WITHIN CENTRAL PORTION OF
THE SU (ERM 2024)



PHOTOGRAPH 7.4 DAM IN CENTRAL
PORTION OF THE SU (ERM 2024)

7.5.2 SURVEY UNIT 2

The south-eastern portion of the Project Area was investigated as a separate SU (SU 2) during the second survey.

The general landscape of the SU comprised undulating slopes and ridges adjacent to eroded drainage channels. The overall ground visibility throughout the SU was very low due to vegetation cover. Some larger trees were present across the SU; however, it was largely grassed ().

Archaeological material recorded during the survey included an isolated stone artefact, and an artefact scatter. Artefact lithology comprised mudstone, silcrete, and sandstone.

Identified Aboriginal heritage values:

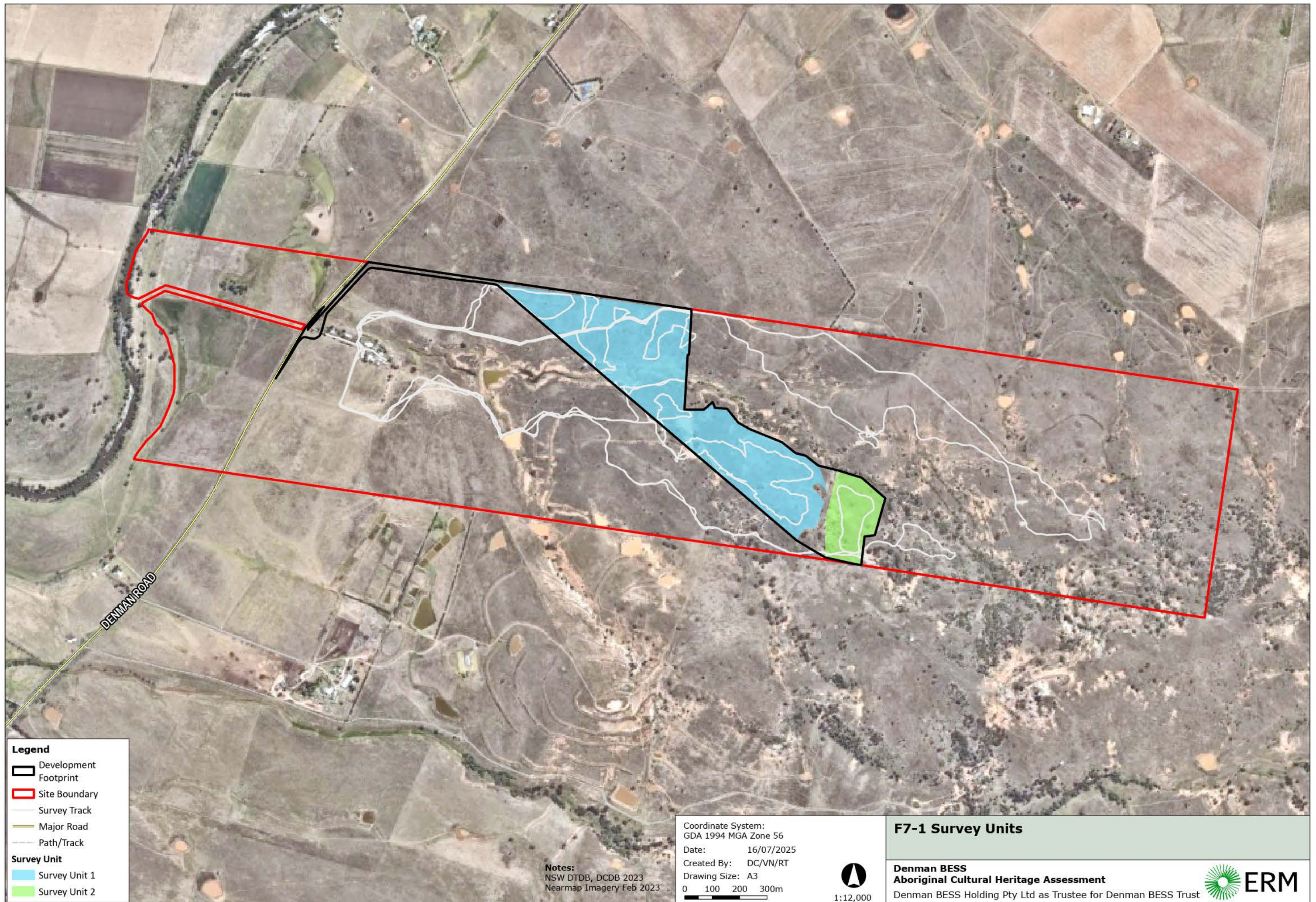
- New sites: Two Artefact sites.

Historic heritage values:

- None



PHOTOGRAPH 7.5 VIEW NORTH FROM SOUTHERN PORTION OF THE SU (ERM 2024)



Legend

- Development Footprint
- Site Boundary
- Survey Track
- Major Road
- Path/Track

Survey Unit

- Survey Unit 1
- Survey Unit 2

Notes:
NSW DTDB, DCDB 2023
Nearmap Imagery Feb 2023

Coordinate System:
GDA 1994 MGA Zone 56
Date: 16/07/2025
Created By: DC/VN/RT
Drawing Size: A3
0 100 200 300m



F7-1 Survey Units

**Denman BESS
Aboriginal Cultural Heritage Assessment**

Denman BESS Holding Pty Ltd as Trustee for Denman BESS Trust

8. SURVEY RESULTS AND DISCUSSION

8.1 REGISTERED ABORIGINAL HERITAGE SITES

Four previously recorded Aboriginal heritage sites are within the Project Area; three of which were recorded by ERM in 2023 as part of a survey for the adjacent Upper Hunter South Solar Farm Project. The details of these sites are summarised below in .

TABLE 8.1 SUMMARY OF PREVIOUSLY IDENTIFIED SITES

Site name	Description	Photograph
AHIMS #37-2-6033	Site type: Artefact Registered Coordinates: [REDACTED] Current Site Assessment: Valid This site was revisited by ERM in 2023 as part of a survey for the adjacent Upper Hunter South Solar Farm Project, and its location was verified. Numerous mudstone and silcrete flakes were successfully rediscovered. The site was in a relatively flat area, approximately 80 m south of a dry watercourse.	 PHOTOGRAPH 8.1 LOCATION OF AHIMS # 37-2-6033 (ERM, 2023)  PHOTOGRAPH 8.2 ARTEFACTS OF AHIMS # 37-2-6033 (ERM, 2023)
AHIMS #37-2-6579	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 30 m x 30 m This site was recorded by ERM in 2023 as part of a survey for the adjacent Upper Hunter South Solar Farm Project. It was a low-density artefact scatter identified at an open site on a gentle slope, approximately 10 m from watercourse. The six artefacts comprised of silcrete and mudstone flakes, and quartz raw material.	 PHOTOGRAPH 8.3 ARTEFACT SELECTION AT AHIMS #37-2-6579 (ERM, 2023)

Site name	Description	Photograph
	Ground visibility was 70% in an exposed area with low grasses, banksia and low-moderate pinrush shrubs across site.	 PHOTOGRAPH 8.4 ARTEFACT SELECTION AT AHIMS #37-2-6579 (ERM, 2023)
AHIMS #37-2-6591	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 50 m x 50 m This site was recorded by ERM in 2023 as part of a survey for the adjacent Upper Hunter South Solar Farm Project. It was a low-density artefact scatter identified at an open site surrounding a dam. The five artefacts comprised of silcrete and mudstone flakes and raw material. Ground visibility was 85% with low grasses and small shrubs across site.	 PHOTOGRAPH 8.5 ARTEFACT SELECTION AT AHIMS #37-2-6591 (ERM, 2023)  PHOTOGRAPH 8.6 LOCATION OF AHIMS #37-2-6591 (ERM, 2023)

Site name	Description	Photograph
AHIMS #37-2-6608	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 50 m x 50 m This site was recorded by ERM in 2023 as part of the adjacent Upper Hunter South Solar Farm Project. It was a low-density artefact scatter identified at an open site in a gentle slope. The four artefacts comprised of silcrete and mudstone flakes. Ground visibility was 65% in an area of exposed red silty sand with low grasses across site.	 PHOTOGRAPH 8.7 ARTEFACT SELECTION AT 37-2-6608 (ERM, 2023)  PHOTOGRAPH 8.8 LOCATION OF 37-2-6608 (ERM, 2023)

8.2 NEWLY IDENTIFIED ABORIGINAL SITES

A total of 10 new sites were identified during the survey program on 11 September 2024. A further 2 sites were identified during the survey program on 4 December 2024. All these sites have been recorded with the below details () and registered on AHIMS (Appendix I) and presents detailed descriptions of the newly identified sites, and their locations are illustrated in table.

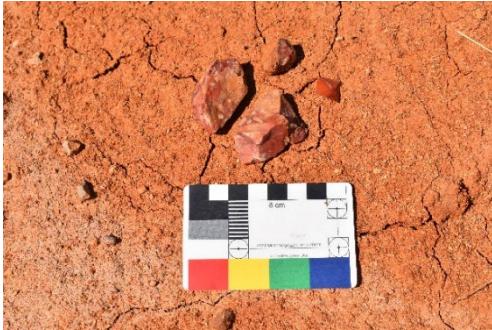
TABLE 8.2 NEWLY IDENTIFIED SITES AND AHIMS DETAILS

AHIMS Site Name	AHIMS Site Number	Site Type
DBESS 01	33-2-0054	Artefact (multiple)
DBESS 02	33-2-0055	Artefact (multiple), PAD
DBESS 03	33-2-0056	Artefact (multiple), PAD
DBESS 04	33-2-0057	Artefact (multiple), PAD
DBESS 05	33-2-0058	Artefact (multiple), PAD
DBESS 06	33-2-0059	Artefact (isolated)
DBESS 07	33-2-0060	Artefact (isolated)
DBESS 08	33-2-0061	Artefact (isolated)
DBESS 09	33-2-0062	Artefact (multiple)
DBESS 10	33-2-0063	Artefact (multiple), PAD
DBESS 12	37-2-6632	Artefact (isolated)
DBESS 13	37-2-6633	Artefact (multiple)

TABLE 8.3 NEWLY IDENTIFIED SITES FROM SEPTEMBER 2024 SURVEY

Site name	Description	Photographs
DBESS 01 (AHIMS #33-2-0054)	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 87 m x 18 m Artefact scatter (5 mudstone and silcrete flakes). Artefacts present in area of exposure within an eroded bank, adjacent to contour bank. Ground visibility was approx. 60% across the site.	 PHOTOGRAPH 8.9 LOCATION OF DBESS 01 (ERM 2024)

Site name	Description	Photographs
		 PHOTOGRAPH 8.10 ARTEFACTS OF DBESS 01 (ERM 2024)
DBESS 02 (AHIMS #33-2-0055)	Site type: Artefact (multiple), PAD Registered site location: [REDACTED] Site extent: 150 m x 35 m Medium-density artefact scatter (approx. 20-50 artefacts). Silcrete and mudstone flakes, mudstone core and a silcrete blade identified. Undulating site; artefacts were present in eroded, exposed area. Adjacent to large gully. Ground visibility was approx. 70% across the site.	 PHOTOGRAPH 8.11 LOCATION OF DBESS 02 (ERM 2024)  PHOTOGRAPH 8.12 ARTEFACTS OF DBESS 02 (ERM 2024)

Site name	Description	Photographs
DBESS 03 (AHIMS #33-2-0056)	Site type: Artefact (multiple), PAD Registered site location: [REDACTED] Site extent: 45 m x 15 m Low-density artefact scatter (approximately 10-15 mudstone and silcrete flakes identified). Artefacts present in exposed area, eroding out of elevated vegetation. Ground visibility was approx. 40% across the site.	 PHOTOGRAPH 8.13 LOCATION OF DBESS 03 (ERM 2024)  PHOTOGRAPH 8.14 ARTEFACTS OF DBESS 03 (ERM 2024)
DBESS 04 (AHIMS #33-2-0057)	Site type: Artefact (multiple), PAD Registered site location: [REDACTED] Site extent: 135 m x 46 m Low-density artefact scatter (approx. 5-10 artefacts). Mudstone flakes and a silcrete core identified. Artefacts present in exposed area, adjacent to gully and were eroding out of elevated vegetation above. Ground visibility was approx. 70% across the site.	 PHOTOGRAPH 8.15 LOCATION OF DBESS 04 (ERM 2024)  PHOTOGRAPH 8.16 ARTEFACTS OF DBESS 04 (ERM 2024)

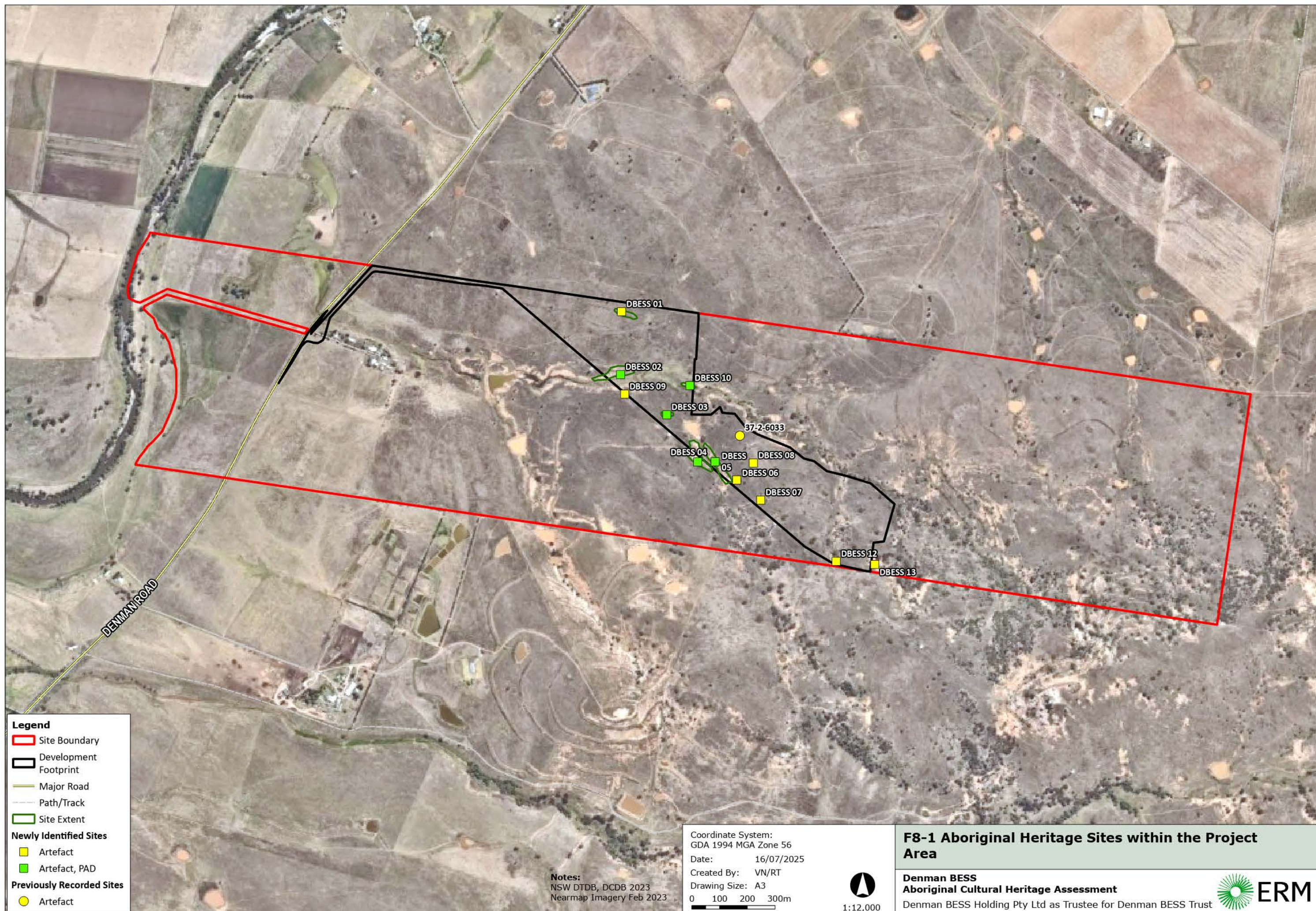
Site name	Description	Photographs
DBESS 05 (AHIMS #33-2-0058)	Site type: Artefact (multiple), PAD Registered site location: [REDACTED] Site extent: 165 m x 25 m Medium-density artefact scatter (approx. 15-20 artefacts). Mudstone and silcrete flakes and two silcrete cores identified. Artefacts present in several exposed area across the site, adjacent to gully and were eroding out of elevated vegetation. Ground visibility was approx. 60% across the site.	 PHOTOGRAPH 8.17 LOCATION OF DBESS 05 (ERM 2024)  PHOTOGRAPH 8.18 ARTEFACTS OF DBESS 05 (ERM 2024)
DBESS 06 (AHIMS #33-2-0059)	Site type: Artefact (isolated) Registered site location: [REDACTED] Site extent: 1 m x 1 m Isolated mudstone flake, present in exposed silty sand on a raised bank. Ground visibility in area artefact was located was 100%.	 PHOTOGRAPH 8.19 LOCATION OF DBESS 06 (ERM 2024)  PHOTOGRAPH 8.20 ARTEFACT OF DBESS 06 (ERM 2024)

Site name	Description	Photographs
DBESS 07 (AHIMS #33-2-0060)	Site type: Artefact (isolated) Registered site location: [REDACTED] Site extent: 1 m x 1 m Isolated silcrete flake, present in exposed silty sand on a raised bank. Ground visibility in area artefact was located was 70%.	 PHOTOGRAPH 8.21 LOCATION OF DBESS 07 (ERM 2024)  PHOTOGRAPH 8.22 ARTEFACT OF DBESS 07 (ERM 2024)
DBESS 08 (AHIMS #33-2-0061)	Site type: Artefact (isolated) Registered site location: [REDACTED] Site extent: 1 m x 1 m Isolated mudstone flake, present in densely vegetated area. Ground visibility in area artefact was located was 20%.	 PHOTOGRAPH 8.23 LOCATION OF DBESS 08 (ERM 2024)  PHOTOGRAPH 8.24 ARTEFACT OF DBESS 08 (ERM 2024)

Site name	Description	Photographs
DBESS 09 (AHIMS #33-2-0062)	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 1 m x 1 m Low-density artefact scatter (one mudstone core and one silcrete flake identified). Present in small area of exposure and erosion. Ground visibility was approx. 70% across the site.	 PHOTOGRAPH 8.25 LOCATION OF DBESS 09 (ERM 2024)  PHOTOGRAPH 8.26 ARTEFACTS OF DBESS 09 (ERM 2024)
DBESS 10 (AHIMS #33-2-0063)	Site type: Artefact (multiple), PAD Registered site location: [REDACTED] Site extent: 50 m x 10 m Medium-density artefact scatter (approx. 20-50 artefacts). Silcrete and mudstone flakes and blades identified. Present within area of exposed red clay adjacent to drainage channel; artefacts were eroding out of elevation vegetation. Ground visibility was approx. 80% across the site.	 PHOTOGRAPH 8.27 LOCATION OF DBESS 10 (ERM 2024)  PHOTOGRAPH 8.28 ARTEFACTS OF DBESS 10 (ERM 2024)

Site name	Description	Photographs
		 PHOTOGRAPH 8.29 ARTEFACTS OF DBESS 10 (ERM 2024)
DBESS 12 (AHIMS #37-2-6632)	Site type: Artefact (isolated) Registered site location: [REDACTED] Site extent: 1 m x 1 m Isolated sandstone scraper located adjacent to eroded drainage channel. Ground visibility in area artefact was located was 50%.	 PHOTOGRAPH 8.30 LOCATION OF DBESS 12 (ERM 2024)  PHOTOGRAPH 8.31 ARTEFACT OF DBESS 12 (ERM 2024)

Site name	Description	Photographs
DBESS 13 (AHIMS #37-2-6633)	Site type: Artefact (multiple) Registered site location: [REDACTED] Site extent: 50 m x 50 m Low-density artefact scatter (approx. 5 artefacts). Silcrete and mudstone flakes identified. Present within area of exposed red clay adjacent to drainage channel. Ground visibility was approx. 70% across the site.	 PHOTOGRAPH 8.32 LOCATION OF DBESS 13 (ERM 2024)  PHOTOGRAPH 8.33 ARTEFACTS OF DBESS 13 (ERM 2024)



8.3 ABORIGINAL ARCHAEOLOGICAL POTENTIAL

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

As previously stated, one of the major environmental factors influencing human behaviour is distance to water. Land use associated with the landscape is likely to have been focused around the drainage lines, as well as along ridgelines and high points throughout the Project Area. Lands within 100 m of these features are considered to be of High potential for Aboriginal archaeological sites. The sensitivity of these areas is supported by the prevalence of recorded sites within these buffers. A total of four PADs were recorded within areas of High potential and one PAD was recorded within an area of Moderate potential within the Project Area; all of these sites were associated with visible archaeological material.

As such, the archaeological potential of the Project Area is varied, with those largely undisturbed areas in close proximity to drainage lines being of **High to Moderate** potential.

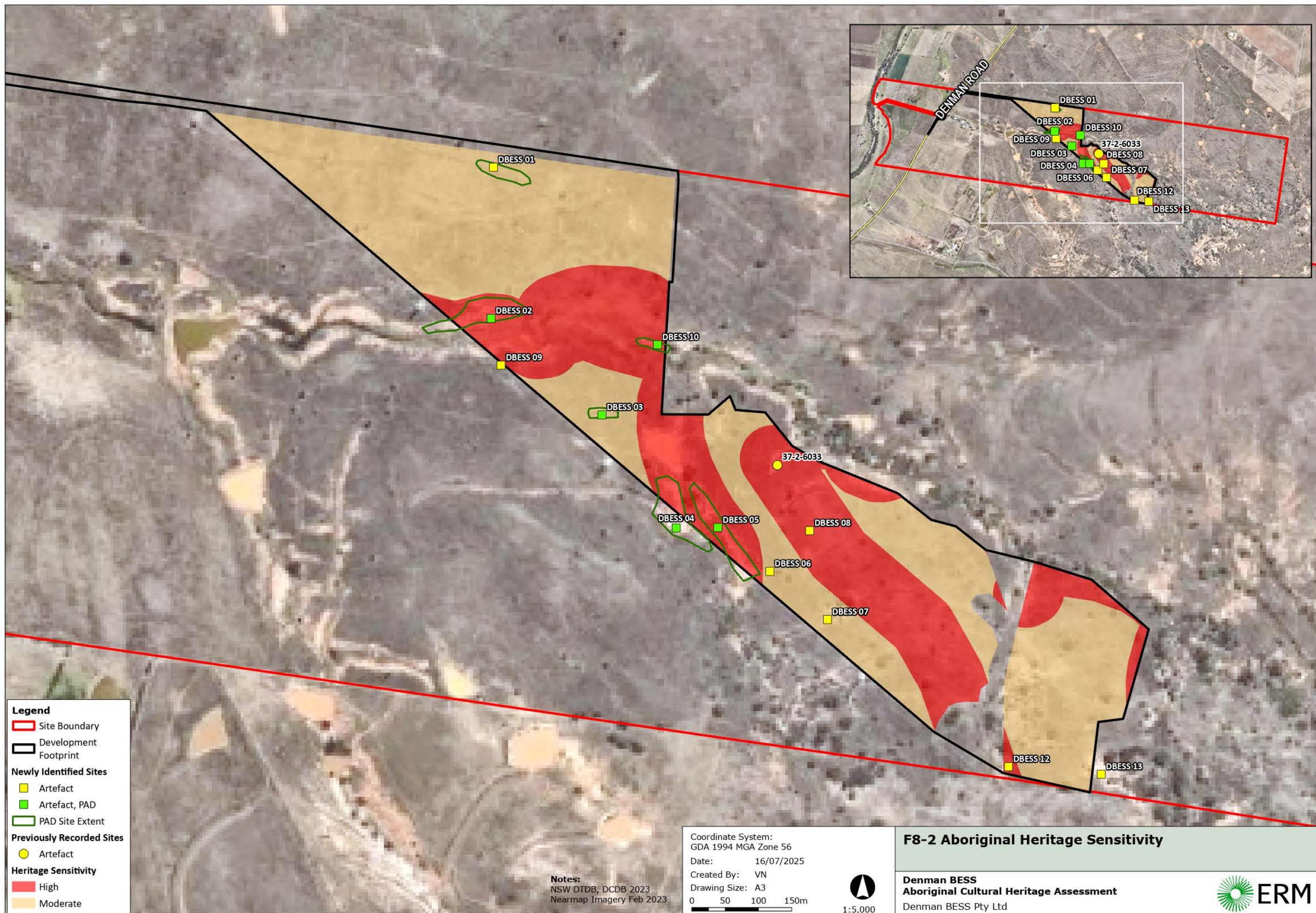
8.4 DISCUSSION

The distribution of previously and newly recorded sites is consistent with the predictive model discussed in *Section 6.6*, which has been refined to determine the Aboriginal heritage sensitivity of the Project Area.

The Project Area has been delineated into areas of moderate and high Aboriginal heritage sensitivity (illustrated in):

- Areas of high sensitivity include areas within 100 m of drainage lines and high points; and
- Areas of moderate sensitivity include areas beyond 100 m of the drainage lines.

Three previously recorded sites and six newly recorded sites were located within areas of high sensitivity, and one previously recorded site, and six newly recorded sites were located within areas of moderate sensitivity.



9. SIGNIFICANCE ASSESSMENT

The Aboriginal heritage significance of the project has been assessed based on the comments received from RAPs and the LALC during consultation throughout the life of the project, the background research, the archaeological field survey programs and the results of this report.

9.1 ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE ASSESSMENT FRAMEWORK

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

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

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

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

9.2 IDENTIFYING CULTURAL VALUES

Cultural heritage values for the Project Area were identified through a combination of desktop assessment and consultation undertaken during the preparation of the ACHAR. This information was collected by ERM Heritage Consultants Victoria Cottle and Mia Linton-Smith.

The Burra Charter states:

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

summarises the cultural heritage values identified for the Project Area and the surrounding region.

TABLE 9.1 CULTURAL HERITAGE VALUES IDENTIFIED FOR THE PROJECT AREA AND SURROUNDS

Cultural heritage value	Description	Distance from Project Area	Source
Aboriginal heritage sites	Of value to the Aboriginal community as a tangible connection between the land today and past Aboriginal occupation and use.	Within	AHIMS; ERM, 2024
Freshwater	The Hunter River is approximately 1 km west of the Project Area and would have been an attractive locale for camping and as a source of fresh water. Additionally, drainage lines throughout the Project Area would have also been frequented.	Adjacent	ERM, 2024
Food and raw materials	In the pre-Contact era, the local area would have offered hunting and gathering opportunities. Aquatic animals would have been abundant within and surrounding the Hunter River. During the September 2024 field survey, several plant species were identified by the RAPs as being native bush tucker. Of note were the rough burr-daisy and flowering geranium which were abundant across the Project Area. Native geranium was used for its medicinal purposes. Likewise, the native juncus grass was used as an indicator for a water source at its roots and was identified numerously throughout the Project Area within and surrounding dried up creeks.	Within and Adjacent	AHIMS; Wanaruah LALC (per comms, 2023-24).

9.2.1 SOCIAL OR CULTURAL SIGNIFICANCE

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

Consultation with the RAPs throughout the ACHAR process, including verbal communication during the site survey, has identified that the Project Area demonstrates cultural significance as a camping and resource gathering location.

The Project Area is considered to demonstrate **moderate** social and cultural significance as a tangible connection between the current landscape and past Aboriginal occupation of the area.

9.2.2 HISTORIC SIGNIFICANCE

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

Despite the substantial record of Aboriginal land use within the Denman region by Aboriginal People, there is no historic evidence in the ethnographic literature or within the Aboriginal community for specific use or memories within the Project Area.

The Project Area is considered to demonstrate **low** historic significance.

9.2.3 SCIENTIFIC SIGNIFICANCE

Scientific (archaeological) value refers to the importance of the 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 2013b).

In assessing significance consideration should be given the following criteria:

- **Research potential:** does the evidence suggest any potential to contribute to an understanding of the area and/ or region and/or state's natural and cultural history?
- **Representativeness:** how much variability (outside and/or inside the site) exists, what is already conserved, how much connectivity is there?
- **Rarity:** is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function, or design no longer practiced? Is it in danger of being lost or of exceptional interest?
- **Educational potential:** does the site contain teaching sites or sites that may have teaching potential?

A summary of the scientific value of each Aboriginal site within the Project Area is summarised in . The assessment has been limited to those sites which have been assessed to remain valid and located within the Project Area.

TABLE 9.2 SCIENTIFIC SIGNIFICANCE ASSESSMENT FOR SITES WITHIN THE PROJECT AREA

Site	Site Type	Research Potential	Rarity	Representativeness	Education Potential	Significance Assessment
DBESS 01	Artefact (multiple)	Low	Low	Low	Low	Low
DBESS 02	Artefact (multiple), PAD	Moderate	Moderate	Low	Moderate	Moderate
DBESS 03	Artefact (multiple), PAD	Moderate	Moderate	Low	Moderate	Moderate
DBESS 04	Artefact (multiple), PAD	Moderate	Moderate	Low	Moderate	Moderate
DBESS 05	Artefact (multiple), PAD	Moderate	Moderate	Low	Moderate	Moderate
DBESS 06	Artefact (isolated)	Low	Low	Low	Low	Low
DBESS 07	Artefact (isolated)	Low	Low	Low	Low	Low
DBESS 08	Artefact (isolated)	Low	Low	Low	Low	Low
DBESS 09	Artefact (multiple)	Low	Low	Low	Low	Low
DBESS 10	Artefact (multiple), PAD	Moderate	Moderate	Low	Moderate	Moderate

Site	Site Type	Research Potential	Rarity	Representativeness	Education Potential	Significance Assessment
DBESS 12	Artefact (isolated)	Low	Low	Low	Low	Low
DBESS 13	Artefact (multiple)	Low	Low	Low	Low	Low

9.2.4 AESTHETIC SIGNIFICANCE

Aesthetic values refer to the sensory, scenic, architectural, and creative aspects of the place. These values may be related to the landscape and are often closely associated with social/cultural values.

The Project Area currently comprises a combination of largely vegetated areas (predominately in the southern area) and heavily modified agricultural landscapes. The vegetated areas along drainage lines and high points largely maintain a connection to the pre-Contact landscape through the presence of a variety of native trees and plant species. However, these areas also contain significant amounts of regrowth and weeds. As such, these areas have assessed to demonstrate **low to moderate** aesthetic value.

9.2.5 ABORIGINAL HERITAGE STATEMENT OF SIGNIFICANCE

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

Sites within the Project Area have been evaluated as being of low and moderate scientific significance. Sites with low scientific significance include isolated finds and low-density artefact scatters. These sites are likely to represent movement through the landscape rather than continued or intensive occupation. They were also largely identified in areas which demonstrate clear evidence of water movement and other post depositional processes. Research potential of these sites is low, due their limited connection to their original phase of deposition, and they have a low likelihood of contributing to our understanding of past Aboriginal land use practices.

Sites with moderate scientific significance include high-density artefact scatters. These sites may represent occupation or activity areas subject to repeated use.

The Project Area is considered to demonstrate **moderate** social and cultural significance as a tangible connection between the current landscape and past Aboriginal occupation of the area.

10. IMPACT ASSESSMENT

10.1 MITIGATION MEASURES

The guiding principle for cultural heritage management is that where possible Aboriginal sites would be protected and preserved. If conservation is not practical, measures would be taken, in agreement with the LALCs and RAPs, to mitigate impacts to Aboriginal sites. Mitigation measures vary depending on the significance of each individual site and the severity of the impact (as assessed throughout *Sections 9 and 10*). Some of the most common mitigation measures include micro-siting of project elements, as well as salvage works including artefact collection, detailed artefact analysis of Aboriginal objects, archaeological salvage excavations, and when appropriate the reburial of Aboriginal objects at a location determined with the LALC. This should be conditioned through the Minister's Conditions of Approval.

The application of buffers to sites is also an effective mitigation measure. The buffers applied to the defined site extents further protects potential archaeological features, that extend beyond the visible boundary of the sites. A buffer of 50 m should be provided to recorded PADs. The specific buffers relating to each site are detailed in and illustrated in .

10.1.1 PROJECT REDESIGN

In December 2024 the Applicant undertook substantial design refinements, involving relocation of Project infrastructure within the survey area to avoid directly impacting Aboriginal heritage sites. The reduced impact to sites is summarised below in .

TABLE 10.1 SUMMARY OF REDUCED IMPACT FROM DESIGN REFINEMENTS (DECEMBER 2024)

Site	Reduced Impact
DBESS 02: Artefact (multiple), PAD	High to Moderate
DBESS 03: Artefact (multiple), PAD	High to Moderate
DBESS 07: Artefact (isolated)	High to Low
DBESS 10: Artefact (multiple), PAD	High to Moderate

10.2 POTENTIAL IMPACTS

Section 1.3 provides a summary of the elements of the Project.

A summary of potential impacts to identified Aboriginal heritage values has been developed based on the revised development footprint of the Project and are summarised in **Table 10.2**. Assessed impacts were defined as follows:

- High: Site extent is within development footprint;
- Moderate: Buffer of site extent is within the development footprint; and
- Low: Site (including buffer) is outside of the development footprint.

Those sites that will be directly impacted by the development footprint (High impact, as detailed in) are as follows:

- AHIMS # 37-2-6033: Artefact;
- AHIMS # 37-2-6579: Artefact;

- AHIMS # 37-2-6608: Artefact;
- DBESS 01: Artefact (multiple);
- DBESS 12: Artefact (isolated); and
- DBESS 13: Artefact (multiple).

Further changes to the Project design (within the survey area) are recommended to avoid impacting these sites, as presented in .

TABLE 10.2 POTENTIAL IMPACTS TO ABORIGINAL CULTURAL HERITAGE SITES ASSOCIATED WITH PROPOSED PROJECT DESIGN

Aboriginal Heritage Site	Site Type	Significance	Potential for Impact based on development footprint	Mitigation Measure
AHIMS # 37-2-6033	Artefact	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.
AHIMS # 37-2-6579	Artefact	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.
AHIMS # 37-2-6591	Artefact	Low	Low	No mitigation required.
AHIMS # 37-2-6608	Artefact	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.
DBESS 01	Artefact (multiple)	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.

Aboriginal Heritage Site	Site Type	Significance	Potential for Impact based on development footprint	Mitigation Measure
DBESS 02	Artefact (multiple), PAD	Moderate	Moderate	- Impacts avoided where possible during detailed design; and - Buffer of 50 m to be applied.
DBESS 03	Artefact (multiple), PAD	Moderate	Moderate	- Impacts avoided where possible during detailed design; and - Buffer of 50 m to be applied.
DBESS 04	Artefact (multiple), PAD	Moderate	Moderate	- Impacts avoided where possible during detailed design; and - Buffer of 50 m to be applied.
DBESS 05	Artefact (multiple), PAD	Moderate	Moderate	- Impacts avoided where possible during detailed design; and - Buffer of 50 m to be applied.
DBESS 06	Artefact (isolated)	Low	Low	No mitigation required.
DBESS 07	Artefact (isolated)	Low	Low	No mitigation required.
DBESS 08	Artefact (isolated)	Low	Low	No mitigation required.
DBESS 09	Artefact (multiple)	Low	Low	No mitigation required.
DBESS 10	Artefact (multiple), PAD	Moderate	Moderate	- Impacts avoided where possible during detailed design; and - Buffer of 50 m to be applied.
DBESS 12	Artefact (isolated)	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.
DBESS 13	Artefact (multiple)	Low	High	Impacts avoided where possible during detailed design. If impacts cannot be avoided, salvage works, including surface collection or relocation of artefacts should occur prior to impact occurring. Salvage works should be conditioned by the Minister's Conditions of Approval.

10.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPLES

In accordance with the ACHAR Guide, Ecologically Sustainable Development (ESD) principles have been considered in the preparation of this ACHAR including options to avoid impacts to Aboriginal cultural heritage values.

The ESD as relevant to Aboriginal heritage values are considered below.

10.3.1 THE PRECAUTIONARY PRINCIPLE

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

10.3.2 THE PRINCIPLE OF INTERGENERATIONAL EQUITY

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

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

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

10.4 CUMULATIVE IMPACTS

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

Cumulative impacts are a result of incremental, sustained and combined effects of human action and natural variations over time and can be both positive and negative. They can be caused by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current, and future activities as they arise (DPIE 2021).

As the Project contains Aboriginal Objects, there are cumulative impacts associated with any land uses which would result in impacts to these elements.

It is also acknowledged that continued development across the Hunter region has the potential to result in a cumulative impact to the cultural values identified of the local area when impacts overlap with impacts from other projects, which can result in a greater overall effect.

This effect is dependent on the scale and timing of the impacts and generally occurs when projects are constructed concurrently or consecutively and are based on their location.

Section 6.2 discusses a number of existing and/ or proposed projects adjacent to or in the vicinity of the Project Area, of which all have a potential for cumulative impacts to occur. It is also acknowledged that the Aboriginal cultural heritage values of the Hunter Valley region have already been subject to many decades of cumulative impacts from the agricultural, military, and mining industries.

Table 1.1 identifies and describes four renewable energy projects that are within or adjacent to the Denman BESS Project. The Project shares the Upper Hunter South Solar Farm site boundary; the Upper Hunter South Solar Farm comprises the construction of a solar farm and BESS facilities and associated infrastructure. The Project Area borders Hunter River Solar Farm immediately to the north, and the Denman Solar Park and Edderton Solar Project are within two km of the Project to the north and south, respectively.

TABLE 10.3 NEARBY RENEWABLE ENERGY PROJECTS

Project	Distance to Project Area	Description	Current Status
Upper Hunter South Solar Farm	<1 km (within Project Area)	• 188.4 ha of solar arrays • 90 MW capacity • 30 MW / 60 MWh BESS	Prepare EIS
Denman Solar Park	1.2 km	• 33.5 ha of solar arrays • 22MW capacity	Approved
Edderton Solar Project	1.3 km	• 886 ha of PV panels • 350 MW capacity • BESS	Prepare EIS

Detail of the heritage impacts of the Hunter River Solar Farm, Denman Solar Park and Edderton Solar Projects is not publicly available; therefore, the cumulative impacts of these projects could not be considered in this report.

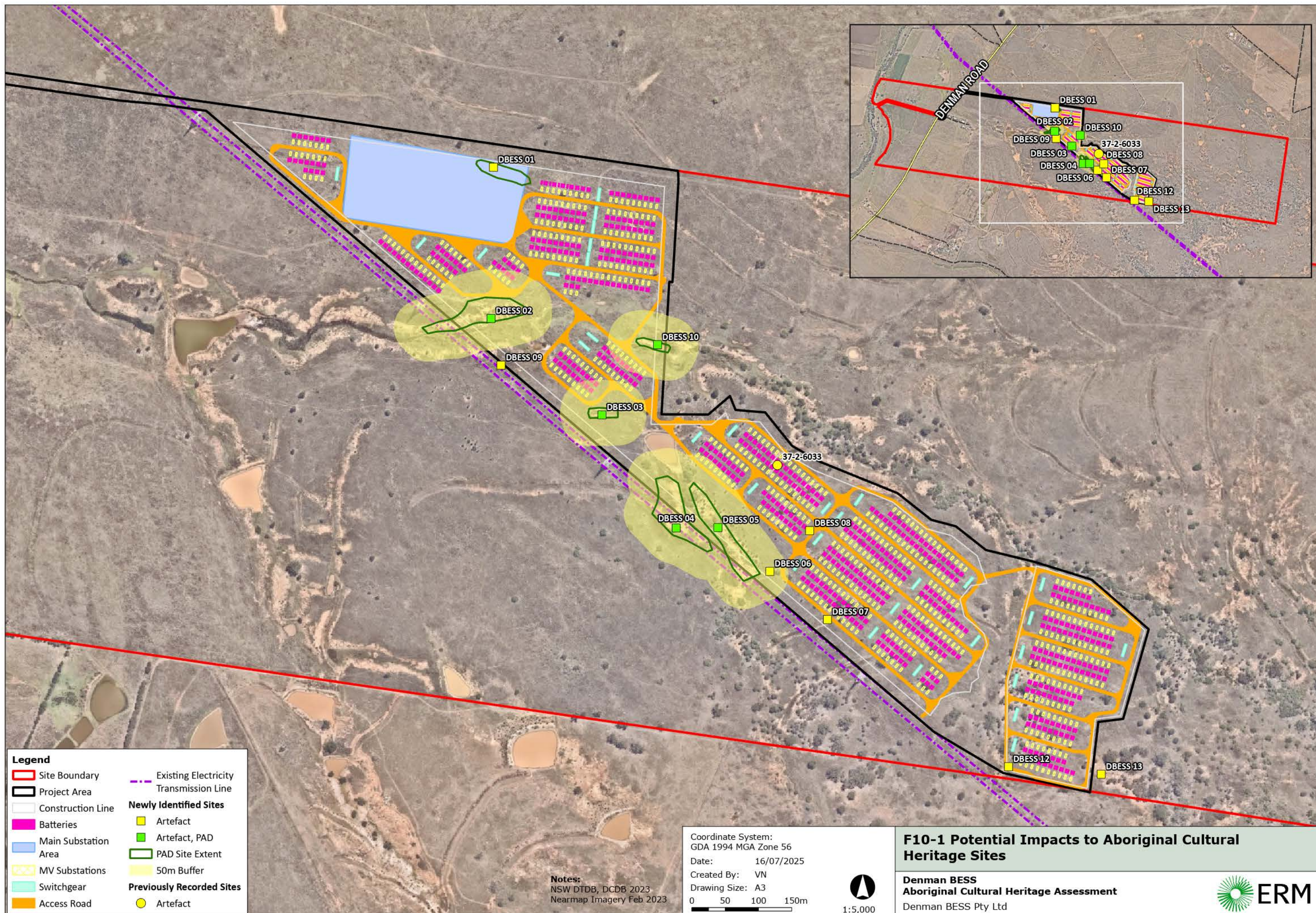
With a shared Site Boundary, the combined cumulative impacts of the Denman BESS and Upper Hunter South Solar Farm Projects should be considered.

As described in **Section 6.2**, potential harm has been identified to archaeological sites. As archaeological sites are a non-renewable resource, any harm to an Aboriginal object/site constitutes an irreversible and cumulative impact. It is noted in **Section 10** that all sites have inherent cultural value to the Aboriginal community as a tangible connection between the traditional lands and past Aboriginal occupation and use. However, harm as result of this Project will be overall minimal and not negatively affect the cultural and scientific values across the region.

A total of 60 new Aboriginal sites were identified within the shared Site Boundary of the Denman BESS and Upper Hunter South Solar, with direct harm likely to occur to 22 of them. However, it should be noted that substantial amendments to the Project disturbance footprints in December 2024 have reduced the severity of the direct impact to nine sites; five sites from high to low and four sites from high to moderate. Additionally, future changes to the Project design are recommended to avoid Aboriginal heritage sites where possible, which will likely result in a minimal contribution to the cumulative impacts across the region. These suggested future changes are discussed in **Section 11**.

For the above reasons it is assessed that cumulative impacts as a result of this Project and the Upper Hunter South Solar Farm project are low.

It is recommended that ongoing consultation with and opportunities for involvement with the cultural heritage management of the Project, through the ACHMP, is provided to the RAPs to ensure cultural continuity during the project.



11. RECOMMENDATIONS AND MANAGEMENT STRATEGIES

11.1 ABORIGINAL HERITAGE SUMMARY

- A total of four previously registered Aboriginal sites are within the Project Area, consisting of Artefacts;
- A total of 12 new Aboriginal sites were identified within the Project Area as part of the development of this ACHAR (comprising Artefacts and PADs);
- Based on the current development footprint, harm to 11 sites (both site extents and their buffer, if applied) has been identified; and
- Of these 11 sites, six will be directly impacted by the development footprint:
 - AHIMS # 37-2-6033: Artefact;
 - AHIMS # 37-2-6579: Artefact;
 - AHIMS # 37-2-6608: Artefact;
 - DBESS 01: Artefact (multiple);
 - DBESS 12: Artefact (isolated); and
 - DBESS 13: Artefact (multiple).
- Five other sites have the potential to be impacted as the development footprint extends into the site buffer:
 - DBESS 02: Artefact (multiple), PAD;
 - DBESS 03: Artefact (multiple), PAD;
 - DBESS 04: Artefact (multiple), PAD;
 - DBESS 05: Artefact (multiple), PAD; and
 - DBESS 10: Artefact (multiple), PAD.

11.2 RECOMMENDATIONS

Recommendation 1: Design development and Refinement

- Preservation and management of Aboriginal sites and heritage values will form a key objective of development controls for the Project. It should be noted that substantial amendments to the Project disturbance footprint in December 2024 have reduced direct impact to four sites; three sites from high to moderate and one site from high to low;
- ERM recommends further changes to the Project design, where practical to do so during detailed design to avoid impacting the six Aboriginal sites identified above (**Figure 10.1**); and
- Changes to the Project design should occur within the boundary of the area previously surveyed. If changes are to occur within any areas that have not been previously surveyed, additional survey will need to be undertaken.

Recommendation 2: Site Buffers for Newly Recorded Sites

- The proposed Project should limit impacts to identified Aboriginal sites as well as identified associated cultural values as much as possible. ERM recommends a buffer of at least 50 m be provided to recorded PADs. This would affect the following sites:
 - DBESS 02: Artefact (multiple), PAD;

- DBESS 03: Artefact (multiple), PAD;
- DBESS 04: Artefact (multiple), PAD;
- DBESS 05: Artefact (multiple), PAD; and
- DBESS 10: Artefact (multiple), PAD.

Recommendation 3: Aboriginal Cultural Heritage Management Plan

- As this is an SSD an ACHMP must be developed to record and describe the processes and procedures required to be implemented regarding Aboriginal cultural heritage prior and during the construction and operational phases of the Project. This should be developed in partnership with the RAPs and should at a minimum include:
 - Where harm to sites is unavoidable through detailed design of infrastructure, archaeological test excavation and/or archaeological salvage excavation should be undertaken for areas of PADs which will be subject to harm as part of clearing of the disturbance footprint. A detailed salvage excavation methodology would be included within the ACHMP and developed in consultation with the RAPs and Heritage NSW;
 - Measures to manage archaeological material that needs to be relocated away from development activities;
 - Measures such as fencing, or signage be installed during and possibly post the construction phase to protect and conserve archaeological material that will not be impacted by development activities (including the buffer zones of sites);
 - The requirements regarding heritage training and inductions for employees and contractors;
 - Any requirements regarding monitoring of ground disturbance activities by RAPs;
 - The development and provision of cultural awareness training by RAPs; and
 - An Unexpected Finds Protocol that includes mechanisms for managing any additional Aboriginal cultural material found during construction activities.
- Note - No mitigation measures are recommended for four newly recorded sites within the Project Area as they have low potential to be impacted by the current development footprint, and do not require the application of a buffer:
 - DBESS 06: Artefact (isolated);
 - DBESS 07: Artefact (isolated);
 - DBESS 08: Artefact (isolated); and
 - DBESS 09: Artefact (multiple).

11.2.1 CULTURAL HERITAGE INDUCTION AND ACKNOWLEDGEMENT

All personnel involved with construction activities within the Project Area should undertake a cultural heritage induction. The cultural heritage induction should include:

- A summary of the cultural heritage values of the Project Area and surrounds;
- Guidance on the identification of potential Aboriginal objects / heritage finds; and
- A summary of the Unexpected Finds Procedure.

It is recommended that mechanisms to acknowledge Aboriginal cultural values and history of the region be incorporated into ongoing operations of the Project Area. Potential mechanisms to achieve this may include:

- The placement of a cultural acknowledgement within a publicly accessible area of the overall Project Area; or
- The incorporation of Aboriginal art and design into future development; and
- The incorporation of native plantings and species into future landscaping.

11.2.2 UNEXPECTED FINDS PROCEDURE

If suspected Aboriginal heritage objects are found during works, the following Unexpected Finds Procedure as applied to the entire Project Area, should be followed:

- All activity in the immediate area should cease and the location should be cordoned off with visible flagging. Flagging should be placed at a 10 m radius surrounding the find and an appropriately qualified heritage professional should be consulted;
- An appropriately qualified heritage professional should record the location and attributes of the site and determine the significance of the find;
- Heritage NSW should be immediately contacted;
- The Wanaruah LALC should be notified; and
- Works will only recommence once the area has been cleared by further assessment and heritage permits (where required).

In the event of the discovery of human skeletal material (or suspected human skeletal material) during project activities in the Project Area the following steps should be followed:

- All activity in the immediate area should cease and the location should be cordoned off with visible flagging. Flagging should be placed at a 10 m radius surrounding the find;
- The State Police must be contacted along with Heritage NSW; and
- Any sand/soils removed from the near vicinity of the find must be identified and set aside for assessment by the investigating authorities. No further excavation is to be undertaken until the area has been assessed, cleared, and any relevant permits granted.

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STATEMENT OF LIMITATIONS

This report is based solely on the scope of work described in Section 1 (Scope of Work) and performed by Environmental Resources Management Australia Pty Ltd (ERM) as commissioned by Denman BESS Pty Ltd (the Client). The Scope of Work was governed by a contract between ERM and the Client (Contract).

No limitation, qualification or caveat set out below is intended to derogate from the rights and obligations of ERM and the Client under the Contract.

The findings of this report are solely based on, and the information provided in this report is strictly limited to that required by the Scope of Work. Except to the extent stated otherwise, in preparing this report ERM has not considered any question, nor provides any information, beyond that required by the Scope of Work.

This report was prepared in December 2024 and is based on conditions encountered and information reviewed at the time of preparation. The report does not, and cannot, take into account changes in law, factual circumstances, applicable regulatory instruments or any other future matter. ERM does not, and will not, provide any on-going advice on the impact of any future matters unless it has agreed with the Client to amend the Scope of Work or has entered into a new engagement to provide a further report.

Unless this report expressly states to the contrary, ERM's Scope of Work was limited strictly to identifying typical environmental conditions associated with the subject site(s) and does not evaluate the condition of any structure on the subject site nor any other issues. Although normal standards of professional practice have been applied, the absence of any identified hazardous or toxic materials or any identified impacted soil or groundwater on the site(s) should not be interpreted as a guarantee that such materials or impacts do not exist.

This report is based on information provided by the Client or third parties (including regulatory agencies). All conclusions and recommendations made in the report are the professional opinions of the ERM personnel involved. Whilst normal checking of data accuracy was undertaken, except to the extent expressly set out in this report, ERM:

- Did not, nor was able to, make further enquiries to assess the reliability of the information or independently verify information provided by; and
- Assumes no responsibility or liability for errors in data obtained from the Client, any third parties or external sources (including regulatory agencies).

Although the data that has been used in compiling this report is generally based on actual circumstances, if the report refers to hypothetical examples those examples may, or may not, represent actual existing circumstances.

Only the environmental conditions and or potential contaminants specifically referred to in this report have been considered. To the extent permitted by law and except as is specifically stated in this report, ERM makes no warranty or representation about:

- The suitability of the site(s) for any purpose or the permissibility of any use;
- The presence, absence or otherwise of any environmental conditions or contaminants at the site(s) or elsewhere; or
- The presence, absence or otherwise of asbestos, asbestos containing materials or any hazardous materials on the site(s);

- Use of the site for any purpose may require planning and other approvals and, in some cases, environmental regulator and accredited site auditor approvals. ERM offers no opinion as to the likelihood of obtaining any such approvals, or the conditions and obligations which such approvals may impose, which may include the requirement for additional environment works.

The ongoing use of the site or use of the site for a different purpose may require the management of or remediation of site conditions, such as contamination and other conditions, including but not limited to conditions referred to in this report.

This report should be read in full and no excerpts are to be taken as representative of the whole report. No responsibility or liability is accepted by ERM for use of any part of this report in any other context.

Except to the extent that ERM has agreed otherwise with the Client in the Scope of Work or the Contract, this report:

- Has been prepared and is intended only for the exclusive use of the Client;
- Must not to be relied upon or used by any other party;
- Has not been prepared nor is intended for the purpose of advertising, sales, promoting or endorsing any Client interests including raising investment capital, recommending investment decisions, or other publicity purposes;
- Does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise in or in relation to the site(s); and
- Does not purport to provide, nor should be construed as, legal advice.