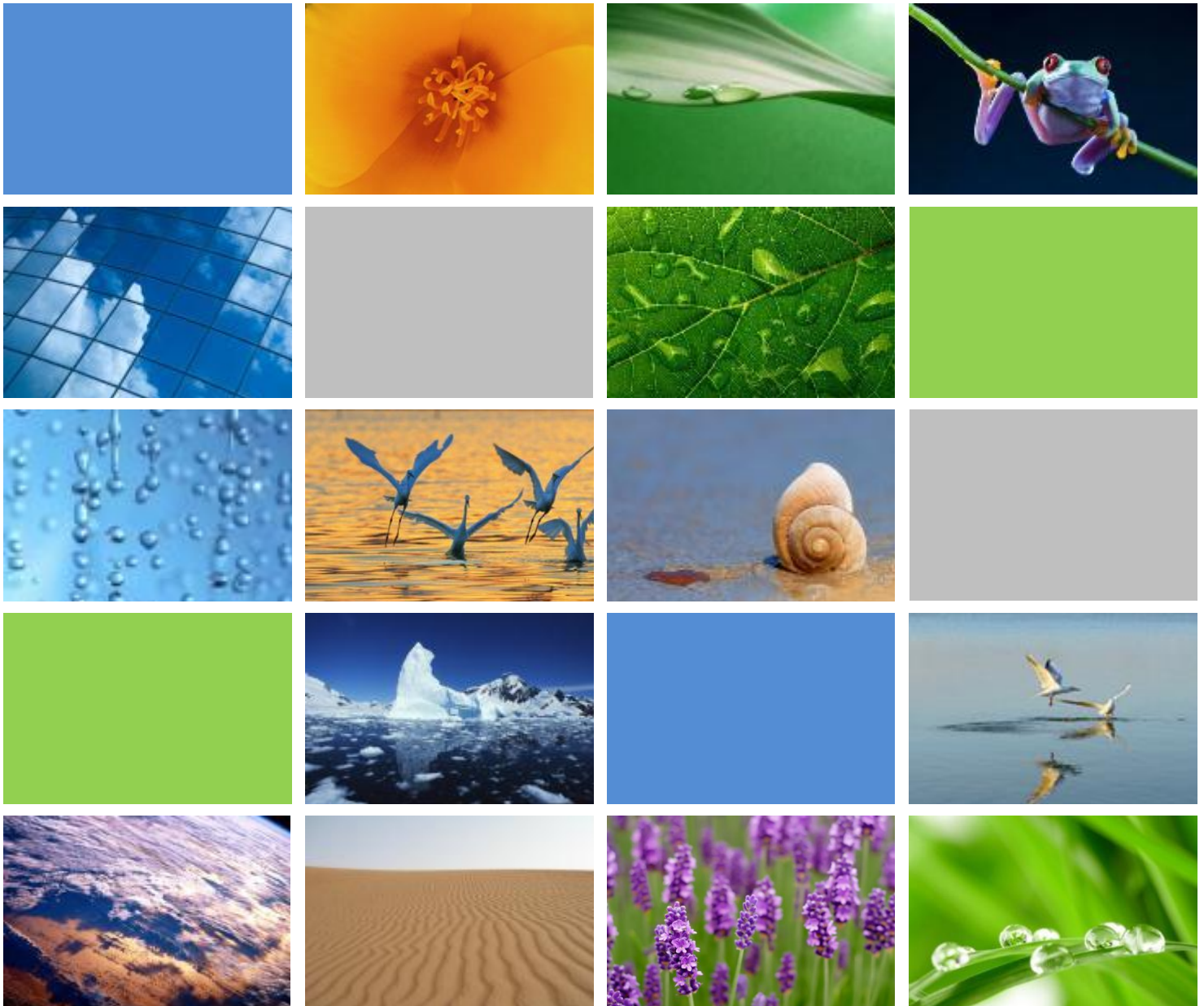


Annex G

Cultural Heritage Assessment Report





EPYC Pty Ltd

Jupiter Wind Farm

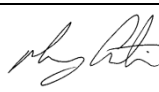
Cultural Heritage Assessment Report

0223522RP04

October 2016

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Date:	19 October 2016

Jupiter Wind Farm

Cultural Heritage Assessment Report

EPYC Pty Ltd

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EXECUTIVE SUMMARY

Environmental Resources Management Pty Ltd (ERM) was commissioned by EPYC Pty Ltd (EPYC) (the Proponent) to prepare an Aboriginal and Historic Cultural Heritage Assessment (CHA) for the proposed Jupiter Wind Farm (the Project). The Project covers an area of approximately 4,999 hectares (ha) and involves the construction, operation and maintenance of up to 88 wind turbine generators (WTG) and associated infrastructure including vehicle access roads, transmission line, a substation and laydown areas (the Project Area (PA)). This report presents the results of a detailed desktop assessment and archaeological field survey of the PA, undertaken to identify the potential impacts of the proposed Project on any known or unknown heritage values. Recommendations are provided to avoid or mitigate these potential impacts.

This assessment has been undertaken in accordance with the Secretary's Environmental Assessment Requirements (SEARs) provided for this Project. In line with the SEARs, ERM's approach to this heritage assessment is based on the following legislative documents:

- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010);*
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010); and*
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).*

As part of the CHA, consultation has been undertaken with Aboriginal groups in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). This consultation process initially involved identifying and contacting potential Aboriginal stakeholder groups. This resulted in nine registrations of interest, received from the following organisations: Peter Falk Consultancy, Pejar Local Aboriginal Land Council, Gundungurra Aboriginal Heritage Association, Gunjeewong Cultural Heritage Corporation, Buru Ngunawal Aboriginal Corporation, Ngunnawal Elders Corporation, Koomurri Ngunawal Aboriginal Corporation, Bunja Smith and King Brown Tribal Group. These Registered Aboriginal Parties (RAPs) were contacted during the Project and provided input into the assessment of cultural values of the PA.

The desk based assessment has identified that the PA is known to have been used by Aboriginal people in the past, as evidenced by archaeological sites previously recorded within the PA and surrounding region. A search of the OEH's Aboriginal Heritage Information Management System (AHIMS) database was conducted on 4 November 2013 and again on 17 December 2014 for an area approximately 25 km by 35 km around the PA. This search identified that 70 Aboriginal sites have previously been recorded within the wider geographical region. These sites include open camp sites, isolated stone artefact finds, culturally modified trees and a shelter with art deposits. There are no previously recorded sites within or in the direct vicinity of the proposed development footprint. The nearest previously recorded site is a stone artefact scatter located 170 m south of the proposed development footprint (AHIMS # 62-6-0248).

Following the AHIMS search and desk based assessment a field survey of the PA was undertaken over five days between Monday 22 to Friday 26 September 2014. The field survey was undertaken by two ERM Archaeologists, Janene May and Stefani Blackmore, and several Aboriginal stakeholders based on a roster system. The survey aimed to visually inspect (for cultural heritage remains) all areas that may be impacted by the proposed development. Particular focus was given to any areas of high ground visibility or areas identified as having cultural or archaeological sensitivity.

The 2014 field assessment identified one previously unrecorded Aboriginal cultural heritage site (JWF1), a stone artefact site. Two newly identified areas of Potential Archaeological Deposit (PAD) were also identified within the PA (JWF PAD1 and PAD2). These areas have been recorded as having a moderate potential to reveal subsurface Aboriginal archaeological deposits. These PAD areas exist within slightly raised flat or gently sloping terrain adjacent to a water source and sheltered from the elements.

The 33 kV transmission line proposed within the alignment of the road reserves of Goulburn Road, the Kings Highway and the proposed access road into the southern precinct was also surveyed by ERM archaeologist Janene May on 12 to 14 August 2015. Two additional Aboriginal heritage sites were identified (JWF2 and JWF3). Stone artefact sites are the main site type represented in the region and those located within the PA have not demonstrated a significantly greater diversity or complexity in comparison to other known sites within the region. It is for this reason that JWF1, JWF2 and JWF3 have been assessed as having low archaeological significance. The RAPs have been informed of all additional field inspections and changes to the draft report.

Mitigation strategies for Aboriginal heritage sites and PADs within the PA provided in this report include:

- avoidance;*
- mapping on all relevant construction plans to ensure avoidance;*
- fencing of sites and PADs to inhibit access;*
- subsurface investigations to determine the presence, nature and extent of archaeological remains before ground disturbing elements of the development can occur within an identified PAD area; and*
- an Aboriginal Cultural Heritage Management Plan should be prepared to manage any deposits found during these investigations, subsequent salvage excavations and the ongoing heritage matters associated with this Project.*

Two historic heritage sites were identified during the fieldwork and have been found to have moderate significance at a local level. One of these sites is within close proximity to the proposed development footprint. Mitigation strategies for historic heritage sites within the PA provided in this report include:

- *the identified historic heritage sites should be mapped on all relevant construction plans to ensure avoidance; and*
- *if any historic objects and/or relics, as protected under NSW legislation, are uncovered, then work in the area should cease and the advice of a qualified heritage professional should be sought in accordance with the Chance Find Procedure provided at Section 10.1.2 of this report.*

The PA has been mapped in respect to its archaeological sensitivity and all currently known archaeological sites and PAD areas have been recorded.

ABBREVIATIONS

AGL	Above Ground Level
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
Burra Charter	The Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance
	Australian best heritage practice reference that provides guidance for the conservation and management of places of cultural significance (cultural heritage places)
CHA	Cultural Heritage Assessment
COPAI	Code of practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010)
DA	Development Application
DEC	Department of Environment and Conservation
DECCW	Department of Environment, Climate Change and Water
DP&I	Director General, Department of Planning and Infrastructure
DP&E	Department of Planning and Environment
DUAP	Department of Urban Affairs and Planning
EP&A Act	Environmental Planning & Assessment Act (NSW, 1979)
ERM	Environmental Resources Management Australia Pty Ltd
LEP	Local Environmental Plan
LGA	Local Government Area
LHRS	Lower Hunter Regional Strategy
NP&W Act	National Park and Wildlife Act (NSW, 1974)
NPWS	NSW National Parks & Wildlife Service
OEH	Office of Environment and Heritage
PA	As defined by the Project Area (PA) boundary and including all project components (WTGs, substation, underground cables or overhead transmission lines, access roads and other associated infrastructure)
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
RNE	Register of the National Estate
SEARs	Secretary's Environmental Assessment Requirements
WTG	Wind Turbine Generator

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned by *EPYC Pty Ltd (EPYC)* (the Proponent) to undertake a Historic and Aboriginal Cultural Heritage Assessment (CHA) for the proposed Jupiter Wind Farm located 5 kilometers (km) south east of Tarago, New South Wales (NSW) (the Project). The aim of this report is to determine the potential impacts on heritage values of the proposed works within the Project Area (PA) boundary and including all Project components (wind turbines, substation, underground cables or overhead transmission lines, access roads and other associated infrastructure). The report presents the results of a detailed desktop assessment, field survey and consultation with local Aboriginal stakeholder groups.

The archaeological assessment has determined whether the proposal is likely to harm Aboriginal objects, as defined by the NSW *National Parks and Wildlife Act 1974* (the NPW Act). It provides mitigation and management measures necessary to avoid or manage impacts to Aboriginal objects.

1.1 STATUTORY CONTROLS

This work has been conducted to conform to the Secretary's Environmental Assessment Requirements (SEARs) for this Project. In line with the SEARs for this Project this heritage assessment has been undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW [now OEH] 2010), the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) which have also been used to guide this heritage assessment.

This report provides a combined assessment of the tangible and intangible cultural heritage values relating to the PA as defined during desk based and field investigations undertaken during September 2014 and August 2015.

The assessment of historic heritage values has been undertaken in accordance with the NSW Heritage Manual (DUAP 1996).

1.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development involves the construction and operation of the Jupiter Wind Farm (the Project) within the Southern Tablelands Region of New South Wales (NSW). The Project Area (PA) covers an area of approximately 4,999 hectares (ha) spanning across the Goulburn Mulwaree and former Palerang Local Government Areas (LGAs), and is situated approximately 5 kilometres (km) south east of the township of Tarago and approximately 18 km east of Bungendore. The Project locality is shown in *Figure 1.1*.

The Project will involve construction of up to 88 wind turbine generators (WTGs) within two distinct precincts. The northern precinct will consist of up to 75 WTGs, and the southern precinct up to 13 WTGs, with a maximum height of 173 m above ground level (AGL). The Project will also involve construction of a series of internal access roads and 33 kV reticulation network connecting the WTGs; an on-site electrical substation and 330 kV transmission line connection to the existing TransGrid 330 kV transmission line that passes through the PA; along with other associated buildings (such as substation control room and amenities) and ancillary structures and equipment.

The 33 kV transmission line alignment connecting the 33 kV electrical reticulation networks within each precinct will extend from the southern precinct to the on-site substation site. It will be aligned along the proposed southern access road, then via the road reserves of Goulburn Road and the Kings Highway, and in parallel with the existing 330 kV transmission line through the northern precinct to the on-site substation site. The 33 kV transmission line will be built as either an above ground line consisting of poles and wires, or a buried underground cable (or a combination of both) with underground being the preferred option. The overall construction type will be determined during detailed Project design in consultation with relevant electrical suppliers and regulatory authorities.

1.3

OBJECTIVES

The Director General, Department of Planning and Infrastructure (DP&I now Department of Planning and Environment [DP&E]) has stated that a historic and Aboriginal cultural heritage assessment is required for the Project to address the potential impact of the proposed development on Aboriginal heritage values and items. In accordance with the referenced NSW government guidelines this report aims to document:

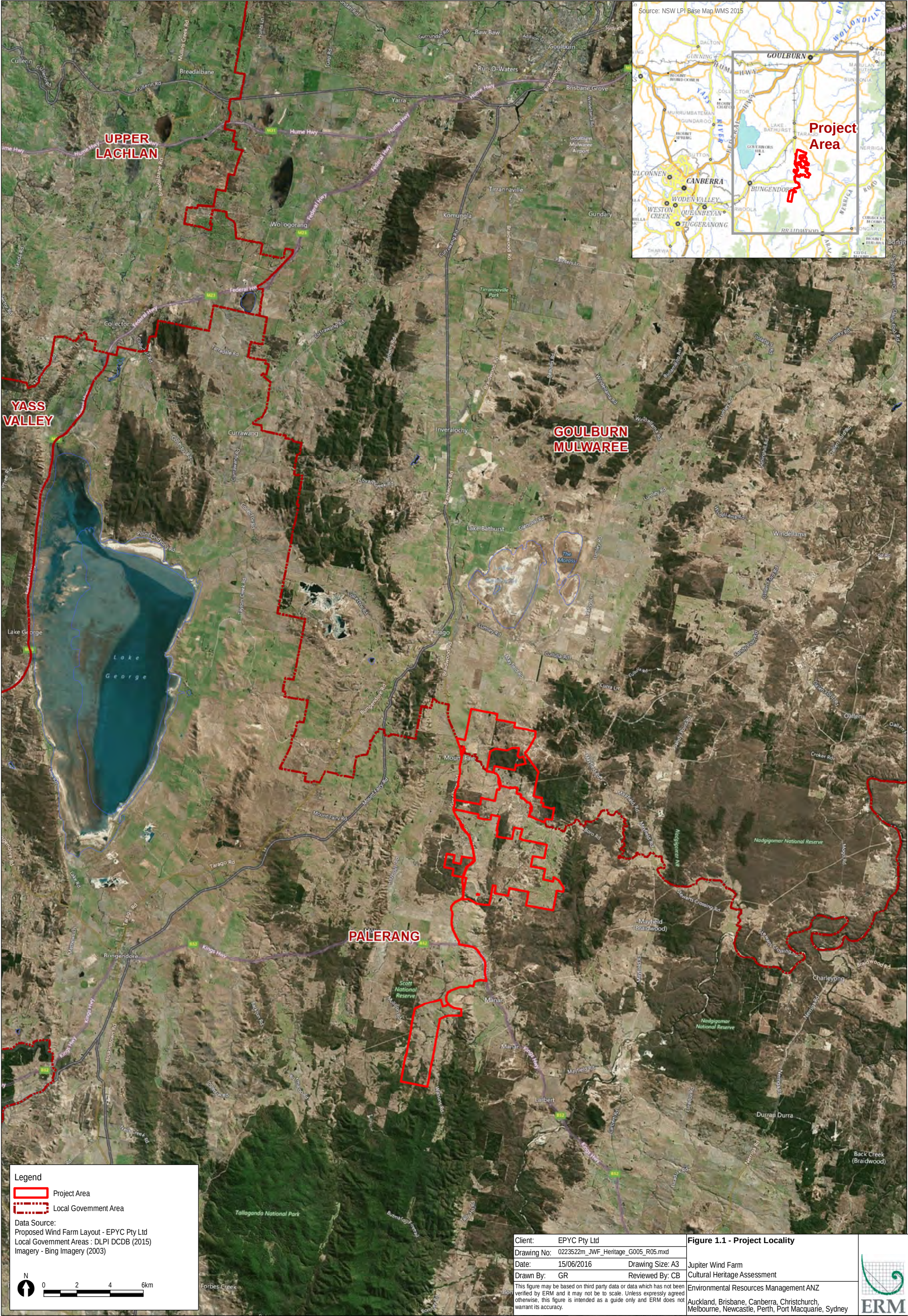
- the consultation process undertaken with Aboriginal communities for the Project and their involvement in the Project;
- a description of the proposal and whether or not it has the potential to result in impacts to historic or Aboriginal cultural heritage;
- a description of historical impacts to the PA;
- the archaeological methodology implemented during the study;
- the landscape and natural resources of the PA in order to establish background parameters;
- a review of archaeological and relevant literature and heritage listings on the Aboriginal Heritage Information Management System (AHIMS) database;
- a synthesis of local and regional archaeology;

- a review of the PAs historic history and the results of relevant heritage database searches;
- a predictive model for Aboriginal site types and location relevant to the PA;
- the cultural and archaeological sensitivity of landforms that may be subject impacts;
- the field survey results;
- the significance of any located historic and Aboriginal objects and places;
- an assessment of the impact of the proposal on historic and Aboriginal objects and places;
- a description of the outcomes and justification of the proposed alternatives; and
- a series of recommendations based on the results of the investigation.

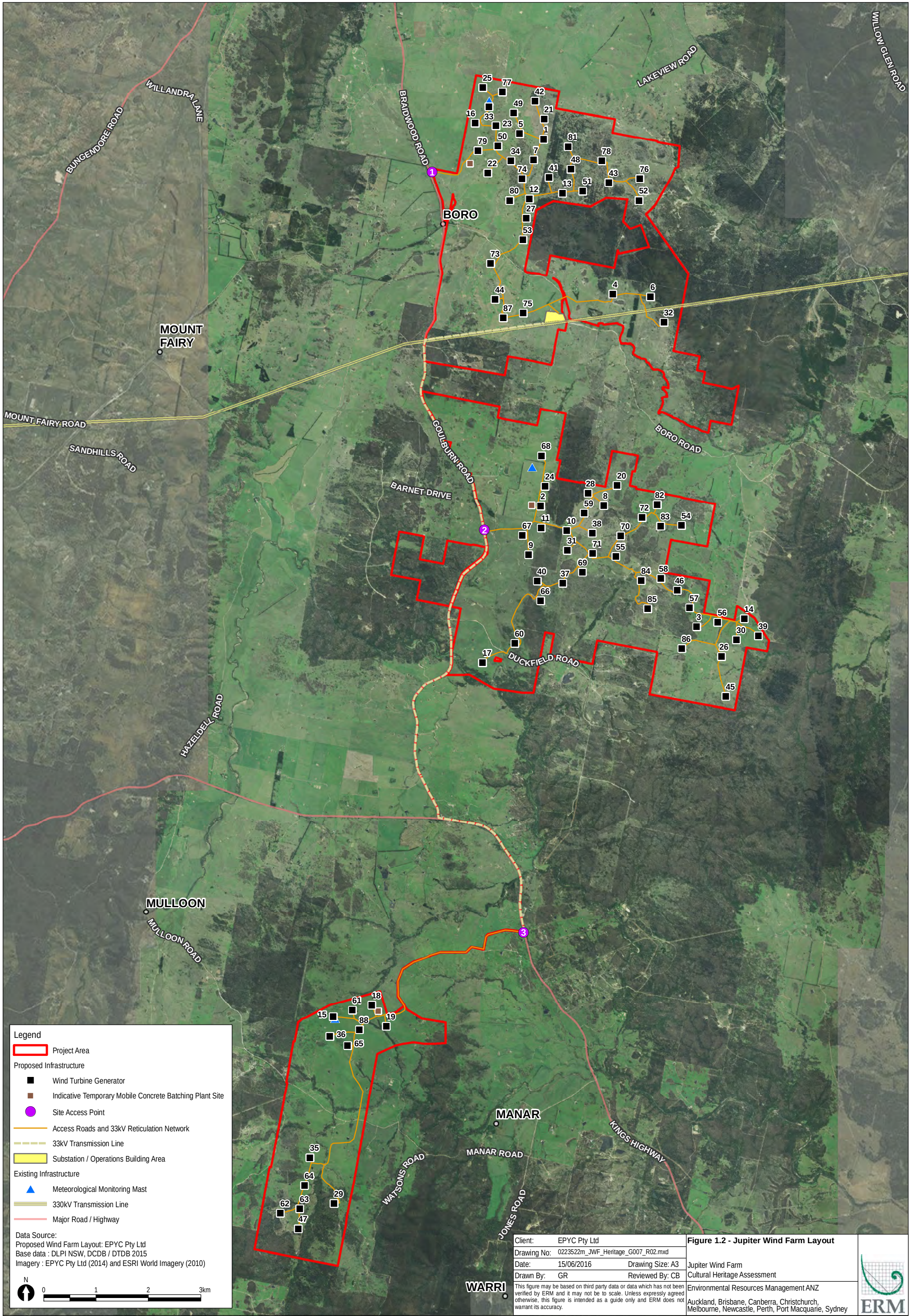
1.4 **REPORT STRUCTURE**

This report is structured in the following way:

<i>Chapter 2</i>	NSW legislative framework and statutory requirements;
<i>Chapter 3</i>	Aboriginal community consultation undertaken for the heritage assessment;
<i>Chapter 4</i>	Environmental and landscape background relating to the PA;
<i>Chapter 5</i>	<i>Archaeological context of the PA, including known and potential heritage sites within and in near vicinity to the PA;</i>
<i>Chapter 5</i>	Aboriginal heritage predictive model;
<i>Chapter 6</i>	Historical background of the PA;
<i>Chapter 7</i>	Survey methodology and results;
<i>Chapter 8</i>	Significance assessment of heritage sites located within the PA;
<i>Chapter 9</i>	Project information and impact assessment; and
<i>Chapter 10</i>	Recommendations.



Client: EPYC Pty Ltd		Figure 1.1 - Project Locality	
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Date: 15/06/2016	Drawing Size: A3		
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		Jupiter Wind Farm Cultural Heritage Assessment Environmental Resources Management ANZ Auckland, Brisbane, Canberra, Christchurch, Melbourne, Newcastle, Perth, Port Macquarie, Sydney	



Aboriginal cultural heritage in NSW is protected by the *National Parks and Wildlife (NP&W) Act 1974*. Land managers are required to consider the effects of their activities, or proposed development, on the environment under various legislation; principally the *(EP&A Act 1979)*. Cultural heritage, which includes Aboriginal heritage, is subsumed within the definition of “environment”. In certain circumstances, Commonwealth legislation protecting Aboriginal heritage may also apply to Aboriginal heritage places in NSW. The key legislation applying to the Jupiter Wind Farm is summarised below.

Several requirements relating to the heritage matters of this Project were provided as part of the SEARs. These are discussed below in *Section 2.4*.

2.1 *ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984 (COMMONWEALTH)*

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. This Act can, in certain circumstances override state and territory provisions, or it can be implemented in circumstances where state or territory provisions are lacking or are not enforced. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

2.2 *NATIONAL PARKS AND WILDLIFE ACT 1974 (NSW)*

All Aboriginal objects within the state of New South Wales are protected under Part 6, and particularly Section 90, of the *NP&W Act 1974*.

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 Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

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.

Under section 90, a person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence.

Changes to the NP&W Act occurred in 2010 through the *National Parks and Wildlife Amendment Act 2010* (NP&W Amendment). The changes provided for in the NP&W Amendment were introduced in two stages during July and October 2010. In relation to Aboriginal cultural heritage, the NP&W Amendment included:

- introduction of the new Aboriginal cultural heritage offences, penalties and permit system in Part 6 of the NP&W Act;
- introduction of remediation directions in relation to harm to Aboriginal objects and places (s.91L); and
- provisions regarding the Aboriginal Heritage Information Management System.

(source: <http://www.environment.nsw.gov.au/>)

It is required that an Aboriginal Heritage Impact Permit (AHIP) be obtained for any impact to an Aboriginal object or place. OEHL is the responsible authority, with the Director General of that department the consent authority. However, as this Project is being assessed as a State Significant Development (SSD), OEHL will not be the relevant consent authority and AHIPs will not be required for impacts to Aboriginal heritage objects or places. Consent will be required from DP&E.

2.3 **HERITAGE ACT 1977 (NSW)**

The *Heritage Act 1977* (amended 2009) protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage through protection provisions and the establishment of a Heritage Council.

The *Heritage Act 1977* provides protection for subsurface relics and for heritage items of state significance listed on the State Heritage Register. The Act defers to local planning instruments under the *EP&A Act 1979* for the protection of items of local significance ('items of the environmental heritage').

The Act defines a relic as any deposit, artefact, object or material evidence that:

- a) relates to the settlement of the area that comprises NSW, not being an Aboriginal settlement; and
- b) is of State or local heritage significance.

While Aboriginal heritage sites and objects are protected principally by the *NP&W Act 1974*, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

The Heritage Act does not apply to Aboriginal heritage items found within the PA.

2.4

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (NSW)

The *EP&A Act 1979* requires that environmental impacts are considered in land-use planning, including impacts on Aboriginal and non-Aboriginal heritage. Various planning instruments prepared under the Act identify permissible land use and development constraints.

The NSW NPWS provide guidelines for Aboriginal heritage assessment, including those conducted under the *EP&A Act 1979*. Where Aboriginal heritage assessment is conducted under the Integrated Development Approval process, a more detailed set of NPWS guidelines applies.

The SEARs that have been provided for this Project include specific reference to heritage impacts. These state that the Environmental Impact Statement (EIS) for the Project must include an assessment of impacts on Aboriginal and historic heritage, and must:

- *include sufficient information to demonstrate the likely impacts of the Project on Aboriginal heritage values/items (archaeological and cultural) and outline proposed mitigation measures (including consideration of the effectiveness and reliability of the measures) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010). The assessment must be undertaken by suitably qualified heritage consultants and demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures) be undertaken and documented in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010); and*
- *provide sufficient information to demonstrate the likely impacts of the Project on historic heritage values (including heritage vistas) and where impacts to state or local historic heritage items are proposed, outline proposed mitigation and management measures (including consideration of the effectiveness and reliability of the measures), generally consistent with the guidelines in the NSW Heritage Manual. Where impacts to State or local historic heritage items are proposed, a statement of heritage significance must be included (SEARs Ref SSD 13_6277).*

This report has therefore been prepared in accordance with the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010), the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

This chapter contains specific details of the Aboriginal community consultation undertaken in regard to the Aboriginal cultural heritage of the PA.

OEH requires proponents to undertake consultation with the Aboriginal community 'as an integral part of the impact assessment' process (DEC 2005). When administering its approval functions under the NPW Act, OEH requires applicants to have consulted with the Aboriginal community about the Aboriginal cultural heritage values (cultural significance) of Aboriginal objects and places present in the area subject to development (DEC 2005). This Project has been undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

Fulfilment of the consultation requirements has been undertaken as follows:

1. Notification and Registration of Interests

On behalf of the proponent, ERM has actively sought to identify stakeholder groups or people wishing to be consulted about the Project and has invited them to register their interest.

In the process of identifying stakeholder groups written notification about the Project dated 9 May 2014, was supplied to the following bodies:

- Batemans Bay LALC;
- Ngambri LALC;
- Pejar LALC;
- Goulburn-Mulwaree Council;
- Former Palerang Council;
- Hawkesbury-Nepean Catchment Management Authority;
- National Native Title Tribunal;
- Native Title Services Corporation;
- Office of the Registrar, *Aboriginal Land Rights Act (1983)*; and
- NSW OEH (Queanbeyan).

A local press advertisement requesting Aboriginal party participation was placed in the *Tarago Times* for the month of July 2014, and the *Bungendore Mirror* for a week commencing June 30 2014. The response period for Aboriginal parties to register an interest in the Project was open for two consecutive weeks. These advertisements are shown in *Figures 3.1* and *3.2*.

**NOTICE OF ABORIGINAL CONSULTATION
JUPITER WIND FARM**

Environmental Resources Management Pty Ltd, on behalf of EPYC Pty Ltd, is proposing to undertake an Indigenous Cultural Heritage Assessment near Tarago, NSW. The assessment is required as part of the proposed Jupiter Wind Farm development, owned and operated by EPYC. The proposed wind farm site is located approximately 5 km south east of Tarago and extends south to approximately 9 km past the intersection of Goulburn Road and Kings Highway.



Local Aboriginal parties wishing to be consulted for this assessment are invited to register a written expression of their interest by 23rd July 2014.

Please respond in writing to:

Attn: Chris Page
Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

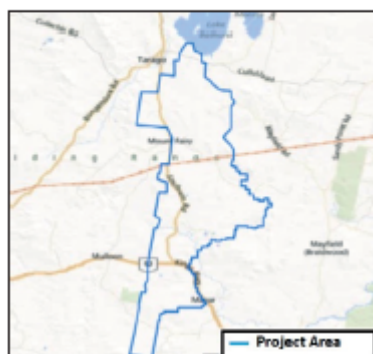
Or by fax on 02 8584 8800, or email to chris.page@erm.com

Figure 3.1 *Newspaper Advertisement in the Tarago Times Paper*

NOTICE OF ABORIGINAL CONSULTATION

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Figure 3.2 *Newspaper Advertisement in the Bungendore Mirror Paper*

From initial consultation undertaken with the relevant organisations and government agencies (listed above) the following list of potentially interested Aboriginal parties was made, refer to *Table 3.1*.

Table 3.1 *Identified Aboriginal Parties after Initial Letter to Government Agencies*

Organisation	Contact Person
Batemans Bay Local Aboriginal Land Council	-
Buru Ngunawal Aboriginal Corporation	Walter Bell
Colleen Dixon	Colleen Dixon
Gundungurra Aboriginal Heritage Association Inc.	Sharyn Halls
Gundungurra Aboriginal Tribal Corporation	Sharon Brown
Gunjeewong Cultural Heritage Corporation	Cherrie Carroll
King Brown Tribal Group	Carl and Tina Brown
Konanggo Aboriginal Cultural	Mr Robert Young
Peter Falk	Peter Falk Consultancy
Ngambri Local Aboriginal Land Council	-
Ngarigo Elders	Iris White
Ngunawal Heritage Aboriginal	Mrs Dorothy Carroll
Ngunnawal Elder	Ngunnawal Elder
Ngunnawal Elders Corporation	Arnold Williams
Pejar Local Aboriginal Land Council	Delise Freeman
Walbunja Aboriginal Corporation	Chairperson
Yukkumbruk	Serena Williams
Yurwang Gundana Consultancy	Dean Bell
Cultural Heritage Services	

A Project notification letter giving details of the proposal and requesting interested Aboriginal parties to register for the Project was sent to the above listed organisations on 2 July 2014. Several registrations of interest were received based on this initial consultation, as shown in *Table 3.2*.

Table 3.2 *Registered Aboriginal Parties*

Registered Aboriginal Parties	Contact Person
Peter Falk Consultancy	Peter Falk
Pejar Local Aboriginal Land Council	Delise Freeman
Gundungurra Aboriginal Heritage Association Inc.	Sharyn Halls, Secretary
Gunjeewong Cultural Heritage Corporation	Cherrie Carroll
Buru Ngunawal Aboriginal Corporation (BNAC),	Walter Bell
Ngunnawal Elders Corporation	Arnold Williams
Koomurri Ngunawal Aboriginal Corporation	Glen Freeman
Bunja Smith	Bunja Smith
King Brown Tribal Group	Carl Brown

On 18 August 2014, each Registered Aboriginal Party (RAP) was provided with written details (by post and email where available) concerning the proposed Project, including an outline of the scope and impacts of the Project and a survey methodology. No comments were received on the proposed methodology from any of the registered Aboriginal stakeholders.

In letters sent out on 2 July 2014 and subsequently on 18 August 2014, all identified RAPs were asked to provide written or verbal comments on the cultural significance of the PA. A draft copy of this report was provided to all RAPs on 18 February 2015. Comments were received from Koomurri Ngunawal Aboriginal Corporation which are provided in *Annex A* of this report.

Following some minor project design changes including the addition of WTG88 and the proposed transmission line, and subsequent amendments to the draft CHA, a letter was provided to all RAPs on 9 September 2015. This letter provided an overview of the amendments and confirmed that the Project Area remains unchanged and all impacted landforms have been assessed. The amendments did not result in any additional impacts to any recorded heritage sites or areas of archaeological sensitivity and no additional recommendations or field investigations were required. The letter also invites the RAPs to provide any additional comments or concerns regarding potential impacts to the cultural heritage values within the PA. No comments were received from any RAPs in response to this correspondence.

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 Aboriginal sites and objects. For these reasons, it is essential to consider environmental factors as a component in any heritage assessment.

4.1

BIOREGION

Bioregions and sub-bioregions are large, geographically distinct areas of land with common characteristics such as geology, landform patterns, climate, ecological features and plant and animal communities. The Interim Biogeographic Regionalisation for Australia (IBRA) provides a regional and national planning framework for the systematic development of a comprehensive, adequate and representative National Reserve System. Bioregions delineate salient environmental characteristics which can highlight patterns in Aboriginal site patterning.

The PA is located within the South Eastern Highlands bioregion, which is located inland from the coastal regions and bordered by the Australian Alps and the South Western Slopes. The region includes parts of NSW, most of the Australian Capital Territory (ACT) and extends into Victoria. The total area of this bioregion is 8,749,155 ha (equating to 6.11% of NSW) (NSW NPWS 2003).

Table 4.1 *South Eastern Highlands Bioregion (NSW NPWS 2003)*

<i>Characteristic</i>	<i>Description</i>
Geology	The bioregion overlies part of the Lachlan fold belt comprising a series of metamorphosed Ordovician to Devonian sandstones, shales and volcanic rocks with granite inclusions and episodes of folding, faulting and uplift.
Landforms	The region overlies dissected ranges and plateau of the Great Dividing Range, extending to the Great Escarpment in the east and the western slopes of inland drainage basins. The region covers a variety of landforms such as steep to gently slopes, ridges and valley floors.
Soils	Mottled red and yellow texture contrast soils with red earths are found on Palaeozoic slates, sandstones and volcanics. Shallow red earths occur on ridges while yellow texture contrast soils can be found on all slopes with deep coarse sands in alluvium contexts. Shallow red-brown to black stony loams are present on Tertiary basalts and within swampy valley floors soils generally consist of alluvial loams and black clays. Shallow organic loams may be present in high altitude contexts.

<i>Characteristic</i>	<i>Description</i>
Vegetation	The region contains a diverse range of vegetation communities such as yellow box, red box, Blakely's red gum, white box and white gum to the west of the region, brown barrel to the east, river oak along streams, grey gum and Blaxland's Stringybark in lower areas and brown barrel, mountain gum, narrow-leaved peppermint and ribbon gum on elevated areas.

4.2

GEOLOGY AND SOILS

Geologically, the wider South Eastern Highlands Bioregion (in which the PA is located) is characterised by Palaeozoic granites, metamorphosed sedimentary rocks and Tertiary basalts (NSW NPWS 2003). Geology across the PA varies with several different formations occurring, as mapped by Felton and Huleatt (1975). These include:

- Boro granite (of the early Devonian period during the Palaeozoic) is mapped across the PA with hornblende biotite adamellite and granodiorite noted as characteristic features;
- Long Flat Volcanics of the Mount Fairy Group (of the Late Silurian period during the Palaeozoic) is mapped to the south and within the northern precinct with Dacite, dacitic tuff and rhyolite noted as dominant features;
- Bombay Volcanics (of the Late Silurian period during the Palaeozoic) is mapped to the south of the PA with Dacitic crystal tuff, rhyolite and ignimbrite noted as dominant features;
- De Drack Formation (of the Late Silurian period during the Palaeozoic) is mapped to the north and within the south portions of the PA with siltstone, shale, tuffaceous shale, tuffaceous sandstone, tuff and quartzite noted as dominant features;
- quartz sandstone, conglomerate, ferruginous sandstone, ferricrete, silcrete and laterite deposits are all mapped to the north of the PA;
- alluvium, colluvium deposits with gravel, sand, silt and clay are also noted to the north of the PA; and
- Flysch sequence deposits with quartz-rich greywacke, shale, slate, black slate, chert and siltstone are mapped within the northern portion of the PA.

In general, the geological deposits across the PA would have afforded prehistoric hunter gatherers with various resources appropriate for stone tool making such as volcanic materials (eg rhyolite), quartz, tuff, and silcrete.

Soils within the region are reported to vary from mottled red and yellow texture contrast soils on Palaeozoic slates, sandstones and volcanics to shallow red earths on ridges and yellow texture contrast soils on slopes overlying granites and deep coarse sands within alluvial deposits (NSW NPWS 2003).

4.3

TOPOGRAPHY AND LANDFORMS

This topographical setting incorporates a variety of landforms which have been classified in this assessment according to the definitions set out in Speight (2009). Speight (2009) states that a landscape can be classified by its landform pattern, and then further classified by individual landform elements. The wider landform pattern, for instance, could be one of flood plains or hills. These landscapes can be further categorised into individual landform elements within the wider landform pattern, for instance cliff, footslopes or valley flats. According to these definitions, topographic mapping conducted for this Project indicates that the PA is comprised of several landforms that include crests, ridges, open depressions, simple slopes, upper, mid and lower slopes and flats (Speight 2009). These landforms would have provided suitable areas for hunter gatherers to undertake a range of subsistence activities (for example camping, hunting and tool making). Certain landforms such as flat or gently sloping areas near a water source may have been more frequently occupied than others such as areas away from water, where land use may have been more transient in nature.

The PA is dominated by a gently undulating landscape to the north, forming steep slopes to the south and west with valleys and ridges that are dissected by various permanent and ephemeral water courses. Based on a review of topographic maps and aerial imagery, landforms present within the PA include drainage depressions, gentle to steeply inclining basal, mid and upper slopes, and upper flat ridges.

4.4

HYDROLOGY

Numerous watercourses run through the PA including Millendale and Boro Creeks to the north, Kings Creek, Reedy Creek and Manar Creek to the south. These creeks are generally first or second order watercourses and tributaries of the Shoalhaven River. The Shoalhaven River is located 9 km to the south east of the PA and is a large permanent water source in the region.

Prior to European initiated land clearance, the PA would have supported a range of flora and fauna that would have been utilised by Aboriginal people for subsistence purposes. A broad range of plants would have been available such as Stringybark, Xanthorrhoea, Banksia, Hakea, Melaleuca and Grevillea. Bark obtained from Stringybark trees could have been used for construction purposes (shelters, canoes etc) and Xanthorrhoea were probably used for weaving baskets and fish traps. Banksia, Hakea, Melaleuca, Grevillea Yams, seeds, possums, kangaroos, wallabies, fish, mussels, crayfish and insects would have provided a varied diet to Aboriginal people inhabiting the region (NSW NPWS. 2003).

The PA generally consists of a cleared pastoral landscape utilised for sheep and cattle grazing and crop growing. Historical parish maps and current aerial imagery indicate that a large portion of the PA has been cleared and utilised for farming and other agricultural activities since the 19th century. There also appear to be several large pockets of potential remnant vegetation scattered across the southern and northern precincts.

Large areas of the upper soil horizon have been affected by ploughing. The impacts of ploughing only disturbed the upper 300 mm of soil horizons (ie 300 mm is the maximum plough depth). Therefore, deeper soil deposits may retain *in situ* Aboriginal archaeological sites. For this reason, the plough zone is not considered as an area of significant disturbance, however, any artefacts located within the top 300 mm of a plough zone should not be considered as *in situ*. Other land disturbances to the PA include the construction of roads, housing, land clearance, dam construction, fencing, and the installation electrical services and underground pipes. Other ground disturbances have also occurred within the PA such as soil erosion or bioturbation (bioturbation is the reworking of soils and sediments by animals and plants). These post depositional processes have likely adversely affected the archaeological record in the PA.

In summary, the location of the PA is within a wider region of rolling hills dissected by valley depressions. Within this setting, the Shoalhaven River and associated landscapes would have been a primary focus for Aboriginal subsistence activities. Tributaries of the Shoalhaven River including Reedy and Boro Creeks would have been a primary focus for Aboriginal subsistence activities within the PA.

Soil deposits within PAs valley depressions, flats and basal slopes – especially those raised areas adjacent to creek lines – would have provided a primary focus for past Aboriginal subsistence activities. A further focus would have been elevated crests and ridges affording views of the surrounding landscape, and areas of localised provisions such as stone resources and shelter from the wind.

The preliminary archaeological and cultural landscape context discussed in this report has been established through a review of documentation relating to regional ethnographic accounts, information from the AHIMS database, and previously conducted archaeological projects and reports. It is noted that there are several limitations to the use of this existing information such as:

- Aboriginal people involved in previous studies may not have disclosed relevant cultural knowledge and the cultural significance of certain areas due to delicacies in Aboriginal politics; 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 as such may not necessarily be a true reflection of the archaeological record.

5.1

ETHNO-HISTORY

Ethnographic accounts (historical accounts relating to Aboriginal people) can be used to obtain information about the way in which Aboriginal people in the area lived at the time of early European contact and may be used to make inferences regarding the pre-contact period.

Archaeological evidence suggests that Aboriginal people had occupied all of Australia's environmental zones by 31,000 years before present (BP) (Flood 1995:286). As far as can be ascertained, the Aboriginal groups that traditionally occupied the wider South Eastern Highlands Bioregion (including the PA) were the Walbanga, the Ngarigo, the Ngunawal and the Gandangara (NSW NPWS 2003). Tribal areas mapped by Tindale (1974) indicate that the PA falls within the boundaries of the Ngunawal people (*Figure 5.1*). These people are thought to have lived in small, highly mobile, kin-based groups. Individual groups came together regularly to participate in trade, marriage and ceremonial gatherings.

The Ngunawal people are thought to have lived in small, highly mobile, kin-based groups. Individual groups came together regularly to participate in trade, marriage and ceremonial gatherings. An early ethnographic account from Bennett (1834: 173) records their diet as including flying squirrel, kangaroo, wallaby, wombat, koala, possum, emu, duck, swan, snake, goanna, platypus, ant eggs, insects, fish, mussels, yabbies, plant tubers, berries and seeds.

A variety of tools were used including ground edge axes and spear barbs, wooden implements such as spears, shields, fighting clubs, carrying dishes, canoes and boomerangs, bone awls for sewing animal skins and shell ornaments to remove the flesh (Bell 2013). Camping sites were generally located on well drained ground in defensible positions and sheltered from the elements with access to resources such as water, firewood, bark and food (Bell 2013).

Groups inhabiting the South Eastern Highlands Bioregion would have relied on the continuous supply of vegetables available in the tablelands, as well as tubers of the yam daisy, wattle seeds and orchid tubers. Fish and crayfish were also present in rivers in the warmer months, while possums and larger grazing animals could be hunted throughout the year (NSW NPWS 2003).

NSW NPWS (2003) note that Aboriginal groups within the centre of the South Eastern Highlands Bioregion travelled annually in December and January to the Bogong and Snowy Mountains, where men participated in feasts of roasted Bogong moths on elevated rocky granite outcrops in the mountains. The lifestyle of Aboriginal people within the PA and wider region was disrupted by the arrival of and settlement of Europeans from the 1820s. From this time resources diminished, Aboriginal populations declined and Bogong moth ceremonies, intertribal meetings and corroborees ceased.

Tindale's (1974) tribal boundaries of the Canberra and wider region are provided in *Figure 5.1* showing the approximate location of the PA.

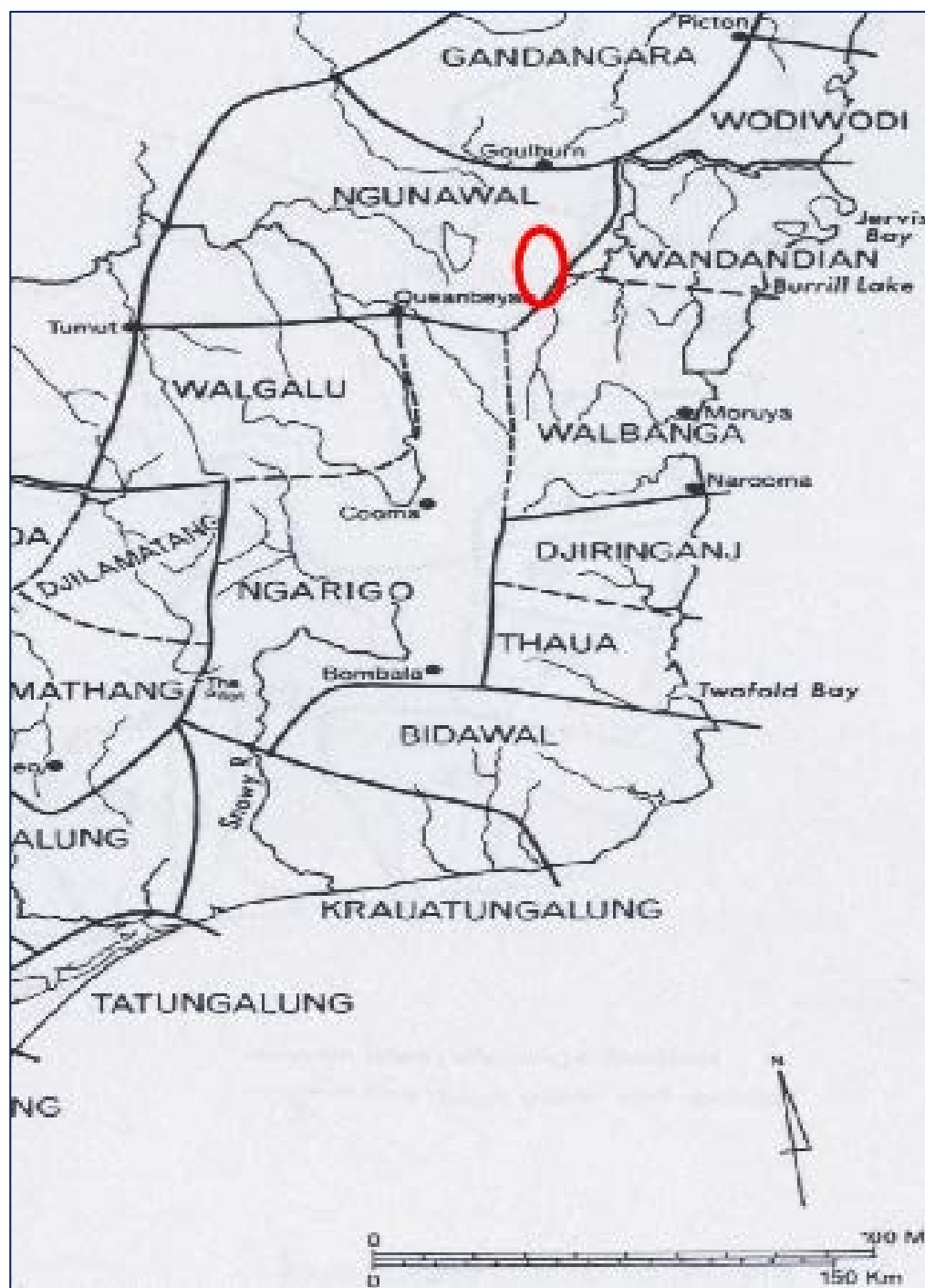


Figure 5.1 Tribal Boundaries of the Canberra and Wider Region

Several heritage studies have been undertaken in the wider Southern Tablelands region of NSW that attest to Aboriginal occupation of the area. The most common Aboriginal site type recorded in the Southern Tablelands region is by far stone artefacts (isolated artefacts or scatters) (Biosis 2005; Austral Archaeology 2010). Large stone artefact sites, including densities of up to thousands of artefacts, have been recorded in the region. Other site types in the region have been recorded such as stone quarries, stone grinding grooves, scarred trees, bora grounds and burials (Lance and Koettig 1986). Burial and ceremonial sites are rare and generally located on riverbanks or possibly on hilltops and away from occupation sites (Jo McDonald Cultural Heritage Management [JMCHM] 2003).

5.2.1

Site Distribution Models

Fuller (1989) proposed to refine the model of Aboriginal site locations in the region surrounding Goulburn based on a model outlined by Lance and Koettig (1986). The initial study divided the area into zones based on landform type. These zones were assessed as having high, moderate or low sensitivity (archaeological potential) and significance (importance of site). The alluvial flats adjacent to the major rivers, Wollondilly and Mulwaree were assessed as having potential to contain stratified sites from which information on cultural changes and continuity could be extracted. Stone artefact scatters are also suggested to be most likely located near the junction of major water courses, and at the junction of minor creeks.

Within landforms of undulating hills and plains (the landform pattern of the PA), lower hill slopes adjacent to watercourses are assessed as the favoured campsite location where stone artefact sites are suggested to be common (Fuller 1989). This landform type is considered to have a high level sensitivity, and moderate potential for significant sites. Also within this landform pattern, mid slopes are noted to have yielded few archaeological sites. Fuller notes that the distance from water and absence of level ground are likely to have restricted Aboriginal use of this landform type, therefore giving it a low sensitivity and potential significance (Fuller 1989).

Hill slopes are noted as potential locations for burials and ceremonial activities (Fuller 1989). Fuller further notes that due to ground disturbances that has transpired since European occupation, these sites have likely been disturbed or destroyed. If undisturbed sites are located in these areas (though considered unlikely) they will likely be of high significance. This landform type is therefore assessed as having a low potential sensitivity and a high potential significance. Built up areas are considered to have a moderate potential sensitivity, but a low potential for significance.

Fuller's (1989) refined model, based on further field surveys and assessment, determined that major watercourses have a high potential sensitivity and significance, lower slopes adjacent to watercourses have a high sensitivity and moderate potential significance (favoured for campsites), gently undulating land or plains have a low potential sensitivity and significance. Fuller (1989) notes that sites occur in conjunction with features other than water, – and do not conform to the predicted environmental zones for archaeological sites. The report identifies resources such as stone or a particular plant or food, medicine or shelter may have provided an incentive to camp in an otherwise unlikely location. Hills generally have a low potential sensitivity and significance, however high hills and hill tops have a high potential significance due to their likelihood to contain burial or ceremonial sites.

Of the sites assessed and identified as part of this study, the majority were stone artefact sites and chert or quartz were the most common raw material. However, the nearby Goulburn by-pass survey (Koettig 1986) found that silcrete and quartz were the most common raw materials. Fuller (1989) notes that this type of discrepancy may be the result of using different terminology.

JMCHM (2003) has suggested that sites across the Southern Tablelands region are likely to cluster along waterways. According to Wittner (1980), larger occupation sites in the study region are most likely to occur in river valleys, within gently sloping landforms and in the proximity of water sources. Smaller, more transient sites tend to occur on escarpments, saddles, and also in close proximity to water. Dallas (1985) similarly notes that sites across the study region occur mostly in valley bottoms and slopes. Dallas further notes that sites will occur less frequently on rolling hills and ridges, with most being located within 100 m of water.

Austral Archaeology (2010) state that across the Southern Tablelands region, stone artefact sites occur in all landforms, although they vary in density depending on landform – ie, they are most common within 100 m of a watercourse on lower slopes and flats, at drainage confluences, alluvial landforms and hilltop landforms (Austral Archaeology 2010). Austral Archaeology (2010) also suggests that sites located within hilly landforms can generally be considered representative of transient occupation.

5.2.2

Crookwell Wind Farms

White (1996) undertook an archaeological survey of the proposed wind farm area. One site was recorded which comprised of a stone artefact scatter containing 20 pieces of quartz flaking debris. White considered that this site represented a single event of stone knapping. Due to poor visibility, White (1996) recommended that subsurface testing be conducted to better understand the archaeological record.

Based on recommendations provided by White (1996), McDonald and Garling (1997) undertook archaeological subsurface testing for the proposed Crookwell I Wind Farm. As part of this study, three 1 m by 1 m pits were excavated at each of the proposed turbine locations. The highest number of artefacts (32) was recorded at Site CWF1, as well as a previously unidentified tool type (the 'Pejar Point'). Generally, three or less artefacts were recovered from each test pit.

Based on these investigations, McDonald and Garling (1997) concluded that the material found within the test pits could be described as background scatter. This description refers to the nature of the Aboriginal archaeological record which, generally, is considered to be a virtually continuous distribution of artefacts across the landscape – with alterations in density depending on the environmental zone. McDonald and Garling (1997) recommended that the site CWF1 be excavated prior to impact.

Subsequent to recommendations provided by McDonald and Garling (1997), excavation was undertaken at site CWF1 for the proposed Crookwell I Wind Farm (JMCHM 1998). A total of 25 m² of soil was excavation from excavation squares dug to approximately a 30 cm depth. The excavations yielded 2,154 stone artefacts that generally occurred within the top 20 cm of soil. These artefacts were made of quartz, silcrete and chalcedony. Evidence of stone tool manufacturing processes was identified for artefacts such as backed blades, the Pejar Point and an item as 'rectangulars'. The site was considered to represent a singular behavioural episode of artefact manufacture and woodworking.

Biosis (2004) undertook an archaeological survey for the proposed Crookwell II Wind Farm. The overall effective survey coverage was calculated at 11% of the surveyed area, equalling 4% of the 1,059 ha impact area. Twenty-five previously unrecorded sites were recorded including stone artefact sites and two scarred trees. These sites were situated within drainage lines (42%), upper slope (42%) and hill/ridge top (16%) landforms. Two of these sites also contained a scarred tree. An additional scarred tree site was identified within an upper slope landform.

Based on observations of landform features and recorded sites, it was concluded that the dominant character of the archaeological record in the region was that of a 'background scatter' with a single large surface site (Biosis 2004). They predicted that sites were most likely to be located on creek lines, in close proximity to drainage line convergences, on ridgelines or in sloping areas.

Biosis (2005) undertook subsurface testing for the proposed Crookwell II Wind Farm. As part of background research for this study, Biosis found that basalt derived soils are the most archaeologically sensitive soils in the region. Of 25 sites recorded by Biosis (2004), three scarred trees and 10 stone artefact sites were located within basalt soils. The largest of these sites (PJ1) was 500 m from water, as were PJ23 and PJ24. It was recommended to undertake subsurface testing where impact areas overlaid basalt soils.

This study identified 28 new archaeological sites (Biosis 2005). These sites were mostly situated on broad flat ridges between major watercourses. The new sites recorded were located away from permanent water, but in close proximity to ephemeral water as observed by Biosis (2005).

Biosis (2005) determined that sites in the Crookwell II study area would most likely be located on hill slopes, and within 100 m of water. Creek flats and hill top landforms are also likely to contain sites. Higher density sites would probably be located at the confluence of watercourses. Well drained areas with soft soils are the most likely location for larger camp sites. Within this study area, landforms consisting of eroded Tertiary basalt and dolerite would be the most archaeologically significant locations. Biosis (2005) considered that the study area landforms that met several of the criteria noted above would have a moderate to high archaeological potential.

Anderson (2010) undertook an archaeological survey for the proposed Crookwell III Wind Farm. This project included a field survey which identified 10 Aboriginal archaeological sites (Hillview Park, Hillview Park 2, Hillview Park 3, Hillview Park 4, Hillview Park 5, Hillview Park 6, Hillview Park 7, Hillview Park 8, Wollondilly Farm and Wollondilly Farm 9). These sites were predominantly recorded on landforms described as crests or flats. The sites were all stone artefact sites consisting of mostly silcrete (88%) and some quartz (12%).

ERM (2014) undertook an addendum heritage assessment for the proposed Crookwell III Wind Farm development. This included a desktop assessment and field survey. This field survey identified 16 new Aboriginal heritage sites (Crookwell WF1-16) and three new areas of PAD (Crookwell WF PAD1, 2 and 3). These sites consisted of isolated finds and stone artefact scatters located within lower and upper slopes, crests and on flat to gently sloping terrain above water sources.

Subsequent to the 2005 subsurface testing program (Biosis 2005), Biosis (2010) undertook archaeological salvage excavations for several proposed turbine locations. Two new sites were found and additional artefacts were located in association with the previously recorded (and subsurface tested) sites PJ10 and PJ09.

5.2.3

Gunning Wind Farm

Gunning Wind Farm is located to the east of the PA. JMCHM (2003) undertook an archaeological survey for Gunning Wind Farm. The landscape of this study area was found to be a range of crests and valley topographies. As a result of this survey, eight surface sites were recorded, which included a quarry site, four small artefact scatters and three isolated artefacts. One of the sites was identified as a quartz quarry as blocky quartz was found to outcrop at the site. The majority of recorded artefacts were of quartz material however some silcrete and red agate was also located. Steep hill tops were considered to be of low archaeological potential while elevated contexts close to water were considered to be of higher sensitivity. It was concluded that several of the wind turbine generator locations had potential for subsurface archaeological deposits.

Subsequent to the field survey undertaken by JMCHM (2003), Austral Archaeology (2005) undertook subsurface testing for the Gunning Wind Farm development. This included 15 excavator scrapes within six areas identified by JMCHM (2003) as being archaeologically sensitive. No artefacts were found during these excavator scrapes.

Austral Archaeology (2009) subsequently undertook an additional Aboriginal cultural and archaeological assessment for a proposed transmission line associated with the Gunning Wind Farm development. This study identified 25 new Aboriginal heritage sites including 13 open artefact scatters, nine isolated finds, two areas of PAD and a scarred tree. Three areas of archaeological sensitivity were also identified. The majority of sites were located within 300 m of a water course and within slopes and crests of a large ridge (30%), hillslopes (46%), creek banks and associated rises (12%) and hilltops (9%). Most of the lithic material identified was silcrete, with smaller amounts of quartz and mudstone present.

5.2.4

Collector Wind Farm

Collector Wind Farm is located to the north-west of the PA. Dibden (2012) undertook an archaeological assessment for the proposed wind farm at Collector, NSW. This study recorded five new Aboriginal heritage sites which were all described as low density stone artefact scatters. Four possible scarred trees were also identified. The five stone artefact sites identified were mostly located within crest landform units with the exception of one site which was found within a simple slope. The majority of stone artefacts found were made of silcrete with smaller amounts of quartz, chert and fine grained volcanic material present.

5.2.5 *Cullerin Wind Farm*

Cullerin Wind Farm is located north west of the PA. Dibden (2005) undertook an Aboriginal heritage assessment for the proposed Cullerin Wind Farm which identified four stone artefact sites. These sites were all considered to be low in density and found within simple slope and crest landform units. The artefacts found were mostly silcrete, with some chert, quartz and volcanic material present in lower numbers. The low density of artefacts recorded was attributed to a lack of a reliable water source within the region.

5.2.6 *Rye Park Wind Farm*

Rye Park Wind Farm is located to the north-west of the PA. Dibden (2013) undertook survey for the proposed Rye Park Wind Farm. This survey of the impact area identified thirteen new Aboriginal object locales, ten of which were isolated stone artefacts. The general landscape of the proposed impact area was characterised as consisting of linear ridges and undulating hills of steep dipping, folding Ordovician quartzose, greywackie, slate, chert and phyllite. Dibden (2013) suggested that any undetected or subsurface stone artefacts would be present within the study area in extremely low density. Three quartz outcrops were also recorded within the study area. Three historic heritage items were also recorded as part of this assessment.

5.2.7 *Rugby Wind Farm*

Rugby Wind Farm is located to the north west of the PA. ERM (2012) prepared a heritage assessment for Aboriginal and historic heritage values within the Rugby Wind Farm area. Desktop review identified ten Aboriginal heritage sites previously recorded within the study area. Surveys undertaken for this project identified a further thirty one Aboriginal heritage sites. These sites all comprised stone artefact scatters, PADs and one scarred tree. Ten separate landscape areas of high archaeological sensitivity were also identified. These areas were found to have a high probability of demonstrating archaeological subsurface deposits and significant, complex Aboriginal sites.

5.3 *LOCAL ARCHAEOLOGICAL CONTEXT*

There have been several Aboriginal heritage assessments within the Southern Tablelands region for proposed wind farm developments. Several of these are located within proximity to the current PA and are discussed below in *Table 5.1*.

Table 5.1 *Heritage Reports relevant to the PA*

Author and Date	Location of Study Area	Findings
Koettig, 1983	South and East of Goulburn	Koettig undertook a survey for the proposed highway by-pass route to the south and east of Goulburn. This study found 22 new sites which all comprised stone artefact scatters located within 200 m of a watercourse. Of these sites, 54% were on slopes, 23% were recorded on ridges and 23% were recorded along creeks or river flats. Most sites were low density, except G17 which was located at the confluence of two watercourses and found to be a high density site with a stratified deposit. Six hundred and fifty artefacts were located at G17 and later excavations (Paton 1990) recovered 15,000 artefacts, 85% of which were quartz (followed by silcrete at 10%).
Attenbrow and Hughes, 1983	Welcome Reef Dam Project, east of the PA	Attenbrow and Hughes undertook archaeological investigations for the Welcome Reef Dam Project to the east of the PA. This study identified 117 archaeological sites within the proposed location of the dam, all but three of which were stone artefact sites. Two shelter sites were located and one site was recorded as lenses of fresh water mussel shell in the sandy bank of the Shoalhaven River. Most lithic material found was silcrete, followed by quartz with smaller amounts of volcanic and chert present.
Lance and Koettig, 1986	City of Goulburn	Lance and Koettig prepared an Aboriginal Resources Planning Study for the City of Goulburn. They determined that land adjacent to major watercourses, areas of lower slope adjacent to watercourses, and hill tops were most likely to contain sites and have the highest archaeological sensitivity. It was concluded that these areas have the highest likelihood of containing significant sites, or sites of importance. Lance and Koettig (1986) observed that sites in the region existed mostly on gentle well drained lower slopes (48%) followed by ridge tops (24%), creek flats (19%) and terraces (9%). As part of their study, it was noted that 94% of sites were located within 200 m of a water source. Of these sites, 75% were located within 100 m of a water source, and 50% within 50 m from a water source.
Silcox 1988	Chatsbury, about 10 km east of the PA	Silcox undertook a survey at a slate quarry in Chatsbury and found 3 surface level stone artefacts scatters (C1, 2 and 3). Quartz was the most common material found, followed by smaller numbers of silcrete, chert and volcanic rock. These sites were located within 50 m of the Tarlo River in lower slope landforms. The survey area's landscape was described as rounded hills with moderate to steep slopes and sloping valley floors. Two areas of potential archaeological deposit were identified on a moderately sloping landform along the original course of the Tarlo River, and on an expanse of flat terrain on the west bank of the Tarlo River.

Author and Date	Location of Study Area	Findings
Fergusun, 1988	Reedy Creek site complex, south-east of the PA	Fergusun undertook archaeological investigations of the Reedy Creek site complex near Braidwood, to the south-east of the PA. As part of these investigations, Fergusun (1988) dug 37 test trenches, 41 auger holes and undertook surface collections of artefacts. Artefacts were found to extend of up to about 92 cm below the surface in several trenches, though the majority were found between 10 cm and 40 cm below the surface. The investigations yielded approximately 73.6 artefacts per square meter and over a million artefacts overall within the relatively level alluvial terrace of Reedy Creek.
Silcox 1991	Wollondilly River, near Goulburn.	Test excavations were undertaken at the location of a proposed detention pond for storm flow situated within an elevated landform overlooking the Wollondilly floodplain. No artefacts were located during a field survey. However, subsurface testing recovered 97 artefacts from 30 pits. Artefact materials were dominated by quartz (78%) with some smaller numbers of silcrete.
Baker and Feary, 1994	Lake Bathurst	Baker and Feary undertook an examination of a beach ridge to the north of Lake Bathurst for a proposed sand mine. Two low density stone artefact sites were found.
Navin Officer 2000	Crisps Creek near Lake Bathurst	Navin Officer collected artefacts within the proximity of Crisps Creek near Lake Bathurst. Stone artefacts were collected from sites Crisps Creek 1, 2 and 4 and comprised mostly grey silcrete material with some quartz, chert and quartzite present.
Reeves and Thomson 2004	Woodlawn Wind Farm	Reeves and Thomson undertook a survey for the Woodlawn Wind Farm, at the site of the former Woodlawn open cut mine 9 km west of Tarago. This study identified artefacts within crests, slopes and drainage depressions and determined that there was no strong spatial patterning of sites in relation to landform. The sites were considered to form part of a 'background scatter' distribution of artefacts (a widespread stone artefact scatter which may vary in density depending on landform type and other environmental factors). Stone materials included rhyolite, quartz, silcrete, volcanics and tuff.
URS 2004	Woodlawn Wind Farm	URS prepared an Environmental Impact Statement (EIS) for the Woodlawn Wind Farm approximately 5 km west of the PA. As part of this same project Biosis Research Pty Ltd (2005) undertook an Aboriginal and non-Aboriginal assessment of 33 proposed turbine locations. This study identified 15 stone artefact sites, which were all considered to be part of a 'background scatter' of artefacts occurring in most landform types in the Southern Tablelands. The majority of these sites were located on low ridge flats and open depressions. It was concluded that the area was likely transiently used by Aboriginal people travelling between resource zones.

Author and Date	Location of Study Area	Findings
Dibden 2006	Cullerin Wind Farm	Dibden undertook an Aboriginal heritage assessment for the proposed Cullerin Wind Farm which identified four stone artefact sites. These sites were all considered to be low in density and found within simple slope and crest landform units. The artefacts found were mostly silcrete, with some chert, quartz and volcanic material present in lower numbers. The low density of artefacts recorded was attributed to a lack of a reliable water source within the region.
Austral Archaeology 2007	Capital Wind Farm	Austral Archaeology undertook an addendum Aboriginal Archaeological and Cultural Assessment for the Capital Wind Farm near Tarago, NSW. Five Aboriginal heritage sites were recorded including two small scatters and three isolated finds. Most sites were recorded within gently sloping topography adjacent to creek tributaries, and one site was recorded on a moderate sloping ridge top. Austral Archaeology determined that areas of high and moderate sensitivity were located on slightly elevated gently sloping landforms near local resources, with areas of low sensitivity located on high, steep or rocky ridgelines at a distance to resources.
Dibden 2007	Gullen Range Wind Farm	Dibden undertook an archaeological assessment for a proposed wind farm at Gullen Range, near Kialla. The PA was found to be located within a north-south trending ridge system. The study area was divided into four localities for which the archaeological potential of sites identified was assessed. These localities were Kialla, Bannister, Pomeroy and Gurrundah. These areas are located to the north-east and east (at a minimum of 5 km) away from the study area. The study area was generally predicted to have had low levels of occupation by Aboriginal people in the past, and used more for intermittent hunting and gathering activities away from a base camp. This kind of activity was expected to have a low level of archaeological deposits present in the study area. The field survey of all four areas corresponded with the predictive landscape use, with only low density stone artefact scatters found. Within the study area stone artefact sites were found within ridge crest, spur crest and simple slope landform units with fewer sites found within drainage depressions/simple slopes (Dibden 2007). Stone artefacts were mostly of silcrete, chert and quartz with some quartzite and volcanic material present in lower numbers.

Author and Date	Location of Study Area	Findings
Dibden 2008	Erosion control works near Tarago	Dibden undertook an Aboriginal archaeological assessment for erosion control works within the northern portion of the PA. This study identified three artefact scatters (SU2/L1, SU3/L1 and SU1/L1) which were assessed as being of low to low/moderate archaeological significance. No further archaeological investigation was recommended due to the prediction that subsurface artefacts present would be low to low/moderate in density only and impacts would be restricted to areas of prior disturbance. These sites were recorded to contain predominantly grey silcrete flakes with some blades and cores, as well as smaller amounts of white quartz and chert.
Austral Archaeology 2009a	Capital Wind Farm	Austral Archaeology undertook an addendum Aboriginal Archaeological and Cultural Assessment for the Capital Wind Farm near Tarago, NSW. Five Aboriginal heritage sites were recorded that included two small stone artefact scatters and three isolated finds. Four of the sites were recorded within gently sloping topography adjacent to creek tributaries, and one site was recorded on a moderate sloping ridge top. Austral Archaeology determined that areas of high and moderate sensitivity were located on slightly elevated gently sloping landforms near local resources, with areas of low sensitivity located on high, steep or rocky ridgelines at a distance to resources. Subsequent subsurface testing of their study area yielded 348 artefacts (Austral Archaeology 2009a). Most of these artefacts were quartz (66%) with some silcrete (22%), chert (11%) and quartzite (1%).
Austral Archaeology 2009b	Gunning wind farm	Subsequent to the field survey undertaken by JMCHM (2003), Austral Archaeology undertook a survey for a proposed transmission line within the Gunning Wind Farm development area. This study identified 13 open artefact scatters, 9 isolated finds, 2 areas of PAD and a scarred tree. The open artefact scatters and isolated finds yielded a total of 51 stone artefacts. Grey silcrete was the most common lithic material identified.
Dibden 2012	Collector Wind Farm	Dibden undertook an archaeological assessment for the proposed wind farm at Collector in NSW. This study recorded five new Aboriginal heritage sites which were all described as low density stone artefact scatters. Four possible scarred trees were also identified. The five stone artefact sites identified were mostly located within crest landform units with the exception of one site which was found within a simple slope. The majority of stone artefacts found were made of silcrete with smaller amounts of quartz, chert and fine grained volcanic material present.

The OEH AHIMS database provides information concerning previously recorded Aboriginal sites in NSW. AHIMS stores data regarding a sites 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 will identify any known sites which could be impacted by a proposed works as well as help to determine the overall pattern of Aboriginal sites in an area. A summary of the various site types likely to be located in the PA can be found in *Table 5.2* and was used in the development of a site prediction model for the Project.

Table 5.2 *Parks and Wildlife Group Site Type Definitions*

Site types	Definition
Stone artefact scatters (or Open Camp Sites)	Stone artefact scatter sites, also known as open campsites, are usually indicated by surface scatters of stone artefacts and sometimes fire blackened stones and charcoal. Where such sites are buried by sediment they may not be noticeable unless exposed by erosion or disturbed by modern activities. The term campsite is used as a convenient label which, in the case of open sites, does not necessarily imply that Aboriginal people actually camped on the sites; rather it indicates only that some type of activity was carried out there.
Isolated finds	Sites consisting of only one identified stone artefact, isolated from any other artefacts or archaeological evidence. They are generally indicative of sporadic past Aboriginal use of an area.
Shell middens	Middens consist of accumulations of shell that represent the exploitation and consumption of shellfish by Aboriginal people. Shell species may be marine, estuarine or freshwater depending on the environmental context and middens may also include other faunal remains, stone artefacts, hearths and charcoal.
Shelter sites	Sandstone shelters and overhangs were used by Aboriginal people to provide campsites sheltered from the rain and sun. The deposits in such sites are commonly very important because they often contain clearly stratified material in a good state of preservation.
Grinding grooves	Grooves resulting from the grinding of stone axes or other implements are found on flat areas of suitable sandstone. They are often located near waterholes or creek beds as water is necessary in the sharpening process. In areas where suitable outcrops of rock were not available, transportable pieces of sandstone were used.
Quarries	These are areas where stone was obtained for flaked artefacts or ground-edge artefacts, or where ochre was obtained for rock paintings, body decoration or decorating wooden artefacts.
Art sites	Aboriginal paintings, drawings and stencils are commonly to be found where suitable surfaces occur in sandstone shelters and overhangs. These sites are often referred to as rock shelters with painted art. Rock engravings, carvings or peckings are also to be found on sandstone surfaces both in the open and in shelters. These are referred to as rock engraving sites.

Site types	Definition
Scarred trees	Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans.
Burial sites	Burials may be of isolated individuals, or they may form complex burial grounds.
Stone arrangements, carved trees and ceremonial grounds	These site types are often interrelated. Stone arrangements range from simple cairns or piles of rocks to more elaborate arrangements; patterns of stone laid out to form circles and other designs, or standing slabs of rock held upright by stones around the base. Carved trees are trees with intricate geometric or linear patterns or representations of animals carved into their trunks. Ceremonial grounds and graves were often marked by such trees. Bora grounds are a common type of ceremonial site and they are generally associated with initiation ceremonies. They comprise two circles, generally edged with low banks of earth but sometimes of stone, a short distance apart and connected by a path.

A search of the AHIMS database was undertaken by Janene May, ERM Archaeologist, on 4 November 2013 and an updated search of the PA was subsequently undertaken on 17 December 2014. This search identified 70 Aboriginal heritage sites located within an area of approximately 25 km by 35 km centred on the PA. These sites include 62 stone artefact scatters (89%), four isolated stone artefacts (6%), three culturally modified trees (scarred or carved) (4%) and one shelter with art and an archaeological deposit (1%).

Three of the previously recorded AHIMS sites were located within the PA. These sites all consist of stone artefact scatters, and mostly occur within open paddocks and within 200 m of a watercourse.

The majority of locally recorded stone artefact sites are on flat to gently sloping terrain or on elevated flat terrain or slopes situated within 400 m from of a watercourse. Several culturally modified trees have also been recorded within the Scott Nature Reserve, which is located immediately to the west of the PA within elevated flat and sloping landforms.

The PA is represented by a rolling hills landscape that is dissected by valleys and water courses, most of which are tributaries of the large and permanent Shoalhaven River that is located south of the PA. The topographical nature, geology, flora and fauna of the PA would have provided shelter from the elements and a range of subsistence and lithic resources to Aboriginal people.

Previous archaeological work and the distribution of sites within the PA (refer to *Figure 5.2*) suggests that flat, gently sloping terrain and lower hill slopes in close proximity of watercourses (especially at the convergence of two watercourses) will exhibit the highest archaeological potential.

Areas of archaeological potential will generally be sheltered from the elements and located close to resources such as water, food, medicinal and lithics. The PAs proximity to the Shoalhaven River and several of its tributaries would have made it a prime source of water and food resources for Aboriginal groups. The PAs cultural landscape is rich in subsistence resources and this is evidenced by the widespread and often densely distributed archaeological sites within wider region, particularly within the vicinity of the Shoalhaven River.

Archaeological research into the region has determined that the archaeological record comprises a widespread 'background scatter' of stone artefacts which varies in density according to landform type and environmental characteristics (McDonald and Garling 1997; Hardy and Thomson 2004; Reeves and Thomson 2004). In line with this, the PA is likely to contain low density stone artefact scatters across all of its landform units. These artefact scatters will increase in density within flat and gently sloping landforms, crests, hill top and upper flat locations (particularly those that are sheltered from the elements), and at the confluence of two watercourses. This widespread 'background scatter' of stone artefact sites has been located within surface and subsurface contexts, and their identification has been largely influenced by ground visibility factors. Although the upper layers of soil horizons across the PA have likely been disturbed by historic agricultural activities such as ploughing, in situ archaeological deposits may be present within deeper stratigraphic layers.

In line with previously recorded sites and site distribution models for the southern tablelands region – sites are likely to occur in gently sloping or flat landforms adjacent to resources (such as water) (Fuller 1989). Sites in hilly landforms, crests or ridges, may reflect more transient occupation and movement through the landscape, the proximity of resources such as lithic raw materials or a particular type of food or medicine, or potentially ceremonial or burial sites.

Elevated landforms such as hill tops, crests, ridges or upper flats may also represent larger campsites where they are sheltered from the elements and provide views of the surrounding landscape.

Across the wider region (Fuller 1989) the most common lithic raw material is quartz and chert, though other studies (Koettig 1983; Biosis 2004; Biosis 2005; Anderson 2010) have found that quartz and silcrete are the most frequent. This may be a reflection of different terminology used to describe the raw material, and it is possible that the silcrete and chert could be recorded as the same material. Dearling (2007) also notes that some previous studies could have incorrectly recorded quartz broken pieces as artefacts, due to the difficulty in distinguishing between natural and cultural modification of quartz. Nevertheless, stone artefacts found across the PA will most likely be quartz or silcrete, in line with previous studies.

5.6 *ABORIGINAL HERITAGE PREDICTIVE MODEL*

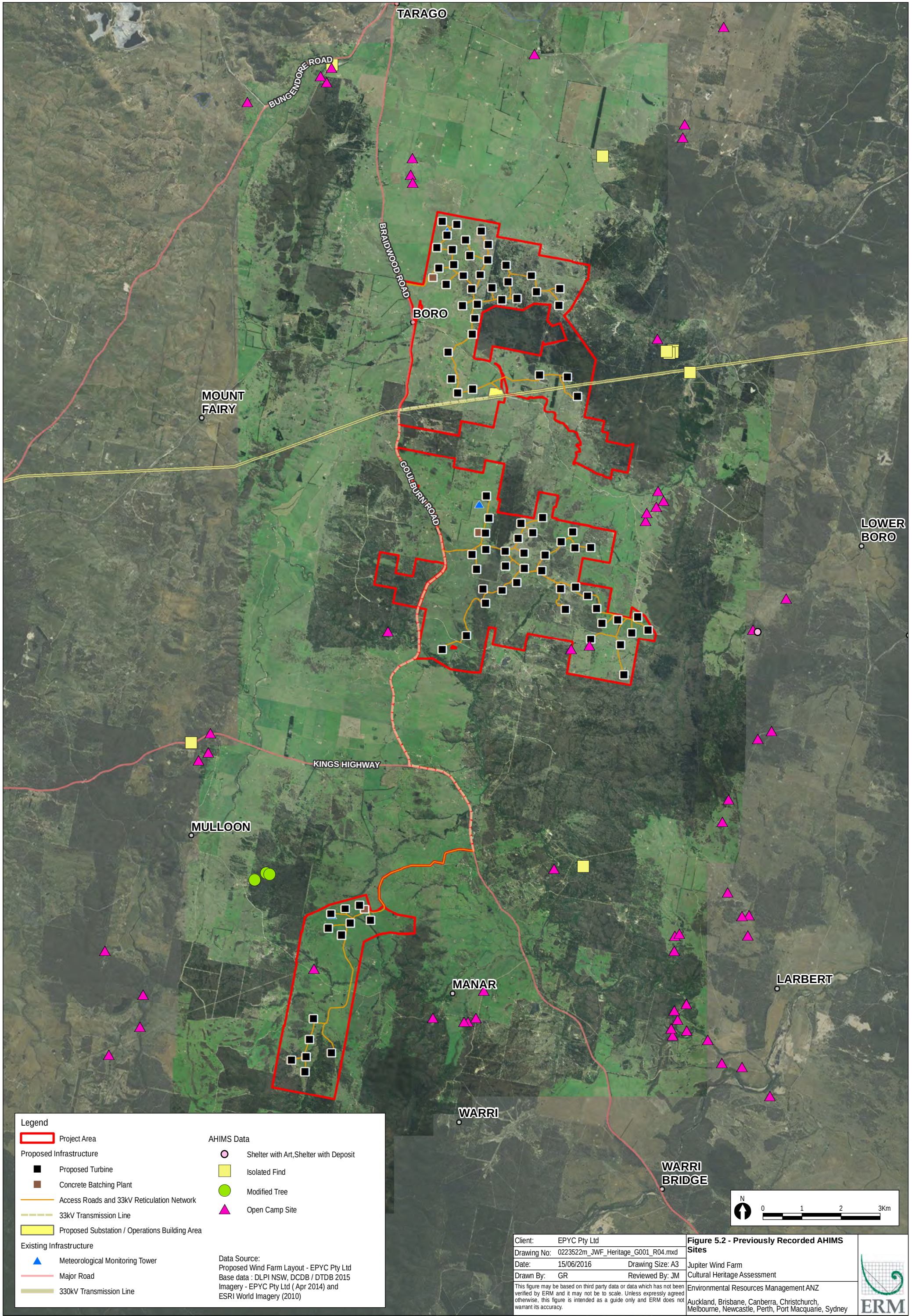
The PA is located within a well-watered region north of the Shoalhaven River and dissected by several of its tributaries. The Shoalhaven River is a permanent source of water and would have been an important prehistoric resource zone attracting a high level of hunter-gatherer occupation. Many stone artefact sites within the wider region have been regarded as a low density background scatter, reflecting a more transient use of the landscape and movement between resource zones. Site patterning indicates that flat or gently sloping landforms in the proximity of major creeks and water courses will exhibit the highest archaeological potential. Previous archaeological research in the region further suggests that drainage depressions, crests, slopes and slightly elevated areas near local resources are also likely to contain evidence of Aboriginal occupation.

The knowledge gained from examining landforms, geology, the regional archaeological pattern, and prior archaeological reports have enabled a set of parameters to be established to predict the potential location of Aboriginal sites within the PA. These parameters are:

- Aboriginal sites are most likely to be stone artefact sites;
- the most common stone material used for the manufacturing of artefacts within the PA region is quartz and silcrete with some chert and volcanic material also present. This appears to be an expression of local material availability;

- stone artefact sites are most likely to occur within 400 m of a permanent watercourse, although smaller creek margins may display scatters of stone artefacts, particularly if near to larger watercourses;
- surface expressions of artefacts are most likely to be found on flat or gently sloping terrain in close proximity to water or within elevated landforms such as hill tops, crests, or upper flats where there is shelter from the elements;
- elevated areas that afford views of the surrounding landscape are likely to contain stone artefact sites;
- culturally scarred trees may occur on mature trees with the PA;
- areas of subsurface stone artefact deposits (with or without a display of surface level stone artefacts) may be present in the PA. Such sites are likely to be located at depths of between 0 and 15 cm below ground surface level;
- human burials are rare, but if present would most likely be in the alluvial soils that make up the PAs flood plain, creek and river terraces or found in crests and hill tops. Burials may be indicated by the presence of clay earth mounds or scarred trees;
- ceremonial sites (bora grounds) may be present in hill tops in the PA (refer to *Section 5.1*), though are very unlikely due to their rarity and previous disturbances across the landscape; and
- areas associated with lithic outcropping (with raw stone material suitable for tool making). Where these sites occur they are likely to be in the form of stone procurement sites with archaeological expressions of initial reduction of stone materials (eg large amount of cortex on artefacts; testing of material quality – discarded material; reduction of larger cobbles and boulders – large pieces of discarded material and evidence of removal).

Much of the material used by Aboriginal people to produce survival equipment (such as wood, bone, shell and fibre material) are highly perishable and do not often survive in the archaeological record. Material culture that has survived, often found in locations where Aboriginal people camped, are generally stone artefacts and scarred trees. Stone artefacts, and to a lesser extent scarred trees, are the most likely artefact types to be located within the PA. Aboriginal archaeological sites within the PA are likely to have been impacted upon (disturbed) due to past European farming practices, the development of transport infrastructure (such as rail and road constructions) and trenching for utility services.



This chapter considers the potential historic heritage values for the PA. It includes a review of available heritage assessments, reports, publications, historical maps and aerial imagery for the local area. This material was used to establish the PAs history and development over time. The following databases were also searched during the course of the assessment to determine whether known historic heritage sites are located within the PA:

- Commonwealth Heritage List (CHL);
- NSW State Heritage Register and Inventory;
- Goulburn Mulwaree Local Environmental Plan 2009 (Goulburn LEP);
- Tallaganda Local Environmental Plan 1991 (Tallaganda LEP);
- The archive of the Register of the National Estate (RNE); and
- The National Trust of Australia.

6.1

HISTORICAL OVERVIEW

The area encompassing the South Eastern Highlands Bioregion was first explored by Hamilton Hume, Charles Throsby, James Meehan and John Oxley between 1817 and 1820. This initial exploration indicated that the area had a good potential for grazing. Subsequently, the area was settled in the 1820s. Prior to this settlement, squatting occurred in the areas that was not being utilised by Europeans. Governor Darling attempted to prevent this by specifying a 'Limits of Location' (outside which land could not be occupied) and in order to occupy an area, a 'Ticket of Occupation' would be required (Tracey 2008). These methods were difficult to police, and the southern portion of the South Eastern Highlands was largely inhabited with squatters during the 1830s.

Settlement in the region increased during the 1820s, and Goulburn was founded between 1829 and 1833. Other towns across the region such as Bathurst, Orange, Bombala, Cooma, Marulan, Braidwood, Bungendore, Yass, Gunning and Crookwell developed during this time with agricultural activities and crafts (NSW NPWS 2003).

In 1851, the region flourished as a result of the Australian Gold Rush. Towns in the region expanded rapidly as miners set up one room houses in urbanised villages between the 1850s and 1900. These houses were often constructed simply of materials such as bark, weatherboard and iron sheet.

Remnants of mining activities remain in the landscape today and include mine shafts, tunnels, spoil heaps and structural infrastructure (NSW NPWS 2003). There was also a copper rush from the 1840s to the late 1890s which was focused predominantly within the northern portion of the South Eastern Highlands Bioregion.

The village of Tarago just north of the PA was originally known as 'Sherwin's Flats'. The name change coincided with the completion of a railway line and station on 3 January 1884. The town was on the only road into the Queanbeyan valley. Its main street had two produce stores, bakeries, Cobb & Co stables, a general store, a post office, J.J. Hush's Hotel, a butcher shop and garage. The railway station completed in 1884 served as a loading dock for the wool trade (State Heritage Register Listing # 5012238).

The northern precinct (Part B) was originally located within the Parish of Barnet, County Murray (refer to *Figure 6.1*). The southern portion of the PA was originally located within the historical parishes of Fairy Meadow and Mulloon in the County of Murray (refer to *Figure 6.2*). The northern portion of the PA was originally located within the historical parish of Mulwarra in the County of Argyle (refer to *Figure 6.3*).

The PA appears to have been formed of both large and small land holdings. A large portion of the PA forms part of an original land grant to Dr Matthew Anderson (1788-1852). Anderson was granted 2,560 acres in 1827 and established the homestead of Redesdale to the south east of the PA (Kass and Mclymont 1996). Anderson was a resident surgeon at Parramatta from 1829 to 1841 and a magistrate and personal physician to the Macarthur family (Kass and Mclymont 1996).

Historical parish maps of the PA are provided in *Figures 6.1* to *6.3*. These have been sourced from the Department of Lands online historical map viewer at <http://images.maps.nsw.gov.au/>. An 1888 historical parish map for the northern precinct between Reedy Creek (south) and Boro Creek (north) is provided in *Figure 6.1*. A 19th century historical parish map for the southern portion of the PA south of Reedy Creek is provided in *Figure 6.2*. An 1894 historical parish map for the northern portion of the PA north of Boro Creek is provided in *Figure 6.3*.

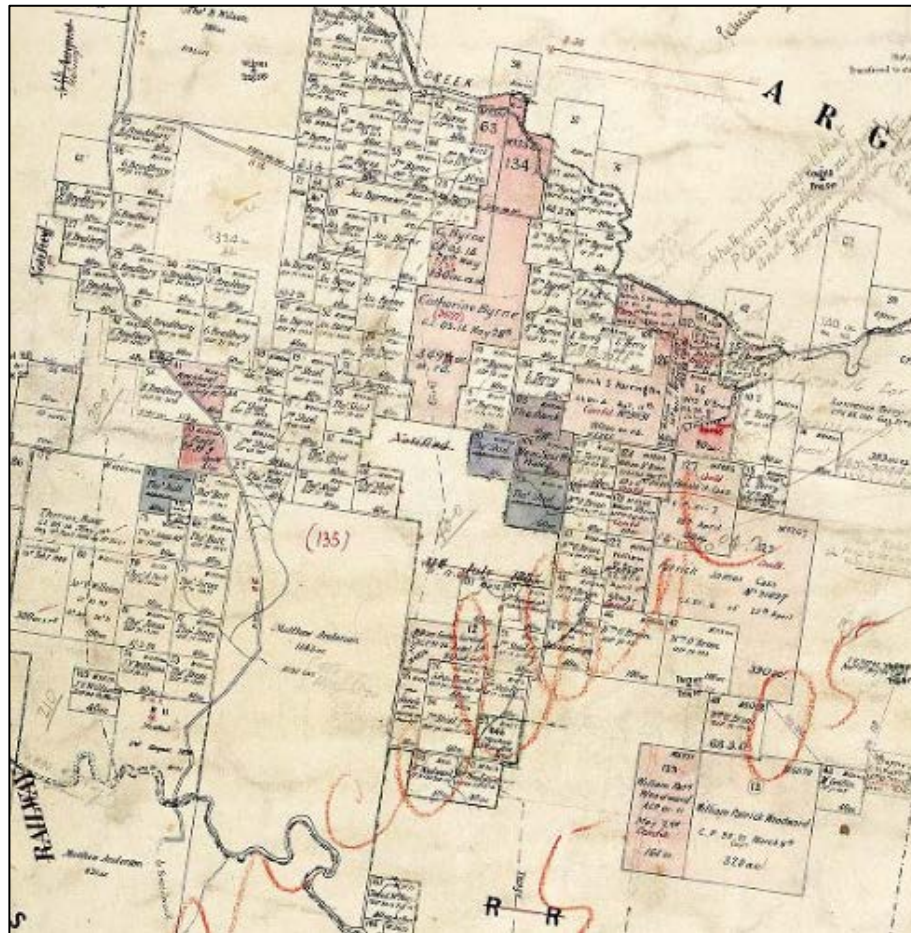


Figure 6.1 Historical Parish Map c1888

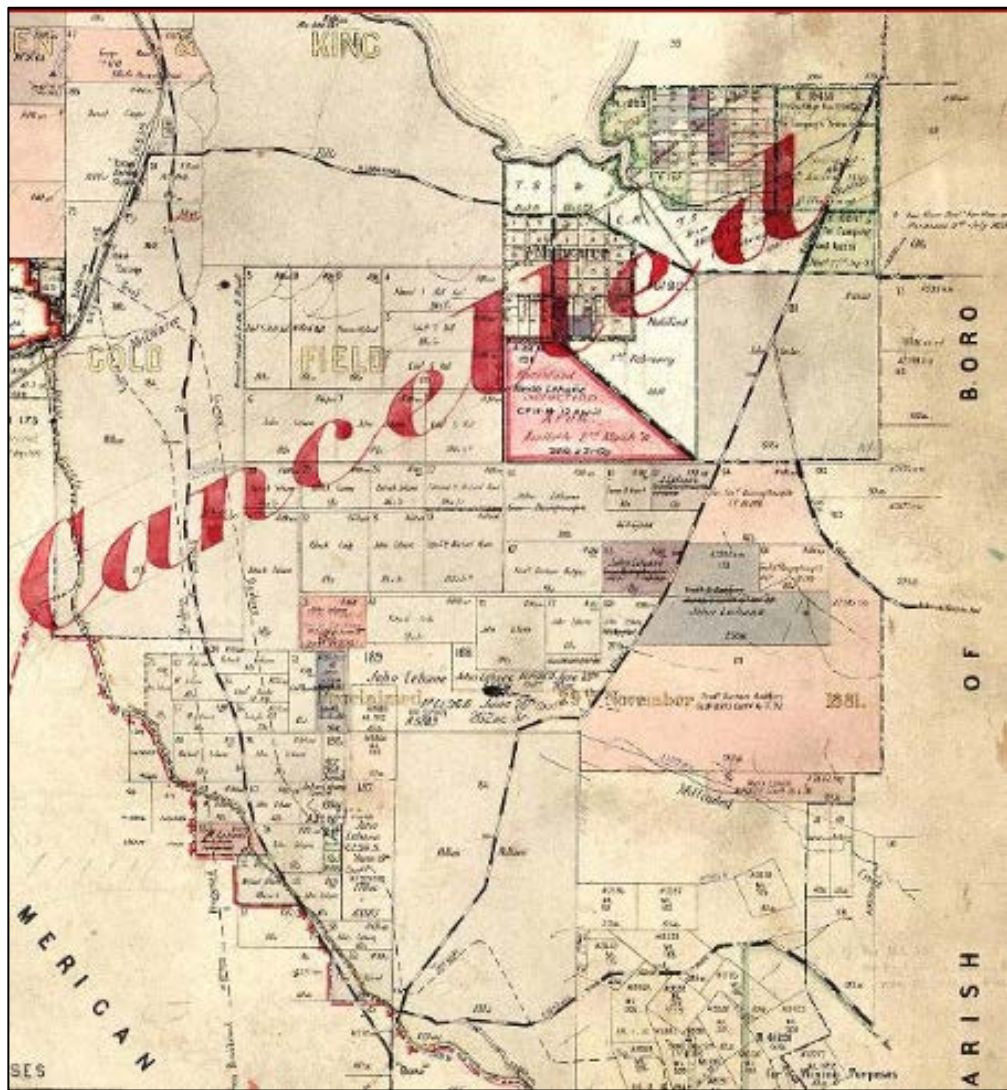


Figure 6.3 Historical Parish Map c1894

The landscape of the PA reflects the past 180 years of occupation. From a review of aerial imagery, the changing landscape is evident through visible erosion of topsoil, hillside gullying and extensive clearing of natural tree cover for pastoral purposes and as well as gold mining activities and timber harvesting. Evidence of historical development in the PA may be found in relation to early agricultural pursuits, domestic dwelling remains, the division of land for the establishment of towns and subsequent transport links, and mines and other infrastructure relating to the Australian Gold Rush.

6.2 ***HISTORIC HERITAGE DATABASE SEARCHES***

A search of the following heritage databases was undertaken on the 25 August 2014 to determine whether historic heritage items have been recorded within the PA. The results are outlined below.

6.2.1 ***Commonwealth Heritage List***

There are no heritage items in or in the immediate vicinity of the PA listed on the CHL.

6.2.2 ***Stage Heritage Register***

Tarago Railway Station is located approximately 5.5 kilometres to the north west of the northern portion of PA and is listed as an item of State Heritage Significance (Item 5012238).

In the general region within the townships of Bungendore and Braidwood there are also several historic items reflecting early use of the region including early homesteads, outbuildings (stables etc.) and railway stations.

6.2.3 ***Local Environmental Plans***

The northern portion of the PA falls within the jurisdiction of the *Goulburn Mulwaree Local Environmental Plan 2009* (Goulburn LEP). There are no heritage items occurring within the PA listed in the Goulburn LEP. Two heritage items are located within the vicinity of the PA as listed below.

- Tarago Railway Station - located 5.5 km to the west of the northern portion of PA (Item 335); and
- The Loaded Dog Hotel and Outbuildings - approximately 5.3 km to the east of the northern portion of PA (Item 336).

The southern portion of the PA falls within the jurisdiction of the *Tallaganda Local Environmental Plan 1991* (Tallaganda LEP).

Searches of the historic heritage database above indicated that there were no previously recorded items of historic heritage significance within the PA. This may be the result of a lack of previous survey and assessment, rather than an accurate reflection of the archaeological record.

6.3

HISTORIC HERITAGE PREDICTIVE MODEL

A search of relevant databases for known historic heritage items was undertaken on the 25 August 2014. The historical development of the PA and its surroundings has been such that there may be some evidence of early agricultural activities, timber harvesting, domestic dwelling remains and associated features, gold mining activities, the division of land for the establishment of towns and subsequent transport links, and mines. Evidence of mining activities may be in the form of shallow dug holes to deep shafts. Examination of aerial imagery and past land disturbances associated with agricultural activities suggests that it is unlikely that previously unknown historic heritage items would be located within the PA.

This section provides an overview of the archaeological field survey of the PA that was undertaken from 22 to 26 September 2014 to determine the presence of Aboriginal cultural heritage sites and values.

7.1 ARCHAEOLOGICAL SURVEY METHODOLOGY

The PA was surveyed by Janene May and Stefani Blackmore (ERM Archaeologists) and representatives of RAPs as outlined in *Table 7.1*. The archaeological survey aimed to assess the entire impact footprint (as provided by the Proponent at that time), especially targeting all soil exposures and zones with reduced vegetation such as areas of erosion and any tracks or paths.

Table 7.1 *Aboriginal Groups Attending the Field Survey*

Day	RAP Group Attending
Monday 22/9/14	Rostered group unable to attend
Tuesday 23/9/14	Gunjeewong Cultural Heritage Corporation
Wednesday 24/9/14	Pejar LALC Bunja Smith
Thursday 25/9/14	Rostered group unable to attend
Friday 26/9/14	Rostered group unable to attend

An amended site layout for the Project was provided to ERM in June 2015. These amendments were only minor with some changes to the locations of the access roads and substation. Further minor changes to the site layout for the Project were provided to ERM in April 2016. These amendments included minor revisions to the three temporary concrete batching plant locations and minor revision to access road alignments. These new areas were not surveyed in detail during the field investigations although it is noted that all affected landforms have been assessed within the 2014 field survey and predictive model. Based on the results of the original survey and detailed desktop review, no additional field survey was required to cover these minor amendments to the project design.

A 33 kV transmission line was proposed to be constructed within the road reserve of Goulburn Road, the Kings Highway and the proposed access road into the southern precinct. This alignment was surveyed by ERM archaeologist Janene May on 12 to 14 August 2015.

The RAPs were informed of all additional field inspections and changes to the draft report on 9 September 2015.

Where Aboriginal cultural heritage sites were identified they were mapped and recorded by the survey team for content, GPS location, landscape features and digitally photographed. Notes were made of soil conditions, evidence of ground disturbance and possible spatial extent of sites. The description of survey coverage includes landform units, the total area surveyed within that landform unit and a quantification of the level of ground exposure and visibility.

Visibility refers to the amount of ground upon which artefacts could be seen. The presence of vegetation, leaf litter and other variables can obscure visibility, which is expressed as a percentage. An exposure is defined as an area in which ground surface disturbance (usually in the form of erosion) results in the removal of ground cover and soils and permits the detection of archaeological material that was formerly contained within a surface or subsurface context. The level of exposure is determined as a percentage.

The calculation of effective coverage provides a means with which to describe the proportion of the PA in which it is possible to assess the presence or absence of archaeological material.

This measure is expressed as a percentage and can be calculated using a number of different techniques. For this study effective coverage was calculated by multiplying the area surveyed by the percentage of visibility and exposure within the survey unit. The area of effective coverage was then expressed as a percentage of the whole survey unit.

7.1.1 *Archaeological Potential*

The level of archaeological potential relates to the likelihood of discovering an Aboriginal object or site within a location. Further description should then be made as to the potential condition and integrity of the soil matrix and potential site or site itself.

Archaeological site formation is a complex combination of factors, such as bioturbation and environmental conditions like erosion or the burial of sites through soil movement. Once discarded on the grounds surface, artefacts are often readily incorporated into the topsoil horizons through the process of bioturbation. It is common for dense artefact deposits to exist hidden beneath the grounds surface layer (c.f. Wandsnider and Camilli 1992; Fanning and Holdaway 2001). Archaeological assessments that do not employ appropriate methods for prediction cannot reliably define an area's archaeological content. Frequently, only the eroded component of a larger subsurface deposit is detected and recorded as a site. Where soils are soft, sandy or in boggy conditions, artefacts can occur at greater depths below surface level. Therefore, it is crucial that the nature of an area's soils, sands and geomorphology are defined correctly in an archaeological assessment and the resulting archaeological implications identified. An understanding of these factors, linked further to the notions of site integrity and condition, results in an understanding of an area or site's archaeological potential.

Areas with archaeological potential within the PA were identified according to the definitions in *Table 7.2*.

Table 7.2 *Definitions of Archaeological Potential*

Rank	Definition	Example
Very Low potential	Artefacts are very unlikely to occur in situ.	Eroded landforms, reconstructed landscapes, hazardous landscape, developed areas.
Low potential	Artefacts are not normally found in comparable contexts but could occur in low densities making detection unlikely.	Landforms with no specific focus for use, ie with no water source or undifferentiated slopes.
Moderate potential	Artefacts are known to occur in comparable landforms in detectable densities (~1artefact/m ²) and there is possibility for detection.	Landforms with an environmental focus which may have seen seasonal Aboriginal visitation.
High potential	Artefacts are consistently found in comparable landforms or similar environmental contexts and will very likely be found if soil excavation occurs.	Landforms with known environmental focus areas encouraging repeat visitation to specific locale, ie margins of swamp or near high order creeks.

7.2 *ABORIGINAL HERITAGE*

The survey was conducted according to the survey methodology sent to interested Aboriginal groups on 18 August 2014. The field survey methodology was adopted to pursue the discovery of new archaeological sites, ensure the accurate recording of such sites and provide sufficient information to provide an assessment of the PAs cultural significance.

As such, each of the different landforms identified in the PA were surveyed, which included gentle slopes, upper flats, crests and open depressions. Creek lines, mature trees, erosion scours and vehicle and animal access tracks were all inspected. In order to ensure the highest likelihood of finding Aboriginal sites, the field survey focussed on areas of highest ground visibility.

7.2.1 *Fieldwork Constraints*

The fieldwork identified that a large portion of the PA was densely vegetated, resulting in low ground visibility across all landforms encountered. Nevertheless, several exposures were located in each of the landforms encountered. The Effective Survey Coverage Table is summarised in *Table 7.4*.

The survey entailed walking linear transects approximately 30 m in width. These linear transects form the Survey Units for the PA. The survey of the PA included mostly vehicle tracks, animal paths patches of erosion, areas with little or no ground cover, and open paddocks within the PA. Paddocks were generally densely vegetated, however some areas had been recently ploughed which afforded some visibility. The survey areas took in a number of landforms which defined the survey transects inspected. Survey Units are described in *Table 7.3* followed by photographic examples of selected landscapes. Survey Coverage is shown in *Table 7.4*, and Landform Summary in *Table 7.5*. The location of survey units are identified in *Figures 7.1, 7.2* and *7.3*.

Table 7.3 *Description of Survey Units/Transects*

Survey Unit	Landform	Description
1	Flat Terrain	Survey Unit 1 traverses flat terrain adjacent to Boro Creek and Lower Boro Road within a valley depression surrounded by rolling hills. The Survey Unit is predominantly vegetated in dense grass coverage, with some sparsely scattered trees. Due to the dense grass coverage there is generally a poor level of ground surface visibility. Some exposures were observed along Boro Creek in areas of soil erosion, and these areas were inspected for stone artefacts. Soils in the area comprise a heavily disturbed dark brown loose loam to a light brown alluvial loam in the vicinity of Boro Creek. Refer to <i>Photograph 7.1</i>. Low Archaeological Potential.
2	Rolling hills	Survey Unit traverses crests and simple slopes across a landscape of rolling hills. This survey unit is considered to have a low archaeological potential due to the small number of artefacts encountered (as well as likely movement since deposition based on the heavy disturbance caused by the construction and use of the vehicle access track). Visibility along exposures of the eroded vehicle track and surrounding soil erosion. Surrounding area of paddocks was heavily vegetated with trees and grass. Soils mostly comprise a heavily disturbed dark brown loam. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.2</i>. One Aboriginal and one historic heritage site found within this Survey Unit. The Aboriginal heritage site comprises an isolated stone artefact identified approximately 170 m south west from proposed impact track (JWF1). This site is situated within flat terrain a wider rolling hills landscape. Soils at this site comprise a soft grey sandy deposit with stone inclusions including quartz (none of which was artefactual). The historic heritage site identified consists of a grave from 1989 located approximately 40 m east of the proposed access track. Low Archaeological Potential.

Survey Unit	Landform	Description
3	Rolling Hills	Survey Unit traverses crests and simple slopes across a landscape of rolling hills. This survey unit is considered to have a low archaeological potential due to the lack of artefacts encountered, landform type and distance to permanent water. There was some ground surface visibility in exposures under trees and within vehicle access tracks. However, the area is generally covered in dense grass and was found to have a very poor ground surface visibility. Surrounding area of paddocks was heavily vegetated with trees and grass. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Soils in this area are comprised of a dark brown soft loose loam. Refer to <i>Photograph 7.3</i>. Low Archaeological Potential.
4	Simple Slope	Survey Unit traverses a simple slope landform within a wider landscape of rolling hills. This survey unit is considered to have a low archaeological potential due to the lack of artefacts encountered, landform type and distance to permanent water. There was some ground surface visibility in exposures under trees and within vehicle access tracks. However, the area is generally covered in dense grass and was found to have a very poor ground surface visibility. Refer to <i>Photograph 7.4</i>. Low Archaeological Potential.
5	Flat Terrain	Survey Unit is located on flat to gently sloping terrain within a floodplain landscape. The area is dissected by a tributary of Millendale Creek and within proximity of several other first order tributaries. The area is mostly vegetated with dense grass, however there were several large exposures which afforded good ground surface visibility. Soils in the area are comprised of a soft yellow to light brown sandy deposit. There have been disturbances to the landscape including vegetation clearance and flooding events. Due to the fact that the area is prone to flooding, it is not likely that it was used for camping or longer-term occupation by Aboriginal people in the past. It may have been used in a transient way, to pass through the landscape, though no archaeological evidence of this was found. Refer to <i>Photograph 7.5</i>. Low Archaeological Potential.
6	Upper Slopes	Survey Unit traverses upper slopes associated with Mount Boro landscapes and an adjacent hill top. This area is well vegetated with woodland and forms a raised area within the region. Due to the dense tree vegetation, ground surface visibility was mostly poor in this area. Some visibility was afforded along dirt vehicle access tracks. Soils in the area comprise a compact light brown loam with some inclusions of coarse grained lithic material. Personal communication with the landowner suggested that the area had been historically utilised for mining, with several dug pits (some hundreds of meters deep) still present in the area. Some evidence of this historic mining was identified adjacent to the vehicle access track in this survey unit running north - south. Refer to <i>Photograph 7.6</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
7	Slopes	Survey Unit traverses gently to moderately inclining sloping terrain above Boro Creek. The area comprises grazing paddocks with dense grass coverage and trees planted in a rectangular formation (potentially a wind break). Ground surface visibility was very low due to the dense grass coverage. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Refer to <i>Photograph 7.7</i>. Low Archaeological Potential.
8	Slopes	Survey Unit traverses gently to moderately inclining sloping terrain above Boro Creek. The area comprises grazing paddocks with dense grass coverage and some isolated patches of wooded vegetation. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. A dirt vehicle access track was located within this Survey Unit and afforded some ground surface visibility, however this was very low in the remained of the area. Refer to <i>Photograph 7.8</i>. Low Archaeological Potential.
9	Flat Terrain	Survey Unit traverses gently sloping to flat terrain below Mount Wilson and adjacent to Lower Boro Road. The Survey Unit comprises grazing paddocks and is predominantly vegetated in a dense grass coverage which affords a relatively poor ground surface visibility. Soils in the area were highly disturbed by ploughing and animal grazing, and consisted of a dark grey soft loose loam. Refer to <i>Photograph 7.9</i>. Low Archaeological Potential.
10	Slopes	Survey Unit traverses upper, mid and lower slopes associated with Mount Wilson (elevation of 730 m). The area is predominantly comprised of grazing paddocks with dense grass. Upper slopes near the crest of Mount Wilson were examined and contained some granite outcropping. The area has been mostly cleared of vegetation, though woodland is present in the southern portion of the Survey Unit. Soils in the area varied from a heavily disturbed/ploughed dark grey loose loam, to a compact light brown fine silt within the woodland area. Refer to <i>Photograph 7.10</i>. Low Archaeological Potential.
11	Simple Slope	Survey Unit traverses a gently to moderately inclining simple slope landform between a ridgeline (Survey Unit 13) and gently undulating terrain towards Goulburn Road. This area has been previously cleared of vegetation and now comprises grazing paddocks with dense grass coverage. Soils in the area comprise a dark brown loose loam that has been disturbed by ploughing and animal grazing. Refer to <i>Photograph 7.11</i>. Low Archaeological Potential.
12	Flat Terrain	Survey Unit traverses flat to gently undulating terrain between Survey Unit 11 and Goulburn Road. The area is comprised of open grazing paddocks with isolated wooded areas and sparsely scattered trees. Soils in the area comprise a dark brown loose loam that has been disturbed by ploughing and animal grazing. Refer to <i>Photograph 7.12</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
13	Ridge Crest	Survey Unit traverses the crest of a ridgeline which runs north to south and is vegetated with woodland. To the east and west of this ridge the landscape forms a gently to moderately declining slope into a gently undulating terrain of open grazing paddocks. Ground surface visibility along the ridge line ranged from poor due to leaf litter or grass coverage, and high in areas of exposed ground under trees and in areas where digging has occurred. During the field survey, Aboriginal representative Bunja Smith indicated that the general region of the PA was likely to have been utilised in a transient way, including movement from one landscape the next, rather than for more permanent occupation. He suggested that this ridgeline could contain evidence of this transient movement, though no Aboriginal heritage sites were identified during an examination of this landform. Due to land disturbance and the likely nature of past use of this landform, it is likely that any sites that do exist here would be in a disturbed context and low density in nature. Refer to <i>Photograph 7.13</i>. Low Archaeological Potential.
14	Slopes	Survey Unit traverses a simple slope landform unit below a ridgeline comprising Survey Unit 13. The Survey Unit overlies gently sloping terrain including open depressions and small hills. The Survey Unit is generally comprised of open paddocks with dense grass, and within proximity of small first order tributaries of Kings Creek. Soils in the area range from a dark grey brown loose loam, which has been disturbed by ploughing, to lighter brown fine compact silt. Refer to <i>Photograph 7.14</i>. Low Archaeological Potential.
15	Open Depression	Survey Unit traverses an open depression comprising a first order tributary of Kings Creek. No water was identified in the drainage line during the field survey. Several dams are located within proximity to this Survey Unit and associated with this tributary. The area generally had a low ground surface visibility due to dense grass coverage. Refer to <i>Photograph 7.15</i>. Low Archaeological Potential.
16	Slopes	Survey Unit traverses moderately inclining sloping terrain adjacent to Kings Creek. The area comprises grazing paddocks with dense grass coverage and isolated patches of trees. Ground surface visibility was very low due to the dense grass coverage. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Refer to <i>Photograph 7.16</i>. Low Archaeological Potential.
17	Open Depression	Survey Unit traverses an open depression which comprises the large water course Kings Creek. Ground surface visibility was generally poor, due to grass coverage. A large number of trees are located along the creek. The landscape forms moderately inclining simple slopes on either side of the creek. Soils in the area are comprised of a soft light brown loam deposit. Due to the inclination of the surrounding landscape, the area is not considered to have a high potential for in situ high density stone artefact sites. Refer to <i>Photograph 7.17</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
18	Simple Slope	Survey Unit traverses a moderately inclining simple slope above Kings Creek. Ground surface visibility was generally poor, due to grass coverage. Soils in the area are comprised of a soft dark brown loose loam that has been disturbed by ploughing and land clearance. Refer to <i>Photograph 7.17</i>. Low Archaeological Potential.
19	Flat Terrain	Survey Unit traverses flat to gently sloping terrain within proximity to Kings Creek. The Survey Unit crosses open depressions of Kings Creek as well as some of its tributaries. Several large exposures were found within the area, where grass growth was limited and within proximity to fence lines, under trees and in areas of soil erosion. Soils in the area comprise a very fine light brown silt deposit. Several isolated wooded areas also exist, though the area is predominantly comprised of cleared grass paddocks. Refer to <i>Photograph 7.18</i>. Low Archaeological Potential.
20	Slopes	Survey Unit traverses gently to moderately inclining sloping terrain above tributaries of Kings Creek. The area comprises grazing paddocks with dense grass coverage and some isolated patches of wooded vegetation. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Several wooded areas are present within upper slope and crest landform units in the area. Refer to <i>Photograph 7.19</i>. Low Archaeological Potential.
21	Flat Terrain	Survey Unit is located within a flat to gently sloping terrain north of a dirt vehicle access track. The area comprises grazing paddocks with dense grass coverage which has been historically cleared. There are several sparse trees scattered within the area. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Refer to <i>Photograph 7.20</i>. Low Archaeological Potential.
22	Slopes	Survey Unit traverses gently to moderately inclining sloping terrain above several tributaries of Kings Creek. The area comprises grazing paddocks with dense grass coverage and some isolated patches of wooded vegetation. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Several wooded areas are present within upper slope and crest landform units in the area. Two Aboriginal heritage sites (DL14 and DL15) were previously identified within this Survey Unit, located within an upper slope and crest landform. These sites both consist of stone artefact scatters. They were not re-identified during this field survey, potentially due to the very poor ground surface visibility. They are located approximately 170 m south (DL14) and 565 m south-east (DL15) of the proposed development footprint. Refer to <i>Photograph 7.21</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
23	Flat Terrain	Survey Unit is located along a dirt vehicle access track which runs south from Lower Boro Road. The Survey Unit had generally low visibility with some exposures adjacent to the vehicle access track (especially under trees and in areas of good soil erosion). The dirt vehicle track had good visibility. The surrounding area was heavily vegetated with dense grass. Disturbances observed include the development of tracks, fencing, cattle grids, several drainage lines, and vegetation clearance. Refer to <i>Photograph 7.22</i>. Low Archaeological Potential.
24	Flat Terrain	Survey Unit is located within a flat to gently sloping terrain east of a dirt vehicle access track. The area comprises grazing paddocks with dense grass coverage which has been historically cleared. There are several sparse trees scattered within the area. Soils in the area were disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Refer to <i>Photograph 7.23</i>. Low Archaeological Potential.
25	Slopes	Survey Unit traverses gently and moderately inclining slopes adjacent to Croppies Gunyah Creek. The Survey Unit had generally low visibility due to dense grass coverage. The area is comprised of open grazing paddocks. There are several sparse trees scattered within the area. Soils in the area have been disturbed by ploughing and land clearance, and comprise a dark brown loose loam. Refer to <i>Photograph 7.24</i>. Low Archaeological Potential.
26	Flat Terrain	Survey Unit is located within a flat to gently sloping terrain along a dirt vehicle access track which runs south from Lower Boro Road. The Survey Unit had generally low visibility with some exposures adjacent to the vehicle access track (especially under trees and in areas of good soil erosion). The dirt vehicle track had good visibility. The surrounding area was heavily vegetated with dense grass. Disturbances observed include the development of tracks, fencing, cattle grids, several drainage lines, and vegetation clearance. Refer to <i>Photograph 7.25</i>. Low Archaeological Potential.
27	Simple Slope	Survey Unit traverses a moderately to steeply inclining slope above Reedy Creek. Ground surface visibility was generally poor, due to grass coverage. Soils in the area are comprised of a soft dark brown loose loam that has been disturbed by ploughing and land clearance. Due to the steep inclination of the landform, it is not considered that the impact area/Survey Unit has potential archaeological deposits, however flat terrain adjacent to Reedy Creek may contain Aboriginal heritage sites. Refer to <i>Photograph 7.26</i>. Low Archaeological Potential.
28	Gentle Slope	Survey Unit is located along a gravel vehicle road track and subsequent vehicle dirt track leading to farm outbuildings and homestead. Transect had generally low visibility with some exposures adjacent to the vehicle access track (especially under trees and in areas of good soil erosion). The dirt vehicle track had good visibility. The surrounding area was heavily vegetated with dense grass. Disturbances observed include the development of tracks, fencing, cattle grids, several drainage lines, and vegetation clearance. Refer to <i>Photograph 7.27</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
29	Rolling Hills	Survey Unit incorporates a series of moderately inclining slopes, crests and valley depressions across a landscape of rolling hills. Some visibility noted in the form of exposures along vehicle tracks. Other exposures found in areas of erosion, under trees and within eroded drainage lines nearby. Area comprised paddocks that were heavily vegetated with grass cover. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.28</i>. Low Archaeological Potential.
30	Flat Terrain	Survey Unit dissects immediately surrounding flat terrain around Manar Creek in the area of newly recorded Aboriginal PAD area (JWF PAD 1). Some areas of ground visibility caused by soil erosion in the vicinity of the drainage line. Subsurface potential identified within the raised flat terrain on either side of Manar Creek. Soils in the area are comprised of a soft loose light brown alluvial silt deposit. Refer to <i>Photograph 7.29</i>. Moderate Archaeological Potential.
31	Open Depression	Survey Unit dissects open drainage line (Manar Creek). Water was identified within the drainage line during the field survey. The surrounding landscape forms flat to gently sloping terrain which consists of grazing paddocks with dense grass. The open depression landform comprises steep slopes. Some small areas of soil erosion afforded ground surface visibility within the area. Refer to <i>Photograph 7.30</i>. Moderate Archaeological Potential.
32	Gentle Slope	Survey Unit dissects immediately surrounding flat to gently sloping terrain around Manar Creek in the area of newly recorded Aboriginal PAD area (JWF PAD 1). Some areas of ground visibility caused by soil erosion in the vicinity of the drainage line. Subsurface potential identified within the raised flat terrain on either side of Manar Creek. Soils in the area are comprised of a soft loose light brown alluvial silt deposit. Refer to <i>Photograph 7.31</i>. Moderate Archaeological Potential.
33	Simple Slope	Survey Unit located on dirt vehicle road track within proximity of farm outbuildings and homestead. The Survey Unit traverses a gentle to moderately inclining slope. Some good visibility along dirt track and several exposures were noted in areas of soil erosion. Disturbances observed include ploughing, the development of tracks and several drainage lines, as well as vegetation clearance. Refer to <i>Photograph 7.32</i>. Low Archaeological Potential.
34	Flat Terrain	Survey Unit traverses a flat and gently sloping terrain directly adjacent to the east of Manar Creek. An area of moderate archaeological potential was observed within this Survey Unit due to its deep alluvial soils, proximity to several water courses, and its flat landform sheltered from the elements (JWF PAD 2). Visibility was generally poor, due to dense grass coverage. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, the construction of a dam, nearby construction of housing and outbuildings, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.33</i>. Moderate Archaeological Potential.

Survey Unit	Landform	Description
35	Simple Slope	Survey Unit traverses a gently inclining simple slope landform within proximity of Manar Creek. The area is comprised of paddocks with thick grass and a wooded area. Some good ground surface visibility was recorded along exposures of eroded vehicle tracks and fence lines. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.34</i>. Low Archaeological Potential.
36	Slopes	Survey Unit traverses crests, upper, mid and lower slopes within proximity of Manar Creek. The area comprises paddocks with thick grass and a wooded area. Some good ground surface visibility was identified along exposures of eroded vehicle tracks and fence lines. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.35</i>. Low Archaeological Potential.
37	Flat Terrain	Survey Unit comprises flat to gently sloping terrain adjacent to Manar Creek. Area was relatively swampy and is likely to be subjected to flood events. This Survey Unit traversed grazed paddocks with only few trees. Some visibility within areas of sparse grass that had been trampled by livestock. Disturbances observed include vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.36</i>. Low Archaeological Potential.
38	Gentle Slope	Survey Unit comprises flat to gently sloping terrain within the road corridor of the Kings Highway. . The landscape was found to be heavily disturbed as a result of the construction and ongoing use of the Kings Highway. Disturbances observed include vehicle use, cuttings for the road, culverts and drainage lines, vegetation clearing and fencing. Refer to <i>Photograph 7.37</i>. Low Archaeological Potential.
39	Gentle Slope	Survey Unit comprises flat to gently sloping terrain within the road corridor of Braidwood-Goulburn Road. One Aboriginal stone artefact scatter was identified adjacent to the road within a gently sloping landform (JWF2). The site was identified within an exposure resulting from soil erosion. The landscape was found to be heavily disturbed as a result of the construction and ongoing use of the Braidwood-Goulburn Road. Disturbances observed include vehicle use, cuttings for the road, culverts and drainage lines, vegetation clearing and fencing. Refer to <i>Photograph 7.38</i>. Low Archaeological Potential.

Survey Unit	Landform	Description
40	Slopes	Survey Unit traverses crests, upper, mid and lower slopes within a wider landscape of gently rolling hills. The area mostly comprises cleared paddocks adjacent to existing cleared transmission line easements. The Survey Unit also traverses some wooded areas. There was a generally poor ground surface visibility due to dense grass coverage. However, some exposures were present within wooded areas and under scattered paddock trees. One Aboriginal heritage site (JWF3) was identified within an exposure underneath a tree. Disturbances observed include the development of tracks and vehicle use, vegetation clearance, ploughing, fencing and other agricultural activities. Refer to <i>Photograph 7.39</i>. Low Archaeological Potential.



Photograph 7.1 SU1 looking north east (ERM 2014).



Photograph 7.2 SU2 looking east (ERM 2014).



Photograph 7.3 SU3 looking east (ERM 2014).



Photograph 7.4 SU4 looking north east (ERM 2014).



Photograph 7.5 SU5 looking east (ERM 2014).



Photograph 7.6 SU6 looking east (ERM 2014).



Photograph 7.7 SU7 looking south east (ERM 2014).



Photograph 7.8 SU8 looking south to Lower Boro Road (ERM 2014).



Photograph 7.9 SU9 looking south east (ERM 2014).



Photograph 7.10 SU10 looking south west (ERM 2014).



Photograph 7.11 SU11 looking north (ERM 2014).



Photograph 7.12 SU 12 looking west (ERM 2014).



Photograph 7.13 SU13 looking north west (ERM 2014).



Photograph 7.14 SU14 looking east (ERM 2014).



Photograph 7.15 SU15 looking east (ERM 2014).



Photograph 7.16 SU16 looking south west (ERM 2014).



Photograph 7.17 SU17 and SU18 looking south east (ERM 2014).



Photograph 7.18 SU19 looking north (ERM 2014).



Photograph 7.19 SU20 looking east (ERM 2014).



Photograph 7.20 SU21 looking north (ERM 2014).



Photograph 7.21 SU22 looking south (ERM 2014).



Photograph 7.22 SU23 looking south (ERM 2014).



Photograph 7.23 SU24 looking south west (ERM 2014).



Photograph 7.24 SU25 looking south (ERM 2014).



Photograph 7.25 SU26 looking south (ERM 2014).



Photograph 7.26 SU27 looking south west (ERM 2014).



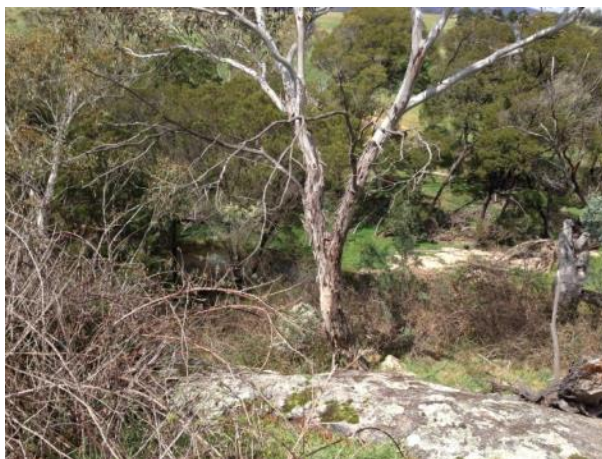
Photograph 7.27 SU28 looking west (ERM 2014).



Photograph 7.28 SU29 looking east (ERM 2014).



Photograph 7.29 SU30 looking west (ERM 2014).



Photograph 7.30 SU31 looking south (ERM 2014).



Photograph 7.31 SU32 looking north (ERM 2014).



Photograph 7.32 SU33 looking south (ERM 2014).



Photograph 7.33 SU34 looking north west (ERM 2014).



Photograph 7.34 SU35 looking south (ERM 2014).



Photograph 7.35 SU36 looking north (ERM 2014).



Photograph 7.36 SU37 looking south (ERM 2014).



Photograph 7.37 View of SU38 looking south (ERM 2015).



Photograph 7.38 View of example of SU39 looking south (ERM 2015).



Photograph 7.39 View of example of SU40 looking west (ERM 2015).

Table 7.4 Archaeological Survey Coverage

Survey Unit	Landform	Survey Unit Area (m ²)	Visibility (%)	Exposure (%)	Area Available for Detection (m ²)	Effective Coverage (%)
1	Flat Terrain	16040	35	25	1403.5	8.75
2	Rolling hills	165320	10	10	1653.2	1
3	Rolling Hills	31260	15	15	703.35	2.25
4	Simple Slope	28360	15	15	638.1	2.25
5	Flat Terrain	20580	40	45	3704.4	18
6	Upper Slopes	50020	25	25	3126.25	6.25
7	Slopes	27520	5	5	68.8	0.25
8	Slopes	45140	30	35	4739.7	10.5
9	Flat Terrain	16320	25	30	1224	7.5
10	Slopes	51200	5	5	128	0.25
11	Simple Slope	81240	10	10	812.4	1
12	Flat Terrain	19920	5	10	99.6	0.5
13	Ridge Crest	36700	15	15	825.75	2.25
14	Slopes	91420	30	35	9599.1	10.5
15	Open Depression	3440	25	25	215	6.25
16	Slopes	30360	10	10	303.6	1
17	Open Depression	2700	5	10	13.5	0.5
18	Simple Slope	6860	5	5	17.15	0.25
19	Flat Terrain	19920	45	50	4183.2	21
20	Slopes	28460	30	40	3415.2	12
21	Flat Terrain	32320	10	10	323.2	1
22	Slopes	22160	10	15	332.4	1.5
23	Flat Terrain	94160	60	65	36722.4	39
24	Flat Terrain	46220	20	25	2311	5
25	Slopes	22020	10	10	220.2	1
26	Flat Terrain	30120	20	25	1506	5
27	Simple Slope	6260	5	5	15.65	0.25
28	Gentle Slope	85280	20	35	5969.6	7
29	Rolling Hills	90860	10	10	908.6	1
30	Flat Terrain	2000	10	15	30	1.5
31	Open Depression	2400	10	10	24	1
32	Gentle Slope	2940	10	10	29.4	1
33	Simple Slope	13820	25	30	1036.5	7.5
34	Flat Terrain	14380	20	20	575.2	4
35	Simple Slope	8220	10	10	82.2	1
36	Slopes	26320	10	10	263.2	1

Survey Unit	Landform	Survey Unit Area (m ²)	Visibility (%)	Exposure (%)	Area Available for Detection (m ²)	Effective Coverage (%)
37	Flat Terrain	15280	45	55	3781.8	24.75
38	Gentle Slope	3120	30	45	421.20	13.5
39	Gentle Slope	9990	25	35	874.13	8.75
40	Slopes	2460	20	20	98.40	4
Average	-	32577.75	19.13	22	2309.97	6.03
Minimum	-	2000	5	5	13.5	0.25
Maximum	-	165320	60	65	36722.4	39

Table 7.5 *Landform Summary – Sampled Areas*

Landform	Landform Area (m ²)	Area Effectively Surveyed (m ²)	Landform Effectively Surveyed (%)	Number of Sites
Flat Terrain	327,260	55,864.3	17.1	2
Gentle Slope	101,330	7,294.33	7.2	2
Open Depression	8,540	252.5	3	-
Ridge Crest	36,700	825.75	2.25	-
Rolling Hills	287,440	3,265.15	1.1	-
Simple Slope	144,760	2,602	1.8	-
Slopes	347,060	19,168.6	5.5	1
Upper Slope	50,020	3,126.25	6.3	-
Total	1,287,540	91,005.15	43.85	3

7.2.3 *Landforms and Archaeologically Sensitive Areas*

The archaeological survey classified the landforms within the PA according to (Speight 2009). The PA is situated north of the Lachlan River and is dissected by several watercourses (open-drainage depressions), within valleys, which are surrounded by slopes and crest landform units. The PA traverses various landform units within a wider landscape of undulating valley terrain, as described in *Table 7.2* above.

Several landforms within the PA were observed to have moderate levels of potential to contain subsurface archaeological deposits. These potential archaeological deposits (PADs) are either associated with already recorded surface sites or determined based on environmental features, ethnographic or archaeological information (refer to *Section 5* of this report).

JWF PAD1 and JWF PAD2 were identified during this field survey and are located within flat to gently sloping terrain adjacent to Manar Creek, a large and permanent source of water in the local region. These areas were identified as PAD locations without associated surface expressions of artefacts. These areas are considered to have subsurface archaeological potential due to their sheltered nature, proximity to water and gently sloping landform. This landform type and proximity to water are environmental conditions that have previously yield a high number of archaeological sites. Soft sandy alluvial soils were also observed at these locations, and it is considered that there is potential for subsurface archaeological deposits within this soil profile. There was a very poor ground surface visibility at these locations which may have hindered the identification of stone artefacts.

The landforms described above are shown in *Photograph 7.40* to *Photograph 7.42*.



Photograph 7.40 JWF PAD1 looking south (ERM 2014).



Photograph 7.41 JWF PAD1 looking north (ERM 2014).



Photograph 7.42 JWF PAD2 looking west (ERM 2014).

7.2.4 *Soil Conditions (Integrity and Condition)*

Soils across the PA ranged from alluvial soils adjacent to watercourses with thin sandy-silty Aeolian soil in colours of orange to a light yellow/brown and dark brown.

Soils associated with higher order watercourses were deep and alluvial in nature (Manar Creek). An inspection of the PAs flood plains and lower slope areas showed 2 to 3 m of undifferentiated soils (ie no obvious typical duplex soil conditions) overlying clay and bedrock materials. These soils have most likely been deposited by flood events (ie alluvial soils could contain Aboriginal sites. The long term effects of flooding and soil deposition have created a stratigraphical sequence in which subsurface Aboriginal sites may exist (where soil horizons contain archaeological sites of increasing age with depth).

Disturbance to the soil profile has occurred during past episodes of vegetation clearance and ploughing of the upper soil layers (approximately the top 300 mm of soil). This has resulted in a large amount of angular stones becoming displaced and brought to the surface.

7.2.5 *Previously Recorded Aboriginal Sites*

Three previously recorded AHIMS sites were located within the PA. Two of these sites have been recorded within the vicinity of Survey Unit 22, and are located approximately 170 m south (DL14) and 565 m south-east (DL15) of the proposed development footprint. Neither of these sites were re-identified during the field survey although their location and context as reported in AHIMS site cards have been considered within the predictive model of site location within the PA.

One new Aboriginal heritage site was located during the initial field survey (JWF1), and two areas of PAD were also identified (JWF PAD 1 and 2) (refer to *Section 7.2.3*). Two additional Aboriginal heritage sites were identified during the survey undertaken of the proposed transmission line (JWF2 and JWF3). These sites are described in *Section 7.2.6* below.

7.2.6

New Sites Identified

JWF1

JWF1 consists of a single isolated silcrete flake. The site is located within a flat terrain landform and comprises an isolated silcrete flake. A high ground surface visibility was afforded in this area due to a large area of soil erosion. No other artefacts were found within this exposure. Soils in the area are generally comprised of a very fine grey sandy deposit. The site is located adjacent to a second order ephemeral water course (no water was identified in this drainage line during the field survey) which is a tributary of Boro Creek. The site is surrounded by gentle slopes within a wider landscape of rolling hills.

It is possible that this silcrete artefact within this landform had been relocated from surrounding upper slopes and crests. This artefact is not likely in its original location, and the site is considered to be of low integrity. Due to its low density, it is considered that the site is representative of transient movement throughout the landscape. The site is considered to have a low potential to yield further archaeological deposits due to its disturbed nature (vehicle access track, ploughing, land clearance) and low density of artefacts found.

Silcrete pieces are not rare in a local or regional archaeological context (refer to *Section 5* of this report), and the site is therefore considered to be of a low archaeological significance. Refer to *Photograph 7.43* and *Figure 7.1*. Recommendations provided in *Section 10* of this report propose that this site be collected prior to any disturbances.

This site is in line with the information provided by Bunja Smith relating to the cultural significance of the area. Bunja Smith indicated that the PA was likely utilised in a transient way, and that heritage sites would likely be an expression of movement throughout the landscape, rather than permanent occupation camps. The location of the site recorded is shown in *Figures 7.1* to *7.3*.



Photograph 7.43 Silcrete artefact found at JWF1 (ERM 2014) and view towards JWF1 looking south (ERM 2014).

JWF2

JWF2 consists of one silcrete proximal fragment and one silcrete medial fragment. The site is located within an eroded slope adjacent to Goulburn-Braidwood Road. The artefacts were found within an area of soil erosion which had formed an exposure with increased ground surface visibility. No other artefacts were found within this exposure. Soils at this location comprise a very loose orange sandy loam. The area has been disturbed by land clearance during the construction of the Goulburn-Braidwood Road. The site is located adjacent to a second order ephemeral water course and is surrounded by gentle slopes within a wider landscape of rolling hills.

Silcrete pieces are not rare in a local or regional archaeological context (refer to *Section 5* of this report), and the site is therefore considered to be of a low archaeological significance. Refer to *Photograph 7.44* and *Figure 7.4*. Recommendations provided in *Section 10* of this report propose that this site be collected prior to any disturbances.



Photograph 7.44 Silcrete artefacts found at JWF2 (ERM 2015) and view towards JWF2 looking south (ERM 2015).

JWF3

JWF3 consists of one light grey silcrete proximal fragment and one grey silcrete flake. The site is located within a raised flat area above a tributary of Boro Creek. The artefacts were found within an exposure underneath an isolated tree. No other artefacts were found within this exposure. Soils at this location comprise very fine compacted brown silt. The area has been disturbed by land clearance and agricultural activities and is surrounded by gentle slopes within a wider landscape of rolling hills.

Silcrete pieces are not rare in a local or regional archaeological context (refer to *Section 5* of this report), and the site is therefore considered to be of a low archaeological significance. Refer to *Photograph 7.45* and *7.46* and *Figure 7.4*. Recommendations provided in *Section 10* of this report propose that this site be collected prior to any disturbances.



Photograph 7.45 Silcrete artefacts found at JWF3 (ERM 2015) and view towards JWF3 looking east (ERM 2015).



Photograph 7.46 View of JWF3 looking west (ERM 2015).

Two unrecorded historic heritage sites were found during the field survey, including a grave site from 1989 and a mining shaft.

Jupiter WF Grave Site

A grave site was identified within proximity of a proposed access road (refer to *Figure 7.1*). This site comprised a marble coffin set within a cast iron fence set on a sandstone base. The grave is situated within a flat terrain overlooking the surrounding landscape. White writing on the marble coffin reads:

David Harold Crane

1928 – 1989

Owner of Kilrea



Photograph 7.47 Jupiter WF Grave Site looking south (ERM 2014).



Photograph 7.48 Jupiter WF Grave Site looking west (ERM 2014).

Jupiter WF Mine Shaft

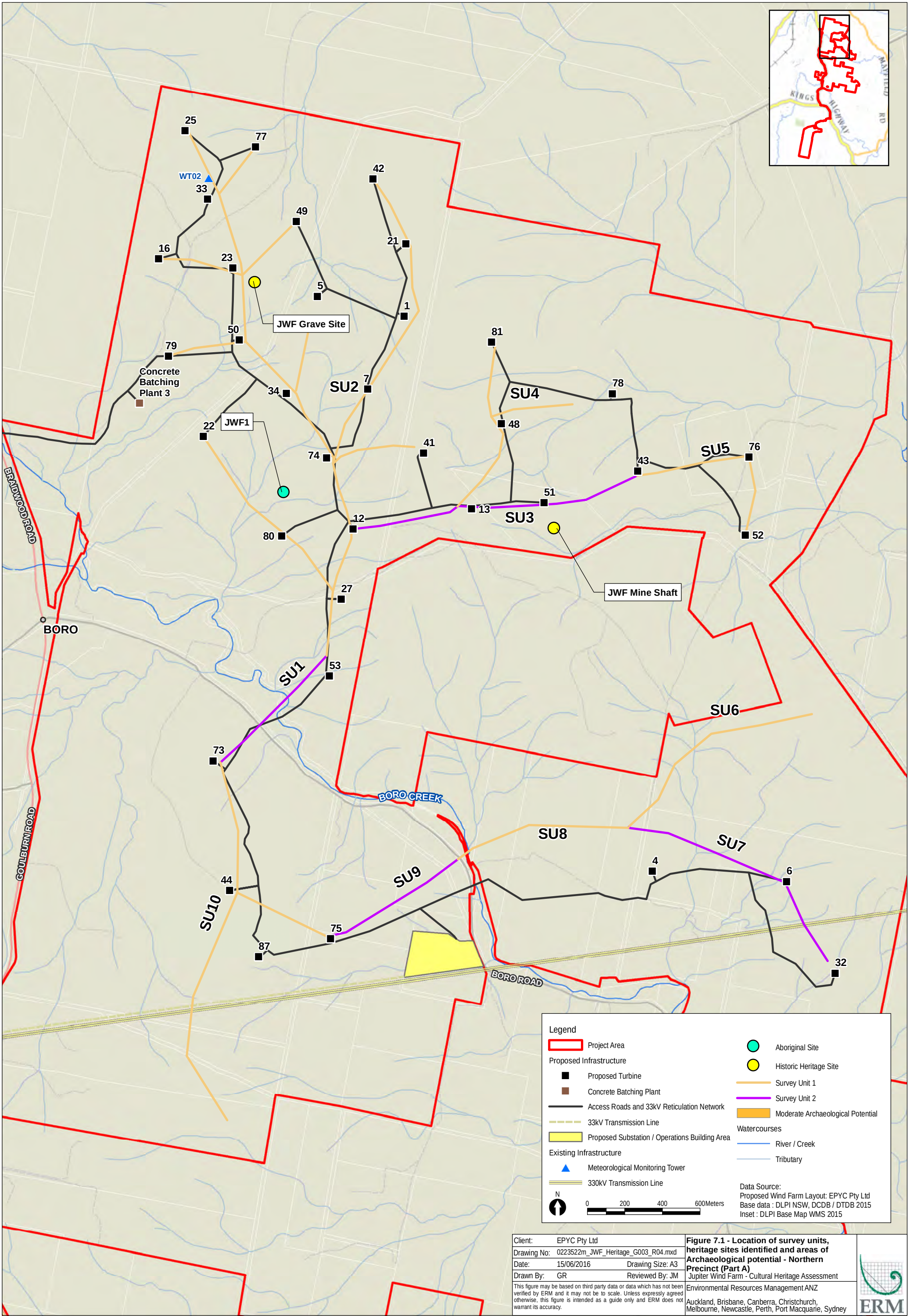
A former mine shaft was also identified during the field survey. This shaft is extremely deep and has remnants of a timber frame at its entrance. There are also some remnants of a timber structure adjacent to the shaft.

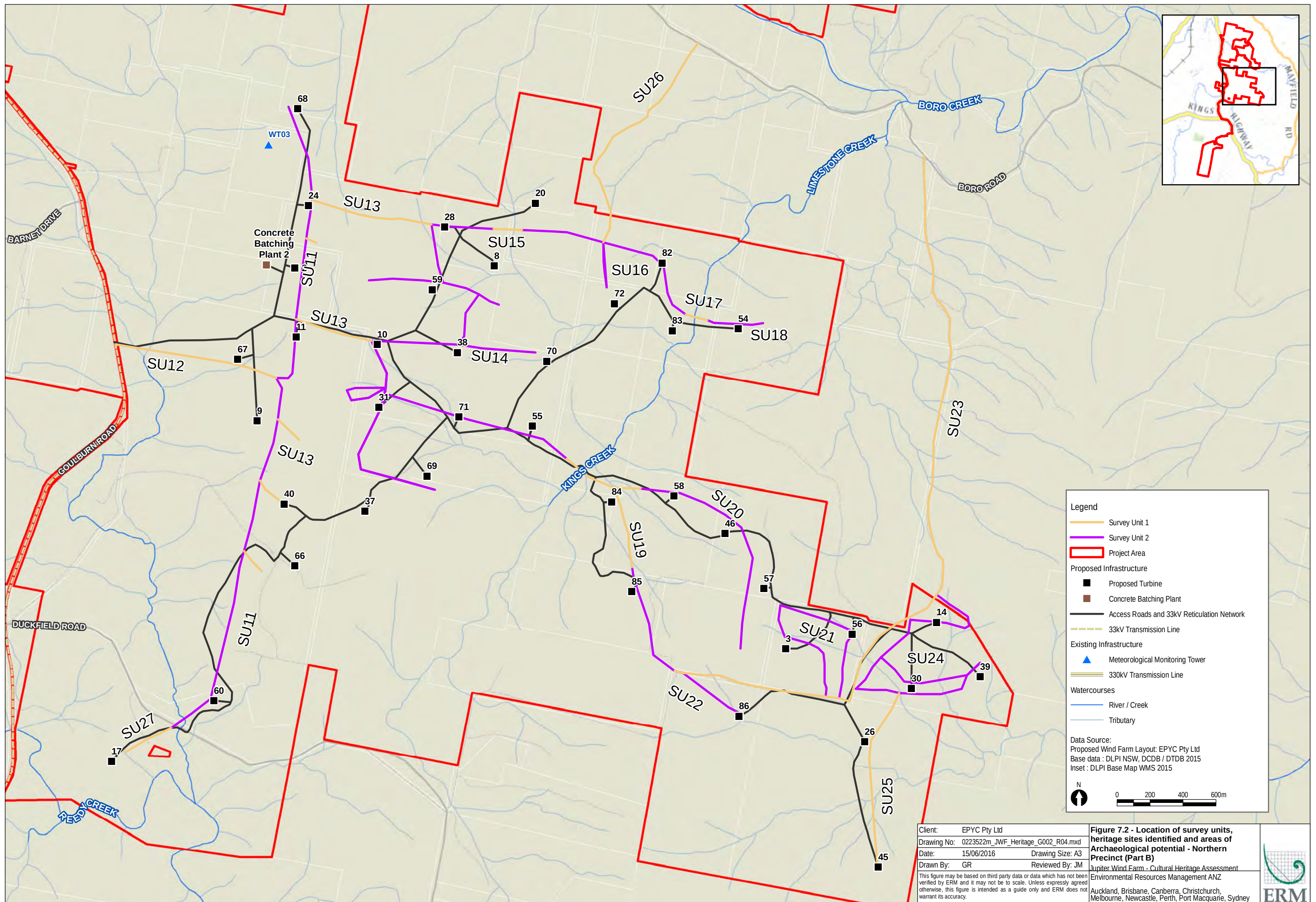


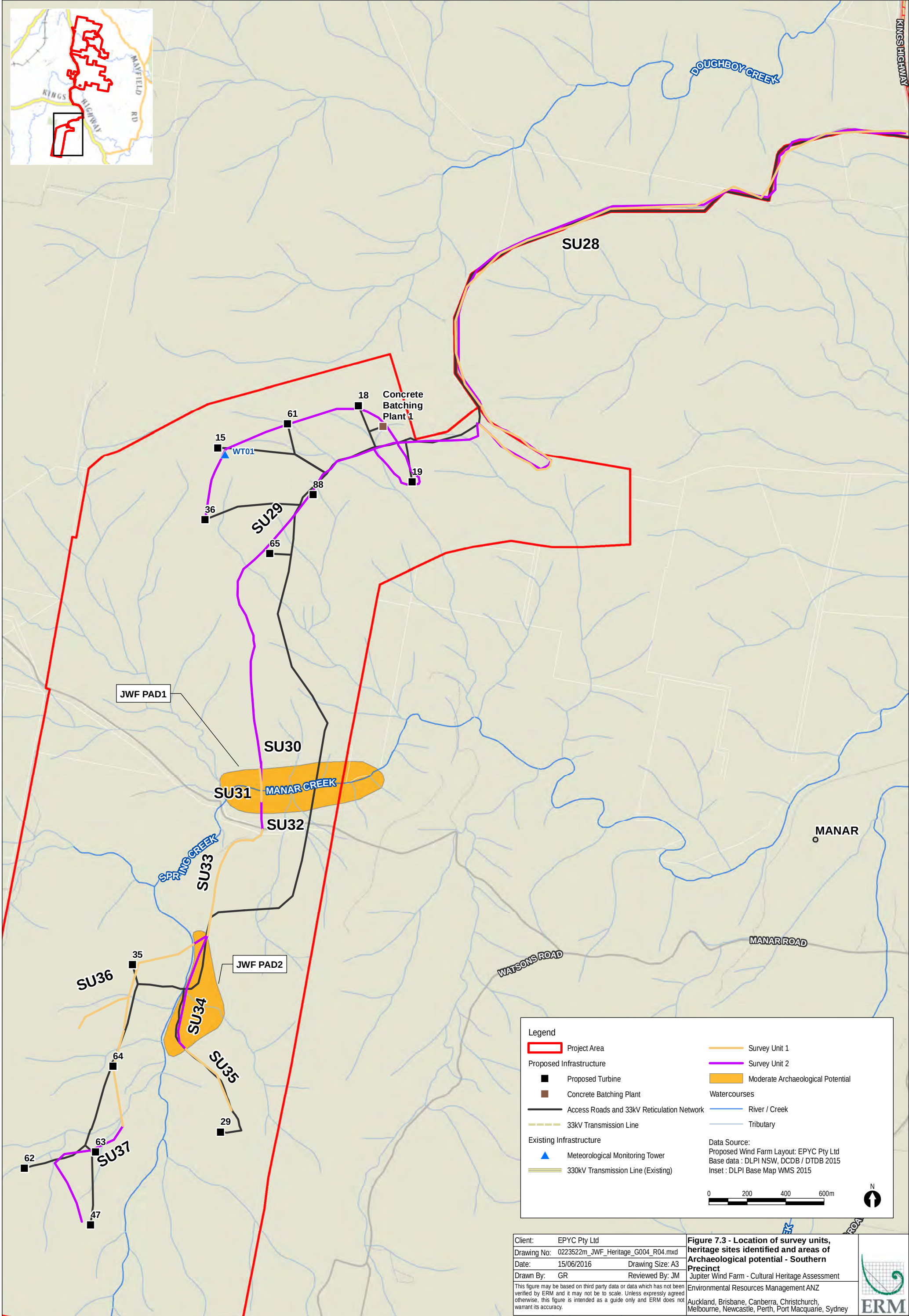
Photograph 7.49 Detail of Jupiter WF Mine Shaft (ERM 2014).

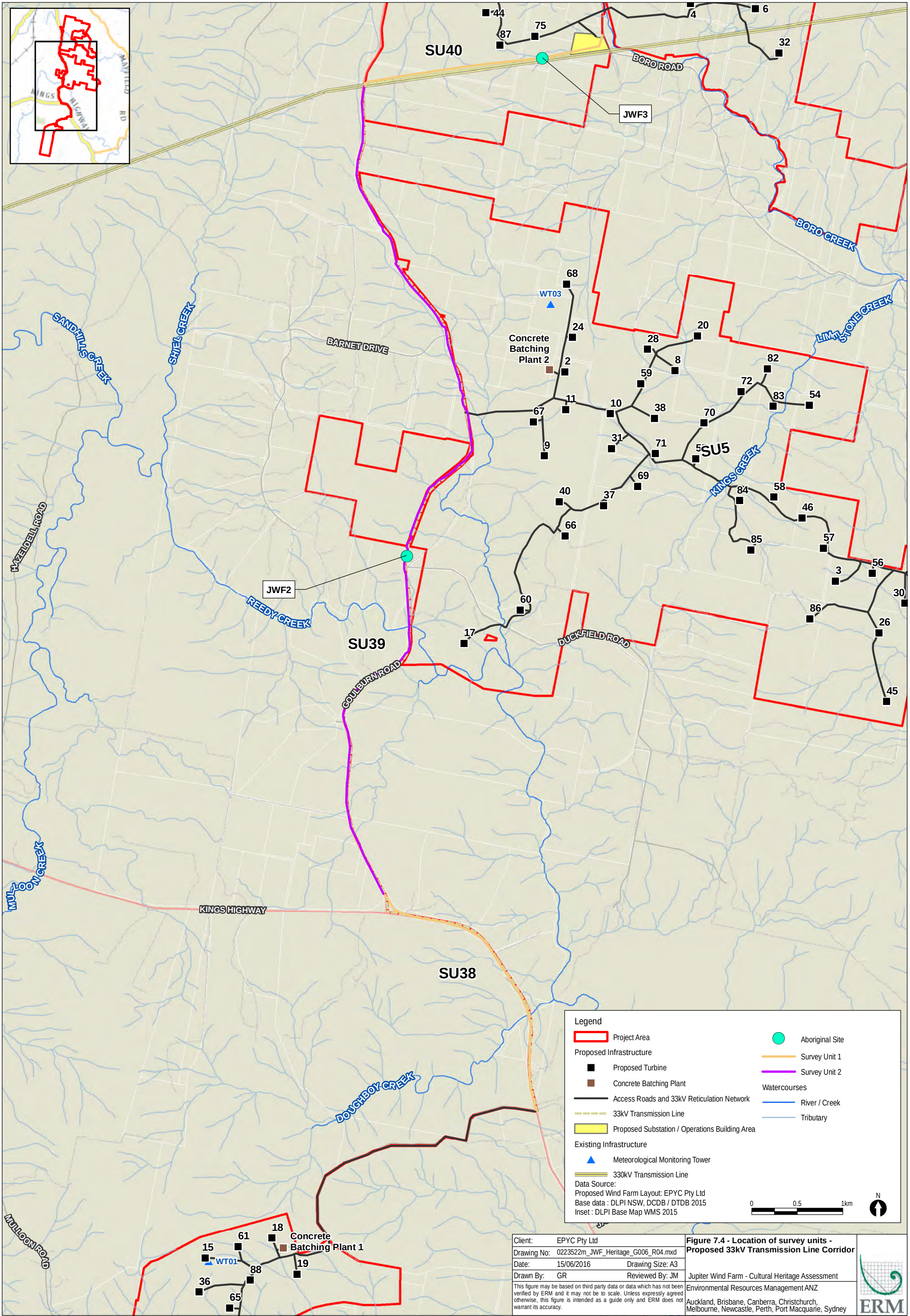


Photograph 7.50 Jupiter WF Mine Shaft (ERM 2014).









The heritage values significance assessment for the PA has been undertaken in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and encompasses the four values outlined in the *Burra Charter* (social, historical, scientific and aesthetic) (Australia ICOMOS 2013).

8.1 ABORIGINAL HERITAGE

8.1.1 Preamble

Aboriginal heritage sites, objects and places hold value for communities in many different 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.

Assessing the cultural significance of a place means identifying the reasons why a place is culturally important.

The NPWS Aboriginal Cultural Heritage Standards and Guidelines Kit (1997) states:

While Aboriginal sites and places may have educational, tourism, and other values to groups in society, their two principal values are their cultural/social significance to Aboriginal people and their scientific significance to archaeologists. It is thus possible to identify two main streams in the overall significance assessment process: the assessment of cultural/social significance to Aboriginal people and the assessment of scientific significance to archaeologists... (1997: 92)

The OEH *Guideline for Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (2011) states that analysing cultural heritage significance involves two main steps:

- identifying the range of values present, including social, historic, scientific and aesthetic values; and
- assessing why they are important.

In addition to identifying the scientific and cultural (social) values of Aboriginal places, the OEH Guideline (2011:7) draws on the *Burra Charter* (2013) and adds that historic and aesthetic values should also be considered. The assessment process is shown diagrammatically in *Figure 8.1*.

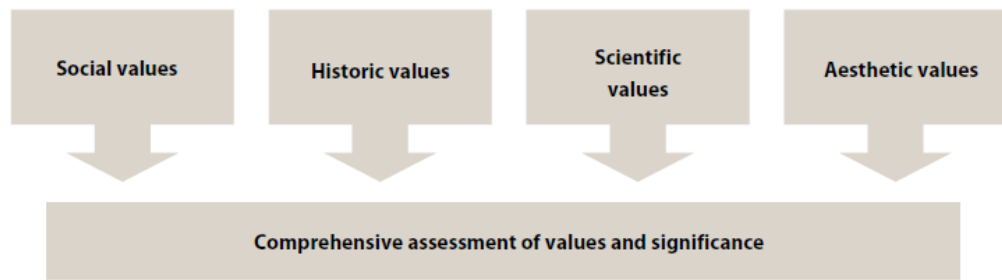


Figure 8.1 *Significance Assessment Process (OEH 2011)*

The assessment in *Section 8.1.3* focuses upon the scientific significance of the sites recorded during the survey. The cultural significance assessment is provided in *Section 8.1.4* of this report. RAPs who registered an interest in this Project will be provided with the opportunity to comment on this report for a cultural and social significance assessment of the sites recorded.

8.1.2 *Background: Scientific Significance Assessment*

The primary best practice guide to the management of heritage places in Australia is the Australia ICOMOS Burra Charter 2013.

This assessment has sought to identify Aboriginal heritage objects and sites within the PA and obtain sufficient information to allow the scientific values of those objects and sites to be determined. NPWS (1997:93) have stated that ‘*while various criteria for archaeological significance assessment have been advanced over the years, most of them fall under the heading of archaeological research potential*’. As such, seven key criteria may be used to examine the scientific value/significance of a site. These are:

- *Rarity*: whether any or all aspects of a site (type, location, integrity, content and archaeological potential) can be considered common or rare within a local, regional or national context;
- *Representativeness*: the comparative rarity of the site when considered and contrasted against other similar sites conserved at the local and/or regional level;
- *Archaeological landscapes*: the study of the cultural sites relating to Aboriginal peoples within the context of their interactions in the wider social and natural environment they inhabited. Landscapes can be large or small depending upon specific contexts (ie local or regional conditions); they may also may be influenced by Aboriginal social and demographic factors (which may no longer be apparent);

- *Connectedness*: whether the site can be connected to other sites at the local or regional level through aspects such as type, chronology, content (ie materials present, manufacturing processes), spatial patterning or ethno-historical information;
- *Integrity & condition*: integrity refers to the level of modification a site has been subject to (the cultural and natural formation process) and whether the site could yield intact archaeological deposits, which could be spatially meaningful. Condition takes into account the state of the material, which is especially relevant for organic materials;
- *Complexity*: the demonstrated or potential ability of a site to yield a complex assemblage (stone, bone and/or shell) and/or features (hearths, fire pits, activity areas); and
- *Archaeological potential*: the potential to yield information (from subsurface materials which retain integrity, stratigraphical or not) that will contribute to an understanding of contemporary archaeological interest, or which could be saved for future research potential.

The Aboriginal heritage sites identified during the survey are assessed against these criteria in *Section 8.1.3* of this report.

8.1.3 *Scientific Significance Assessment*

All of the areas of archaeological interest occurring in the PA are common site types within the region. Stone artefact sites including open camp sites (or artefact scatters) and isolated finds are the most common regional sites types, and that is reflected in the results of the field survey undertaken for this Project.

The Aboriginal archaeological sites recorded comprise isolated artefacts or small stone artefact scatters that are common to the area. These sites may be considered as representative of the types of sites, behaviours and patterning that are expected locally and regionally. The description of the newly identified sites does not place them as an exceptionally high value example in terms of condition or content. The sites identified are therefore assessed as having low archaeological significance.

Several crests and flat or gently sloping landforms, slightly elevated and adjacent to drainage lines within the PA would have been attractive camping locations. Such landscape zones (or PADs) within the PA were identified during the fieldwork stage for this Project as areas of either moderate or high archaeological potential (refer to *Figure 7.3*) and are considered to be archaeologically, scientifically and culturally significant. These areas have been identified as having moderate potential for containing intact archaeological deposits.

Several of these archaeologically sensitive areas within the surrounding region to the PA have previously been found to be associated with stone artefact sites. The areas identified as PADs within the PA are also likely to contain stone artefacts. However, a significance assessment of the content of these PADs cannot be made until after subsurface investigations have been conducted.

Due mainly to their commonness within the regional landscape and the currently unknown contents of the areas deemed to have archaeological potential, the archaeologically sensitive areas within the PA have been assessed as having moderate archaeological/scientific significance.

8.1.4 *Aboriginal Cultural Significance Assessment*

Cultural/social significance concerns the values of a place, feature or site to a particular community groups, in this case the local Aboriginal communities. The Burra Charter defines cultural significance as:

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

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

Places may have a range of values for different individuals or groups.

Aspects of cultural or social significance are relevant to sites, objects and landscapes that are important or have become important to local Aboriginal communities. This importance involves both traditional links with specific areas as well as an overall concern by Aboriginal people for sites generally and their continued protection. Aboriginal communities have provided input into the archaeological survey methodology and the archaeological and cultural significance assessment of the PA. They have also been provided the opportunity to comment on the cultural and social significance assessment of the PA.

Landscapes, or locations within a landscape, may hold special significance to Aboriginal communities as places where traditional practices have occurred and where places with sacred or symbolic significance exist. As such, Aboriginal cultural significance can only be determined by the Aboriginal community. Consultation with Aboriginal people (who can provide information about the local and regional significance of Aboriginal cultural heritage) is therefore required for any archaeological, social or cultural values assessment of Aboriginal heritage (especially where there is the potential for impact or harm to an Aboriginal heritage site or item). The consultation guidelines used for this assessment (as identified above) set out a process for identifying and registering Aboriginal parties who wish to be consulted on the proposed development. These processes have been followed and consultation with the RAPs has been maintained throughout the Project.

During the fieldwork component of this study and in accordance with the relevant Aboriginal consultation guidelines, Aboriginal representatives from Gunjeewong Aboriginal Corporation, Pejar LALC and Bunja Smith were queried about the cultural significance (to individuals and the community more broadly) of the PA generally, specific locations within the PA and the PAs identified sites.

Bunja Smith indicated that the PA holds cultural significance to Aboriginal people as it is situated within areas that were used for hunting, gathering and camping by past Aboriginal groups and therefore represents Aboriginal occupation of the region, a past way of life and a direct link to their ancestors. It was further indicated that the area was likely used for movement between landscapes, rather than permanent camping. Therefore, archaeological evidence would likely be limited to low density stone artefact scatters and isolated finds. During a telephone conversation, Glen Freeman indicated that the region around Lake George is highly significant to the Ngunawal people, and that the PA would have been utilised by Aboriginal people in the past.

The identification of archaeological and Aboriginal cultural heritage items associated with the PA was achieved during the heritage assessment through desktop research, field reconnaissance and consultation with RAPs. In accordance with the SEARs for this Project, all assessments have been developed in consultation with Aboriginal people who hold cultural knowledge or responsibility for the country in which the PA is part of.

Comments on this report were received from Koomurri Ngunawal Aboriginal Corporation dated 5 March 2015 and provided in *Annex A*. Koomurri Ngunawal Aboriginal Corporation agree with the recommendations provided in the report. No other correspondence has been received from the RAPs following their review of the draft report and recommendations. All RAPs were provided another opportunity to comment on the potential impacts to cultural heritage values within the PA following the results of addition site inspections in August 2015 and minor amendments to the project design. Correspondence was issued to RAPs on 9 September 2015, and no comments were received in response to this letter.

8.1.5 *Statement of Heritage Significance*

The majority of areas of archaeological interest occurring in the PA are common site types within the region. Stone artefact sites including open camp sites (or artefact scatters) and isolated finds are the most common regional sites types, and that is reflected in the results of the field survey undertaken for this Project. The PA contains three recorded Aboriginal sites and two PAD locations recorded as part of this assessment. The sites recorded during this study have been assigned scientific significance in terms of rarity, representativeness, archaeological landscape, connectedness, integrity and condition, complexity, and archaeological sensitivity.

The sites identified within the PA are a common site type at a local and regional level. Stone artefact sites are the main site type represented in the region and those located within the PA have not demonstrated a significantly greater diversity or complexity in comparison to other known sites within the region. It is for this reason that JWF1, JWF2 and JWF3 have been assessed as having low archaeological significance.

Portions of the PA are within close proximity to watercourses and located within flat terrain with shelter from the elements (areas of known Aboriginal occupation) and therefore have cultural significance to local Aboriginal groups (JWF PAD1 and JWF PAD2). These areas incorporate prominent landscape types within the PA (ie, flat terrain, and slightly sloping areas near a water source) similar to those where Aboriginal cultural heritage sites have already been recorded (refer to *Section 5* of this report). Such areas are likely to contain as yet unrecorded Aboriginal sites. Until further archaeological examinations are conducted to assess the size and nature of any potential surface or subsurface archaeological deposits, these areas represent a moderate level of archaeological significance.

This statement of heritage significance will be updated upon the receipt of comments on this report from RAPs.

8.2 *HISTORIC HERITAGE*

There are seven criteria developed by the NSW Heritage Branch that are designed to assess and identify the cultural and natural heritage significance of items, places and archaeological sites in NSW. An item will be considered to be of State or local heritage significance if, in the opinion of the Heritage Council, it meets one or more of the following criteria:

- a) an item is important in the course, or pattern of NSW's cultural or natural history;
- b) an item has strong or special association with the life or works of a person, or a group of persons, of importance in NSW's cultural or natural history;
- c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW;
- d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons;
- e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history;
- f) an item possesses uncommon, rare, or endangered aspects of NSW's cultural or natural history; and
- g) an item is important in demonstrating the principle characteristics of a class of NSW's cultural or natural places; or cultural or natural environments.

Different components of an item may make a different relative contribution to its heritage value against the above criteria; in some instances it may be useful to specify the relative contribution of an item or its components. A criterion for grading significance based upon the *NSW Heritage Manual – Assessing Heritage Significance Guideline* (DUAP 1996: 11) is outlined in *Table 8.1*.

Table 8.1 *Criterion for Grading Significance*

<i>Grading</i>	<i>Justification</i>	<i>Status</i>
Exceptional	Rare or outstanding element directly contributing to an item's local or state significance	Fulfils criteria for local or State listing.
High	High degree of original fabric. Demonstrates a key element of the item's significance/alterations do not detract from significance.	Fulfils criteria for local or state listing.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or state listing.
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or state listing.
Intrusive	Damaging to the item's heritage significance.	Does not fulfil criteria for local or state listing

Two historic heritage items were found during the field survey, Jupiter WF Grave Site and Jupiter WF Mine Shaft. The Jupiter WF Grave Site is considered to meet criterion (d) (community or cultural associational) at a local level. The site has social significance to the local community and to potential descendants of David Harold Crane. The unique placing of the grave site within this landscape demonstrates a relationship between the deceased and this local area. It is considered to have moderate heritage significance at a local level.

The Jupiter WF Mine Shaft site is considered to satisfy criterion (a) (historical) and (e) (technical/research) at a local level. The site is a representative example of the historical use of this landscape for mining activities. The site has research significance for its ability to provide evidence of mining activities and techniques in the area. It is considered to have moderate heritage significance at a local level. Please note that this exists on government land and is not part of the JWF project area.

This chapter outlines the Project development and the potential impacts that may result to Aboriginal and historic cultural heritage. The proposed activity has been outlined in *Section 9.1* of this report.

9.1**POTENTIAL DIRECT AND INDIRECT IMPACTS**

The Project involves the construction, operation and maintenance of 88 wind turbine generators (WTG) and associated infrastructure and ancillary equipment. The Project will have a total installed capacity of up to 350 MW and generate approximately 1,100 Gigawatt hours (GWH) of electricity per year. The Project Area (PA) covers approximately 4,999 hectares (ha), on which the WTGs, overhead and underground electrical cabling, access roads and ancillary structures will be located.

The proposed works involve the following actions that have the potential to impact on Aboriginal heritage sites and values:

- the construction of 75 WTGs located within the northern precinct and 13 WTGs within the southern precinct, including the towers, nacelles and blades and footings;
- an electrical substation / switchyard building located in the northern precinct, including transformers, switchgear, insulators and other ancillary equipment;
- a permanent operations and maintenance building, located within the substation site;
- an internal private access road network connecting the WTGs and the Project site to the public road network;
- 33 kV electrical reticulation and fibre optic cabling connecting the WTGs within each precinct (installed predominantly underground, with some sections aboveground if required by topographical or other constraints), and located generally along the same alignment as the internal private access road network;
- a 33 kV transmission line connecting the 33 kV electrical reticulation networks extending from the southern precinct to the substation, to be located within the road reserve of Goulburn Road, the Kings Highway and the proposed access road into the southern precinct;
- a short 330 kV above ground transmission line connecting the on-site substation to the existing TransGrid 330 kV transmission line, which passes through the PA; and
- up to four permanent meteorological monitoring masts.

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

- earthworks for access roads, WTG platforms and foundations;
- temporary mobile concrete batching plant to supply concrete for turbine footings and substation construction works. Three representative locations and supporting access roads are nominated for the EIS;
- cleared hardstand areas for construction equipment and storage (construction laydown areas);
- temporary buildings and facilities for construction personnel / equipment;
- external water supply for concrete batching and construction activities; and
- the use and storage of hazardous substances for construction/operation of wind farm infrastructure if required.

The proposed development as depicted in *Figures 7.1 to 7.4* will not directly impact any known historic sites, although additional recommendations have been provided in *Section 10* below to ensure that these sites are not indirectly impacted during the construction phase of the project.

Project works including the development of access roads may impact on areas identified as having moderate levels of potential to contain subsurface archaeological deposits. These potential archaeological deposits (JWF PAD1 and JWF PAD2) are located within flat to gently sloping terrain adjacent to Manar Creek. The Project may also impact on Aboriginal heritage sites JWF2 and JWF3. Provided that the recommendations outlined in *Section 10* are adhered to, the Project is unlikely to significantly impact on the archaeological values of the PA.

The PA holds Aboriginal heritage significance as it contains landforms that have the potential to display evidence of a distinctive way of life, tradition, land use, custom, and process or function no longer practised. The results of past and present archaeological studies relevant to the PA show Aboriginal sites exist within the PA and within the surrounding region.

There are a number of large scale projects in the region of a similar nature to the proposed Jupiter Wind Farm, and the contribution of these projects to the cumulative impacts on the Aboriginal heritage of the region has been considered as part of this assessment. In consideration of the land disturbances within the region (including land clearance and ongoing agricultural activities), the nature of the archaeological record, identified potential for sites within the PA and the nature and scale of the impacts resulting from the proposed wind farm, it is considered that the Project will result in very minimal cumulative impacts on Aboriginal heritage values within the region. Avoidance of identified Aboriginal archaeological sites and areas of PAD is an ideal outcome for minimising any potential cumulative impacts on Aboriginal heritage as a result of the establishment of the Jupiter Wind Farm.

However, project logistics or limitations on design due to the natural landscape can mean that avoidance of sites is not feasible. In this instance, subsurface testing of areas of impact within PADs that cannot be avoided will also contribute to the understanding of the archaeological record of the region. From knowledge obtained during the field survey and through consultation with the local Aboriginal community, the following recommendations have been developed:

- personnel involved with ground breaking activities in the PA should undertake a cultural awareness training programme in line with *Section 10.1.2* of this report;
- during works, the location of all previously recorded historic and Aboriginal heritage sites and those sites recorded as part of this assessment should be clearly marked on all construction plans for the PA and site foremen informed of their presence and the need to avoid disturbance;
- if suspected Aboriginal heritage objects are found during works, the Chance Find Procedure outlined in *Section 10.1.3* of this report should be followed;

- the two areas of relatively undisturbed ground within the PA that have been identified as having moderate potential to reveal Aboriginal cultural heritage (JWF PAD1 and 2), should undergo a subsurface testing program in accordance with *Section 10.1.5* where disturbance to these areas cannot be avoided (refer to *Figure 7.3*). The area to be tested should be confined to the proposed areas of direct impact, and should occur prior to ground disturbing elements of the proposed wind farm development commencing in the immediate area;
- the subsurface testing program would be undertaken during the detailed design phase of the Project, during which the final locations of Project infrastructure components and ground disturbance activities will be confirmed, and prior to ground disturbing elements of the proposed wind farm development commencing. If the subsurface testing program identifies significant archaeological deposits these may be subject to a salvage excavation or avoided through detailed design;
- an Aboriginal Cultural Heritage Management Plan (ACHMP) should be prepared and implemented to manage subsurface testing activities and the Aboriginal heritage values within the PA. This ACHMP should include strategies to manage any Aboriginal heritage sites identified during future survey work or significant deposits found during subsurface testing;
- no ground disturbing components in the location of Aboriginal heritage sites or areas of PAD should take place until the subsurface archaeological investigations outlined in this report and the ACHMP have been undertaken and reported on;
- where possible, and in consultation with RAPs, conservation areas should be established where disturbed artefacts may be relocated if required;
- an interpretive strategy should also be established that describes what the area is and the past use of the landscape by Aboriginal people;
- a copy of this report should be provided to each of the Aboriginal organisations who expressed an interest in the Project; and
- a copy of this report should be provided to OEH.

10.1

SITE SPECIFIC RECOMMENDATIONS

In addition to the recommendations provided above, specific recommendations for each Aboriginal heritage site identified are provided in *Table 10.1*.

Table 10.1 *Management Recommendations for each Aboriginal Heritage Site Identified*

Site ID	Archaeological Significance	In Development Footprint?	Recommendation
JWF1	Low	No	Site should be fenced off by RAPs and an appropriately qualified archaeologist prior to the commencement of works within the vicinity of this site. The location of the site should also be marked on all relevant construction plans.
JWF2	Low	Potentially	If impacts cannot be avoided, it is recommended that the site be examined by a qualified archaeologist and RAPs and collected prior to the commencement of works. Subsequent to collection, the artefacts may be relocated to a nearby designated location, given into the care of a designated RAP group or provided to the Australian Museum for deposition. If impacts can be avoided, protective fencing should be established by RAPs and a qualified archaeologist prior to the commencement of works. The location of this site should be marked on all relevant construction plans. The process for recollection of artefacts should be outlined within an Aboriginal Cultural Management Plan for the Project.
JWF3	Low	Potentially	If impacts cannot be avoided, it is recommended that the site be examined by a qualified archaeologist and RAPs and collected prior to the commencement of works. Subsequent to collection, the artefacts may be relocated to a nearby designated location, given into the care of a designated RAP group or provided to the Australian Museum for deposition. If impacts can be avoided, protective fencing should be established by RAPs and a qualified archaeologist prior to the commencement of works. The location of this site should be marked on all relevant construction plans. The process for recollection of artefacts should be outlined within an Aboriginal Cultural Management Plan for the Project.
JWF PAD1	Moderate	Yes	If impacts cannot be avoided, subsurface testing should be undertaken by RAPs and an appropriately qualified archaeologist. The location of the PAD should also be marked on all relevant construction plans.
JWF PAD2	Moderate	Yes	If impacts cannot be avoided, subsurface testing should be undertaken by RAPs and an appropriately qualified archaeologist. Site should be fenced off by RAPs and an appropriately qualified archaeologist prior to the commencement of works. The location of the site should also be marked on all relevant construction plans.

The Proponent is committed to inviting RAPs and a qualified Archaeologist to PAD areas to test or fence off sites as outlined in *Table 10.1* prior to construction works.

10.1.1 *Cultural Awareness Training*

In order to comply with best practice principles, it is recommended that personnel involved with ground breaking activities in the PA undertake a cultural awareness training programme. This programme should:

- include information on the Aboriginal archaeological and cultural heritage values of the PA;
- outline the location and type of archaeological sites within the PA and give instructions not to disturb these sites;
- provide training on how to identify stone artefacts and other Aboriginal heritage sites; and
- be prepared and delivered in consultation with RAPs.

10.1.2 *Chance Find Procedure*

If any heritage objects and/or relics, as protected under NSW legislation, are uncovered during the construction, then the following steps should be followed:

- all activity in the immediate area should cease;
- and an appropriately qualified heritage professional should be consulted;
- the OEH should be immediately contacted;
- RAPs should be notified; and
- an appropriately qualified heritage professional should record the location and attributes of the site and determine the significance of the find.

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

- all activities and/or works in the immediate area must cease;
- the State Police or State Coroner must be contacted along with the Office of Environment and Heritage ; and
- any sand/soils removed from the near vicinity of the find must be identified and set aside for assessment by the investigating authorities.

10.1.3

Aboriginal Community Comment and Recommendations

Comments on this report were received from Koomurri Ngunawal Aboriginal Corporation dated 5 March 2015 and provided in *Annex A*. Koomurri Ngunawal Aboriginal Corporation agreed with the recommendations provided in the report. No other correspondence has been received from the RAPs following their review of the draft report and recommendations. All RAPs were provided another opportunity to comment on the potential impacts to cultural heritage values within the PA following the results of additional site inspections in August 2015 and minor amendments to the project design. Correspondence was issued to RAPs on 9 September 2015, and no comments were received in response to this letter.

10.1.4

Subsurface Sampling Strategy

Where Aboriginal heritage sites or areas of PAD cannot be avoided, it is proposed that subsurface excavation is undertaken in areas that will be subject to impact. Lines (transects) should be laid out where areas of impact may occur, and an initial test pit, 1 m by 1 m in size, should be excavated along each transect, followed by test pits 0.5 m by 0.5 m at regular intervals along each transect line, with the distance between each test pit being determined according to the size of the PAD or site. Several smaller test pits (0.5 m by 0.5 m) may also be excavated to define an identified archaeological site boundary. It is also proposed that up to twenty 0.5 m by 0.5 m test pits may be excavated randomly at the discretion of the excavation team – undertaken to capture archaeological samples of specific landforms within the PA.

This technique will ensure that the landforms identified as potentially holding archaeological deposits are adequately tested as part of the subsurface investigation program.

10.2

HISTORIC HERITAGE

Two historic heritage items were identified within the PA as part of this assessment. These include a grave site (Jupiter WF Grave Site) and a mine shaft (Jupiter WF Mine Shaft) however the mine shaft is on government land. These sites have both been assessed as having a moderate level of heritage significance at a local level. These sites are not located within the development footprint and will not be disturbed during works. However, their location should be marked on all relevant construction maps and information pertaining to their significance should be included within Cultural Awareness Training programme as part of site inductions. Although considered unlikely, historic heritage items relating to the historical mining and agricultural use of the landscape could potentially be found during works, and the following Unexpected Finds Protocol is provided in this event.

Historic heritage items could include relics, defined by the *Heritage Act 1977* as, "any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance" or archaeological features (works). It is not considered likely that archaeological deposits will be found during trenching works; however the following steps are provided below in the event that deposits are found.

- where a potential historic heritage item is found during works, all works within the vicinity of the item, or with the potential to impact the item should cease and a temporary exclusion zone established;
- an appropriately qualified heritage consultant should examine the item to assess its significance and further archaeological potential; and
- where a relic is found, the NSW Heritage Council should be notified and approval will likely be required prior to the continuation of works. Other archaeological deposits should be recorded and assessed for significance and potential salvage by an appropriately qualified heritage consultant.

REFERENCES

Anderson Environmental Consultants Pty Ltd (2010). *Indigenous and Non-Indigenous Archaeological Heritage for Proposed Crookwell 3 Wind Farm*. Report to Union Fenosa.

Attenbrow, V. and Hughes, P. (1983). *Welcome Reef Dam Project Preliminary Investigations into Aboriginal Archaeological Sites*. Report to Metropolitan Water Sewerage and Drainage Board.

Austral Archaeology (2005). *Archaeological Test Excavations at Proposed Gunning Wind Farm NSW, Test Excavation Report*. Report to Connell Wagner PPI.

Austral Archaeology (2007). *Capital Wind Farm Tarago Region Aboriginal Cultural Heritage Management Sub Plan*. Report to Renewable Power Ventures Pty Ltd.

Austral Archaeology (2009a). *Capital Wind Farm Tarago Region, NSW. Aboriginal Archaeological Excavation Report*. Report to Renewable Power Ventures.

Austral Archaeology (2009b). *Gunning Wind Farm, Aboriginal Archaeological and Cultural Heritage Assessment: Additional Assessment Report*. Report to Acciona Energy.

Austral Archaeology (2010). *Capital Wind Farm II, Tarago Region, NSW, Aboriginal Archaeological & Cultural Heritage Assessment*. Report to Infigen Energy.

Australia ICOMOS (2013). *Burra Charter*.

Baker, R. and Feary, S. (1994). *An archaeological assessment of a proposed sand and gravel mining area near Collector, NSW*. Report to H&C Schuster.

Bell, W. and Bell, T. (2013). *Traditional Knowledge*. Website: <http://www.ngunawal.com.au>, accessed on 25 August 2014.

Bennett, G. (1834). *Wanderings in New South Wales, Batavia, Pedir Coast, Singapore and China: being the journal of a naturalist in those countries, during 1832, 1833 and 1834*. Bently, London.

Biosis (2004). *Indigenous and Non-Indigenous Archaeological Assessment of the Proposed Crookwell II Wind Farm, Crookwell, NSW*. Report to Crookwell Development.

Biosis (2005). *Archaeological sub-surface testing at the proposed Crookwell II wind farm, New South Wales*. Report to Gamesa Energy Australia.

- Dallas, M. (1985). *A preliminary archaeological study of the Cullerin Range Deviation of State Highway No. 2 between Breadalbane and Gunning NSW*. Report to Department of Main Roads NSW.
- DEC (2005). *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*.
- DECCW (2010). *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.
- DECCW (2010). *Aboriginal Cultural Heritage Consultation Requirements for Proponents*.
- Dearling, C. (2007). *Proposed Upgrade, Crookwell-Booroowa Road (MR248 West), Narrawa, NSW*. Report to Connell Wagner.
- Dibden, J. (2006). *Taurus Energy Proposed Wind Farm – Cullerin, via Goulburn Aboriginal Archaeological Assessment*. A report to nghenvironmental.
- Dibdin, J. (2007). *Proposed Gullen Range Wind Farm Archaeological Assessment*. A report to NGH Environmental on behalf of Epuron Pty Ltd.
- Dibden, J. (2008). *Erosion Control Works at Rhyanna Road and Tarago, NSW. Aboriginal Archaeological Assessment*. Report to Hawkesbury Nepean Catchment Management Authority.
- Dibden, J. (2012). *Proposed Collector Wind Farm Aboriginal Cultural Heritage Assessment Report*. Report to RATCH – Australia Corporation.
- DUAP (1996). *NSW Heritage Manual*.
- ERM (2014). *Crookwell 3 Wind Farm Supplementary Aboriginal and Historical Cultural Heritage Assessment*. Report to Crookwell Development Pty Ltd.
- Felton, E.A. and Huleatt, M.B. (1975). *Braidwood 1:100 000 Geological Sheet 8827, 1st edition*. Geological Survey of New South Wales, Sydney.
- Fergusun, W.C. (1988). *Archaeological Investigations of the Reedy Creek Site Complex near Braidwood, NSW*. Report to Kell and Associates.
- Flood, J. (1995). *Archaeology of the Dreamtime*. Angus and Robertson, Sydney.
- Fuller, N. (1989). *Goulburn City – An Archaeological Investigation of Aboriginal Site Location*. Report to Goulburn City Council.
- Fanning, P. and Holdaway, S. (2001). *Stone artefact scatters in western NSW Australia: geomorphic controls on artefact size and distribution*. Wiley InterScience.
- JMCHM. (1998). *Salvage Excavation at the Proposed Crookwell Wind Farm, Crookwell, NSW*.

- JMCHM. (2003). *Archaeological Survey for an Aboriginal Heritage Assessment Gunning Wind Farm, Gunning, NSW*. Report to Connell Wagner PPI.
- Kass, T.L.C. and Mclymont, J. (1996). *Parramatta A Past Revealed*. Parramatta City Council.
- Koettig, M. (1983). *Survey for Aboriginal and Historic Archaeological Sites along the Proposed Goulburn By- Pass Route*. Report to the Department of Main Roads, NSW.
- Lance, A. and Koettig, M. (1986). *An Aboriginal resources planning study for the city of Goulburn*. Report to Goulburn City Council.
- McDonald, J. and Garling, S. (1997). *The Proposed Crookwell Wind Farm: Test Excavation Report*. Report to Pacific Power.
- Navin Officer (2000). *Collection of Aboriginal Artefacts Crisps Creek, Tarago NSW*. Report to Collex Waste Management.
- NSW NPWS (2003). *The Bioregions of New South Wales: their Biodiversity, Conservation and History*. NSW National Parks and Wildlife Service, Hurstville.
- NSW NPWS (1997). *Aboriginal Cultural Heritage Standards and Guidelines Kit*.
- OEH (2011). *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*.
- Paton, R. (1990). *Archaeological Excavation at Site G17, Goulburn, NSW*. Report to Roads and Traffic Authority, Goulburn.
- Reeves, J. & Thomson, M. (2004). *An archaeological survey of the proposed Woodlawn Wind Farm, Tarago, New South Wales*. Report to EHN (Oceania Australia & URS Australia Pty Ltd.
- Silcox, R. (1988). *Chatsbury Slate Quarry: Archaeological Survey of Proposed Mining Lease at Middle Arm, near Goulburn, NSW*. Report to R.W. Corkery and Co, Pty Ltd.
- Silcox, R. (1991). *Survey and Test Excavation of the Site of a Proposed Stormflow Detention Pond, Ross Street, Goulburn, New South Wales*. Report to Kinhill Engineers, Sydney.
- Speight, JG. (2009). *Landform*. In Australian Soil and land survey field handbook (3rd edition). CSIRO Publishing, Melbourne.
- Tindale, N. (1974). *Aboriginal Tribes of Australia*. ANU Press, Canberra.
- Tracey, J. L. (2008). *Upper Lachlan Shire Community Heritage Study 2007-2008*. Report to Upper Lachlan Shire Council and Heritage Branch, NSW Department of Planning.

URS (2004). *Environmental Impact Statement*. Report to Woodlawn Wind Energy.

Wandsnider, L. and Camilli, E. (1992). The Character of Surface Archaeological Deposits and its Influence on Survey Accuracy. *Journal of Field Archaeology* 19: 169-188.

White, E. (1996). *Preliminary archaeological inspection of a proposed Wind Farm, Crookwell, NSW*. Report to Environmental Services Pacific Power.

Witter, D. (1980). *An archaeological pipeline survey between Dalton and Canberra*. Report to the NSW NPWS.

Annex A

Aboriginal Community Consultation

Stage 1 – Notification of Project Proposal and Registration of Interest

Stage 1.1 – Agencies Contacted

Body/Group	Contact Name	Contact Details	Date Sent
OEH Branch : Queanbeyan		info@environment.nsw.gov.au 02 6229 7177	19.05.2014
Pejar LALC		Pejar1@bigpond.com	19.05.2014
Ngambri LALC		PO Box 150 Queanbeyan NSW 2620	19.05.2014
Batemans Bay LALC		PO Box 542 Batemans Bay NSW 2536	19.05.2014
The Registrar, <i>Aboriginal Lands Right Act</i>	Tabatha Dantoine	adminofficer@oralra.nsw.gov.au	19.05.2014
National Native Title Tribunal (NNTT)	Online Search	enquiries@nntt.gov.au	19.05.2014
Native Title Services Corporation (NTS Corp)	Peter Schultz	information@ntscorp.com.au	19.05.2014
Local Council : Goulburn-Mulwaree		Locked Bag 22 Goulburn NSW 2580	19.05.2014
Local Council: Palerang		PO Box 348 Bungendore NSW 2621	19.05.2014
Local Catchment Management Authority: Hawkesbury-Nepean		Locked Bag 2048 Goulburn NSW 2580	19.05.2014

Stage 1.2 – Agency Responses

Body/Group	Contact	Date of Reply	Comment
OEH Branch : Queanbeyan	Jackie Taylor	26.05.14	List of stakeholders provided
Local Aboriginal Land Council (LALC) – Pejar (Goulburn)	Delise Freeman		No response
National Native Title Tribunal (NNTT)	Sylvia Jagtman	30.05.14	Schedule of Applications – Nil Register of Native Title Claims - Gundungurra Aboriginal Tribal Corporation listed for small area within northern portion of Project Area. National Native Title Register – Nil Register of Indigenous Land Use Agreements - Nil
Local Catchment Management Authority: Hawkesbury-Nepean	Ken Davies	22.05.14	No stakeholder list available, recommendation to contact OEH

Stage 1.3 – Newspaper Advert

Newspaper	Contact	Date Published
Bungendore Mirror	NA	For a week starting June 30 2104.
Tarago Time	NA	For the month of July 2014.

Stage 1.4 – List of Stakeholders groups Identified & Project Notification Sent

Organisation/Person	Contact	Date Sent	Request to register sent
Buru Ngunawal Aboriginal Corporation	Tyrone and Wally Bell thunderstonemg@gmail.com 040 751 7844	18.10.2013	Sent via email
Onerwal LALC	95 Meeham Street Yass NSW 2582 Onerwal1@bigpond.com.au (02) 62265346	18.10.2013	Sent via mail
Pejar LALC	Denise Freeman 80 Combermere St Goulburn NSW 2580 (02) 48223552 Pejar1@bigpond.com	18.10.2013	Sent via mail
Peter Falk Consultancy	PO Box 1018 Mittagong NSW 2575	18.10.2013	Sent via mail
Gundungurra Aboriginal Heritage Association Inc.	Sharyn Halls PO Box 31, Lawson NSW 2783	18.10.2013	Sent via mail
Gundungarra Tribal Council Aboriginal Corporation	Eddy Neumann Lawyers Level 1 255 Castlereagh Street SYDNEY NSW 2000 Phone: (02) 9264 9933 Fax: (02) 9264 9966	18.10.2013	Sent via mail
Alice Williams	3 Goonda St, Cooma NSW 2630	18.10.2013	Sent via mail

Organisation/Person	Contact	Date Registered	How the registration was received & any comments
Peter Falk Consultancy	Peter Falk Consultancy 0401938060 PO Box 1018 Mittagong NSW 2575	22.10.13	Email to Adam Coburn
Pejar LALC	Denise Freeman 80 Combermere St Goulburn NSW 2580 (02) 48223552 Pejar1@bigpond.com	29.10.13	Email to Adam Coburn

Gundungurra Aboriginal Heritage Association Inc	Sharryn Halls 0428 270 594 GHAL6522@bigpond.net.au	29.10.13	Letter to Adam Coburn
Gunjeewong Cultural Heritage Corporation	Cherrie Carroll 0410744565 0429341488	29.10.13	Letter to Adam Coburn
Koomurri Ngunawal Aboriginal Corporation	Glen Freeman Director/Contact Person Koomurri Ngunawal Aboriginal Corporation ICN: 7812 Mobile: 0451790215 Email: KoomurriNAC@hotmail.com	05.11.13	Email to Adam Coburn
Buru Ngunawal Aboriginal Corporation	Tyrone and Wally Bell thunderstonemg@gmail.com 040 751 7844	8.11.13	Email from Wally Bell to Janene May
King Brown Tribal Group	Carl Brown	8.11.13	Phone call to Janene May.
Gundungurra Aboriginal Tribal Corporation	Sharon Brown Eddy Neumann Lawyers Level 1 255 Castlereagh Street SYDNEY NSW 2000 Phone: (02) 9264 9933 Fax: (02) 9264 9966 sharonbrown@gundungurra.org.au	12.12.14	Letter outlining project sent 18/8 Follow up call to Eddy Nuemann Lawyers and Sharon Brown 12 Dec to discuss project and potential cultural impacts. No response received.
Ngunawal Elders Corporation	Arnold Williams 13 Fitzgibbon Place, Queenbeyan NSW 2620	12.12.14	Phone call to Adam Coburn.
Bunja Smith	0401912193 bunjasmith@yahoo.com.au	12.12.14	Phone call to Adam Coburn.
Thunderstone Aboriginal Cultural and Land Management Services	Tyronne Bell thunderstonemg@gmail.com	19.02.2015	Email to Janene May.

Stage 1.5- Registered Aboriginal Parties

Stage 2 – Presentation of information about the proposed project

Stage 2.1, 2.2 and 2.3 **Presentation of proposed project information, proposed assessment methodology and Field Survey or opportunity for RAP to visit the proposed project site**

Aboriginal Organisation/Person	Date Sent	Date Reply	Comments, outcomes and/or issues
Peter Falk Consultancy	18.02.2015 and 09.09.2015	N/A	
Pejar LALC	18.02.2015 and 09.09.2015	N/A	
Gundungurra Aboriginal Heritage Association Inc	18.02.2015 and 09.09.2015	N/A	
Gunjeewong Cultural Heritage Corporation	18.02.2015 and 09.09.2015	N/A	
Koomurri Ngunawal Aboriginal Corporation	18.02.2015 and 09.09.2015	N/A	
Buru Ngunawal Aboriginal Corporation	18.02.2015 and 09.09.2015	N/A	
King Brown Tribal Group	18.02.2015 and 09.09.2015	N/A	
Gundungurra Aboriginal Tribal Corporation	18.02.2015 and 09.09.2015	N/A	
Ngunawal Elders Corporation	18.02.2015 and 09.09.2015	N/A	
Bunja Smith	18.02.2015 and 09.09.2015	N/A	
Thunderstone Aboriginal Cultural and Land Management Services	18.02.2015 and 09.09.2015	N/A	

Stage 2.4 – Seek information from RAP on (a) the presence of Aboriginal objects of cultural value and (b) places of cultural value

RAP	Date	Cultural values identified
Pejar LALC	Letter requesting known cultural values sent 02.07.14 and 18.08.14, and open discussion of values.	No comments so far, awaiting response to draft report
Koomurri Ngunawal Aboriginal Corporation	Letter requesting known cultural values sent 02.07.14 and 18.08.14, and open discussion of values.	Area is highly significant and was occupied by Ngunawal people in the past as evidence by archaeological sites present throughout the area. Region surrounding Lake George particularly significance.
Buru Ngunawal Aboriginal Corporation	Letter requesting known cultural values sent 02.07.14 and 18.08.14, and open discussion of values.	No comments so far, awaiting response to draft report.
Gundungurra Aboriginal Tribal Corporation	Letter requesting known cultural values sent 02.07.14 and 18.08.14, follow up call made to Eddy Neumann Lawyers on 12.12.14 and to Sharon Brown on 12.12.14 to discuss cultural values- no response received to date.	No comments so far, awaiting response to draft report.
Bunja Smith	Letter requesting known cultural values sent 02.07.14 and 18.08.14, follow up call made to Eddy Neumann Lawyers on 12.12.14 and to Sharon Brown on 12.12.14 to discuss cultural values- no response received to date.	Bunja indicated that the PA was likely utilised in a transient way, and that heritage sites would likely be an expression of movement throughout the landscape, rather than permanent occupation camps

Koomurri Ngunawal



Aboriginal Corporation

Janene May
Environmental Resource Management
Level 15. 309 Kent Street
Sydney NSW 2000
Tel: 02 8584 8888
Em: janene.may@erm.com
5th March 2015

Dear Janene,

As always KNAC appreciates the opportunity afforded by your organization in attending to matters of Cultural Heritage on our ancestral lands.

As such we endorse the style of this report.

Recommendations;

- 10 through to 10.1.1 Agree
- 10.1 Management Recommendations for each Aboriginal Heritage Site Identified. Agree
- Through to 10.1.2 Cultural Awareness Training. Agree
- 10.1.3 Chance Find Procedure. Agree
- 10.1.5 Subsurface Sampling Strategy. Agree
- 10.2 Historic Heritage. Agree
- Unexpected Finds Protocol. Agree

In answer to the premise so often espoused that Aboriginal people who have registered an interest in projects do not or cannot provide specific cultural knowledge about the particular area proposed for development, in the majority of cases it is because they are not from country, unlike white society where you are born or live doesn't mean that is where you come from, it's your genealogy that defines where you are from and therefore your connection to country.

But in saying this it is quite understandable due to the fragmenting mentality adopted by the colonial "authorities" in shifting people out of their country on to "missions" situated in other peoples country in not allowing cultural practices or languages of their respective country to be spoken.

Divide and Conquer being the mantra practiced by the majority of colonials and still in practice today.

Quite simply it has always been the case in regards to the Ngunawal people that our Cultural Knowledge when taught through oral tradition by our Elders to the person or persons decreed by birth or chosen in defacto are then the keepers and therefore the guardians of any particular knowledge entrusted to them. Making for a highly complex situation. Maybe it would be better to be thought a fool than to open ones mouth and remove all doubt? A highly complex situation for all Aboriginals of this State and Territory.

Yours Sincerely

Glen(Gilan) Freeman. Director/ Contact; KNAC ICN: 7812 Em: koomurriNAC@hotmail.com

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