

APPENDIX F ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

Maxwell Solar Farm Project

Aboriginal Cultural Heritage Assessment

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Aboriginal Cultural Heritage Assessment

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Executive Summary

AECOM Australia Pty Ltd (AECOM) was commissioned by Maxwell Solar Pty Ltd (Maxwell) to complete an Aboriginal Cultural Heritage Assessment for Maxwell Solar Farm project ('the Project') located approximately ten kilometres south-south east of Muswellbrook, NSW (Figure 1). This assessment forms part of an Environmental Impact Statement (EIS) which is being prepared to support a Development Application for the Project in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the results of AECOM's assessment and has been compiled with reference to the NSW Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

The study area for this assessment comprises an irregularly shaped approximately 145 ha parcel of land located approximately 10 km south of Muswellbrook. The study area encompasses land required for the solar arrays potential future battery storage, 33kV and 66kV transmission lines, the proposed switching station and access roads. Land within the study area has been significantly disturbed/modified through open-cut mining activities with large portions of the study area rehabilitated during 2000 to 2010. The study area is centred on the rehabilitated overburden emplacement which forms a central ridgeline roughly in the centre of the mine site. The archaeological survey area for this assessment comprises land where Project related impacts are proposed and where topsoil collected prior to mining has been utilised as part of the rehabilitation process. This comprises an irregularly shaped approximately 96 ha parcel of land representing the only portion of the Project impact area having potential to contain Aboriginal objects.

A search of the AHIMS database was undertaken on 18 June 2019 over a 5 km x 5 km area centred on the study area. The search resulted in the identification of 56 Aboriginal sites, comprising 55 open artefact sites (i.e., isolated artefacts and artefact scatters) (four of which have associated areas of Potential Archaeological Deposit [PAD]) and one midden site. Consideration of the location of previously recorded Aboriginal sites indicates that none are located within the study area with the closest site – artefact site 'Ramrod R1' (AHIMS ID#37-2-2338) located 105 m from the existing road access.

A field team of two AECOM heritage specialists (Geordie Oakes and Dr Andrew McLaren) and Registered Aboriginal Party (RAP) representatives completed the archaeological survey within the study area on 10 April 2019. The archaeological survey was completed in areas of proposed project disturbance and where topsoil collected prior to mining has been utilised as part of the rehabilitation process. This comprises an irregularly shaped approximately 96 ha parcel of land representing the only portion of the Project impact area having potential to contain Aboriginal objects. All survey was conducted on foot, with a total of four transects executed across the study area. The ten participants in the survey were spaced roughly at 10 m intervals during the survey. Areas of steep terrain or where machinery/plant was actively working on rehabilitation of the open cut mine were not surveyed due to restricted access for safety reasons.

Survey within the study area identified a modified landscape with no original landforms present. Soils within the area were assessed in the field as comprising a mixture of A¹, A² and B soil horizons combined within underlying geological profiles. Vegetation comprises grasses as well as patches of planted trees of various ages. No Aboriginal objects were identified during the field survey and RAPs participating in the assessment did not provide any cultural values for the study area. Subsurface archaeological sensitivity was assessed as low due to historic disturbances. As no Aboriginal objects or specific cultural values have been provided for the study area, no impacts to Aboriginal objects or heritage values are anticipated to occur as a result of the Project.

On the basis of the above findings, the following recommendations are made:

1. No Aboriginal heritage constraints have been identified within the study area. As such, no further heritage works or reporting are considered warranted; and

2. Should a previously unidentified Aboriginal objects be identified at any point during the Project, the standard procedure outlined in Section 10.2 should be adopted.

1.0 Introduction & Background

1.1 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by Maxwell Solar Pty Ltd (Maxwell) to complete an Aboriginal Cultural Heritage Assessment for Maxwell Solar Farm project ('the Project') located approximately ten kilometres south-south east of Muswellbrook, NSW (Figure 1). This assessment forms part of an Environmental Impact Statement (EIS) which is being prepared to support a Development Application for the Project in accordance with Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the results of AECOM's assessment and has been compiled with reference to the NSW Office of Environment and Heritage's (OEH's) *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

1.2 Background

The Maxwell Solar Farm is proposed to be located at the Maxwell Infrastructure site (formally known as the Drayton Mine). Maxwell Ventures (Management) Pty Ltd, a wholly owned subsidiary of Malabar Coal Ltd (Malabar) owns and operates the Maxwell Infrastructure site located on Thomas Mitchell Drive, Muswellbrook.

The Maxwell Infrastructure site includes the old open cut workings, rehabilitation, coal handling and preparation facilities and the Antiene rail spur and loop. Open cut coal extraction and mining activities commenced at the Maxwell Infrastructure site in 1983 and ceased in October 2016. Progressive rehabilitation is currently being undertaken at the site in accordance with the Landscape Management Plan and the Mine Operations Plan (MOP), approved by the Department of Planning and Environment (DPE).

The proposed Maxwell Solar Farm would be sited on a rehabilitated overburden emplacement area at the Maxwell Infrastructure site, an area of approximately 145 ha. The proposed Maxwell Solar Farm would be located on land currently subject to Coal Lease No. 229 (CL 229). The land is also subject to an existing approval for the Drayton Mine Extension Project, granted by the Minister of Planning under Part 3A of the EP&A Act and Environment Protection Licence No. 1323 (EPL 1323), issued under the Protection of the Environment Operations Act 1997 (POEO Act).

1.3 Project Overview

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines (Figure 2).

1.4 Study Area

The study area for this assessment comprises an irregularly shaped approximately 145 ha parcel of land located approximately 10 km south of Muswellbrook. The study area encompasses land required for the solar arrays, potential future battery storage, 33kV and 66kV transmission lines, as well as the proposed switching station (Figure 2). Land within the study area has been significantly modified/disturbed through open-cut mining activities with large portions of the study area rehabilitated during 2000 to 2010. The study area is centred on the rehabilitated overburden emplacement which forms a central ridgeline roughly in the centre of the mine site.

The archaeological survey area for this assessment comprises land where Project related impacts are proposed and where topsoil collected prior to mining has been utilised as part of the rehabilitation

process. This comprises an irregularly shaped approximately 96 ha parcel of land representing the only portion of the Project impact area having potential to contain Aboriginal objects.

1.5 Proponent and Planning Approval Process

Maxwell Solar Pty Ltd, a wholly owned subsidiary of Malabar, is seeking consent for the Project under the State Significant Development (SSD) provisions of Part 4 of the EP&A Act and the NSW *Environmental Planning and Assessment Regulation, 2000*. An EIS is being prepared to accompany the Development Application for the Project.

1.6 Secretary's Environmental Assessment Requirements (SEARs)

The Secretary of the NSW Department of Planning and Environment (DP&E) issued the Secretary's Environmental Assessment Requirements (SEARs) for the Project on 18 March 2019 (Appendix B). For heritage, the SEARs require the EIS to address the following specific issues:

- including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including consultation with the local Aboriginal community in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents*;

In addition to the project SEARs, OEHL issued specific requirements (Attachment A) for the project in relation to Aboriginal heritage. These included:

5.0 The Environmental Impact Assessment (EIS) must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEHL regional branch officers.

6.0 Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.

7.0 Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEHL.

In preparing this ACHAR the SEARs issued for the Project have been addressed.

1.7 Assessment Objectives

The overarching objectives of this ACHAR are as follows:

- to identify the Aboriginal cultural heritage values of the study area by way of background research, archaeological survey and consultation with RAPs;
- to assess the potential impact of the Project on the identified Aboriginal cultural heritage values of the study area;
- to provide an appropriate management strategy for avoiding or minimising potential harm to the identified Aboriginal cultural heritage values of the study area; and
- to compile an ACHAR that will assist the Secretary of the DP&E in their assessment of the current SSD application.

1.8 Scope of Current Assessment

This assessment has been undertaken in accordance with the SEARs, clause 80C of the NSW *National Parks and Wildlife Regulation 2009* and with reference to the following guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b);
- *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia International Council on Monuments and Sites [ICOMOS] 2013);
- *Ask First: A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission 2002); and
- *Engage Early* (Commonwealth Department of Environment and Energy 2016).

As such, its key requirements have been:

- to conduct a search of OEH's Aboriginal Heritage Information Management System (AHIMS);
- to review the landscape context of the study area, with specific consideration to its implications for past Aboriginal land use;
- to review relevant archaeological and ethnohistoric information for the study area and environs;
- to prepare a predictive model for the Aboriginal archaeological record of the study area;
- to undertake an archaeological field investigation including detailed survey;
- to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the study area;
- to provide RAPs with information about the scope of the proposed works and Aboriginal heritage assessment process;
- to facilitate a process whereby RAPs can:
 - contribute culturally appropriate information to the proposed assessment methodology;
 - provide information that will enable the cultural significance of Aboriginal objects and/or places within the study area to be determined;
 - have input into the development of cultural heritage management options; and
- to prepare and finalise an ACHAR with input from RAPs.

1.9 Project Team

Geordie Oakes (Principal Heritage Specialist, AECOM) managed all aspects of the Aboriginal heritage assessment detailed herein and was the primary author of this report. Dr Andrew McLaren (Principal Heritage Specialist, AECOM) assisted Geordie with fieldwork. Dr Andrew McLaren (Senior Heritage Specialist, AECOM) provided technical review of this assessment report.

The archaeological survey was undertaken by a combined field team of two AECOM archaeologists (Geordie and Andrew) and RAP field representatives (as described in Section 3.3.2).

Geordie holds a Bachelor of Arts (Honours) degree in historic and prehistoric Archaeology from Sydney University and a Graduate Certificate in Paleo-anthropology from the University of New England. Geordie has over ten years of Australian Aboriginal cultural heritage management experience.

Andrew holds a Bachelor of Arts (Honours) degree from the University of Queensland, a Master of Cultural Heritage from Deakin University, and a PhD from the University of Cambridge in England and has over 10 years of Australian Aboriginal cultural heritage management experience.

1.10 Report Structure

This report contains eleven sections. This section - **Section 1.0** - has provided background information on the Project and assessment undertaken. The remainder of the report is structured as follows:

- **Section 2.0** outlines the statutory framework within which this assessment has been undertaken;
- **Section 3.0** details the Aboriginal community consultation program undertaken for this assessment;
- **Section 4.0** describes the existing environment of the study area and its associated archaeological implications;
- **Section 5.0** summarises relevant ethnohistoric information for the study area;
- **Section 6.0** describes the archaeological context of the study area on a regional and local scale. Predictions regarding the nature of the study area's Aboriginal archaeological record are also provided;
- **Section 7.0** describes the archaeological survey methodology and results;
- **Section 8.0** assesses the archaeological (scientific) and cultural significance of Aboriginal sites within the study area;
- **Section 9.0** provides an assessment of the potential impacts of the Project on identified Aboriginal heritage values;
- **Section 10.0** details an appropriate management strategy for the identified Aboriginal heritage values of the study area; and
- **Section 10.0** lists the references cited in-text.

Figure 1 Regional Context



Figure 2 Study Area



2.0 Applicable Policy & Legislation

2.1 Commonwealth Legislation

2.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) provides for the preservation and protection of places, areas and objects of particular significance to Indigenous Australians. The stated purpose of the ATSIHP Act is the “*preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginals in accordance with Aboriginal tradition*” (Part I, Section 4).

Under the ATSIHP Act, ‘*Aboriginal tradition*’ is defined as “*the body of traditions, observances, customs and beliefs of Aboriginals generally or of a particular community or group of Aboriginals, and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships*” (Part I, Section 3). A ‘*significant Aboriginal area*’ is an area of land or water in Australia that is of “*particular significance to Aboriginals in accordance with Aboriginal tradition*” (Part I, Section 3). A ‘*significant Aboriginal object*’, on the other hand, refers to an object (including Aboriginal remains) of like significance.

For the purposes of the ATSIHP Act, an area or object is considered to have been injured or desecrated if:

- a. *In the case of an area:*
 - i. *it is used or treated in a manner inconsistent with Aboriginal tradition;*
 - ii. *by reason of anything done in, on or near the area, the use or significance of the area in accordance with Aboriginal tradition is adversely affected; or*
 - iii. *passage through or over, or entry upon, the area by any person occurs in a manner inconsistent with Aboriginal tradition; or*
- b. *In the case of an object – it is used or treated in a manner inconsistent with Aboriginal tradition;*

The ATSIHP Act can override state and territory laws in situations where a state or territory has approved an activity, but the Commonwealth Minister prevents the activity from occurring by making a declaration to protect an area or object. However, the Minister can only make a decision after receiving a legally valid application under the ATSIHP Act and, in the case of long-term protection, after considering a report on the matter. Before making a declaration to protect an area or object in a state or territory, the Commonwealth Minister must consult the appropriate minister of that state or territory (Part 2, Section 13).

No declarations relevant to the study area have been made under the ATSIHP Act.

2.1.2 Native Title Act 1993

The *Native Title Act 1993* (NTA) provides for the recognition and protection of native title for Aboriginal peoples and Torres Strait Islanders. The NTA recognises native title for land over which native title has not been extinguished and where persons able to establish native title are able to prove continuous use, occupation or other classes of behaviour and actions consistent with a traditional cultural possession of those lands. It also makes provision for Indigenous Land Use Agreements (ILUA) to be formed as well as a framework for notification of native title Stakeholders for certain future acts on land where native title has not been extinguished.

An application for a determination of native title claim is a legal action in the Federal Court of Australia. In order to have a claim registered you must pass the registration test. The registration test is a set of 12 conditions found in the Native Title Act 1993 that must be applied to all new claimant applications and to most amended claimant applications. To have the claim successfully registered you need to make the following three assertions and provide a factual basis to support each of them: (1) that your native title claim group has an association with the application area and that the predecessors of your claim group had an association with the application area (2) that there are traditional laws and

customs acknowledged by and observed by your claim group that give rise to the native title rights and interests you claim (3) that your claim group has continued to hold native title in accordance with those traditional laws and customs.

Searches of the *Schedule of Applications (unregistered claimant applications)*, *Register of Native Title Claims*, *National Native Title Register*, *Register of Indigenous Land Use Agreements* and *Notified Indigenous Land Use Agreements* were undertaken in February 2019, with one Native Title Registration Claim (not determined) identified for the study area - Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People (PCWP) (Claim ID number NC2013/006).

2.1.3 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect on 16 July 2000. Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance may only progress with the approval of the Commonwealth Minister for the Environment (or delegate). An action is defined as a project, development, undertaking, activity, series of activities, or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact;
- It is undertaken outside Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; or
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The EPBC Act defines 'environment' as incorporating both natural and cultural environments and therefore includes Aboriginal heritage. Under the Act, protected heritage items are listed on the National Heritage List (items of significance to the nation) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE), which was closed in 2007 and is no longer a statutory list. Statutory references to the RNE in the EPBC Act were removed on 19 February 2012. However, the RNE remains an archive of over 13,000 heritage places throughout Australia.

Searches of the National Heritage List, Commonwealth Heritage List and RNE were undertaken in February 2019, with no relevant listings identified for the study area.

2.2 State Legislation

2.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act), administered by DP&E, requires that consideration be given to environmental impacts as part of the land use planning process in NSW. In NSW, environmental impacts are interpreted as including impacts to Aboriginal and non-Aboriginal (i.e., European) cultural heritage.

Section 4.36 of the EP&A Act stipulates that a development will be considered State Significant Development (SSD) if it is declared to be such by a State environmental planning policy.

Under Clause 8(1) of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD), a development is declared to be SSD if:

- a. the development on the land concerned is, by the operation of an environmental planning instrument, permissible with development consent under Part 4 of the EP&A Act; and
- b. the development is specified in Schedule 1 or 2 of SEPP SRD.

The Project is SSD as it meets both of these criteria, namely:

- it is permissible with development consent on the land on which it is located; and
- it is development that is specified in Schedule 1 of SEPP SRD.

Pursuant to Section 4.41 of the EP&A Act, Aboriginal Heritage Impact Permits (AHIPs) are not required for projects classified as SSD and approved under Part 4 of the EP&A Act. Impacts to Aboriginal heritage values associated with approved SSD projects are typically managed under

Aboriginal Cultural Heritage Management Plans (ACHMPs), required under the conditions of the consent. ACHMPs are statutorily binding once approved by the DP&E.

Section 89A of the *National Parks and Wildlife Act 1974* (NPW Act) requires notification of the location of Aboriginal sites within a reasonable time, with penalties for non-notification. Section 89A is binding in all instances, including for SSD projects.

2.2.2 Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) was established to return land in NSW to Aboriginal peoples through a process of lodging claims for certain Crown lands. The Act, administered by the NSW Department of Aboriginal Affairs, is a compensatory regime which recognises that land is of spiritual, social, cultural and economic importance to Aboriginal people. The ALR Act established the NSW Aboriginal Land Council (NSWALC) and a network of over 120 autonomous Local Aboriginal Land Councils (LALCs) and requires these bodies to:

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

LALCs constituted under the ALR Act can make claims. The Registrar of the ALR Act is responsible for maintaining the Register of Aboriginal Land Claims under section 166 of the Act. All land claims that have been made since the Act came into force in 1983 have been recorded in the Register.

Consultation with the Registrar of the ALR Act in February 2019 has indicated that the study area does not have any Registered Aboriginal Owners pursuant to Division 3 of the ALR Act.

2.2.3 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by the OEH, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Secretary of the OEH responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined under the Act as follows:

- An *Aboriginal object* is any deposit, object or material evidence (that is not a handcraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- An *Aboriginal place* is a place so declared by the Minister administering the NPW Act because the place is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them and includes a 'strict liability offence' for such harm. A 'strict liability offence' does not require someone to know that it is an Aboriginal object or place they are causing harm to in order to be prosecuted. Defences against the 'strict liability offence' in the NPW Act include the carrying out of certain 'Low Impact Activities', prescribed in Clause 80B of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* (NPW Regulation), and the demonstration of due diligence.

An Aboriginal Heritage Impact Permit (AHIP) issued under Section 90 of the NPW Act is required if impacts to Aboriginal objects and/or places cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened. Applications for an AHIP must be accompanied by assessment reports compiled in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). Applications must also provide evidence of consultation with the Aboriginal communities. Consultation is required under Part 8A of the NPW Regulation and is to be conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a). AHIPs may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons.

As indicated in Section 2.2.1, pursuant to Section 4.41 of the EP&A Act, AHIPs are not required for projects classified as SSD and approved under Part 4 of the EP&A Act, with impacts typically managed under ACHMPs required under the conditions of the consent. ACHMPs are statutorily binding once approved by the DP&E.

Section 89A of the NPW Act requires notification of the location of Aboriginal sites within a reasonable time, with penalties for non-notification. Section 89A is binding in all instances, including for SSD projects.

2.3 Local Government

2.3.1 Muswellbrook Local Environmental Plan 2009

Clause 5.10 of the *Muswellbrook Local Environmental Plan 2009* (MLEP 2009) provides specific provisions for the protection of heritage items, heritage conservation areas, archaeological sites, Aboriginal objects and Aboriginal places of heritage significance within the Muswellbrook LGA.

Under Subsection 2 of Clause 5.10 of the MLEP 2009, development consent is required for any of the following:

- a. demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):
 - (i) a heritage item,
 - (ii) an Aboriginal object,
 - (iii) a building, work, relic or tree within a heritage conservation area,
- b. altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
- c. disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
- d. disturbing or excavating an Aboriginal place of heritage significance,
- e. erecting a building on land:
 - (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
- f. subdividing land:
 - (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

In relation to Aboriginal heritage, Subsection 8 of Clause 5.8 of the MLEP 2009 states the consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:

- a. consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and
- b. notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

Schedule 5 of the MLEP 2009 provides a list of heritage items, conservation areas and archaeological sites within the Muswellbrook LGA. A review of the list indicates there are no Aboriginal objects or places of heritage significance located within the study area.

The consent authority is required to comply with relevant requirements of Clause 5.10 for the Project.

3.0 Aboriginal Community Consultation

Aboriginal community consultation acknowledges the right of Aboriginal people to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal people in all facets of the assessment process ensures that they are given adequate opportunity to share information about cultural values, and to actively participate in the development of appropriate management and/or mitigation measures. The successful identification, assessment and management of Aboriginal cultural heritage values are dependent on an inclusive and transparent consultation process.

Aboriginal community consultation for the current assessment was undertaken in accordance with OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) (Consultation Requirements) and clause 80C of the NSW *National Parks and Wildlife Regulation 2009*. The results of the consultation process undertaken are detailed below. Associated correspondence is provided in Appendices C to I.

3.1 Stage 1 - Notification and Registration

The aim of Stage 1 of the Consultation Requirements is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the study area.

3.1.1 Consultation with Regulatory Agencies

Section 4.1.2 of the Consultation Requirements stipulates that proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places. Proponents are required to compile a list of Aboriginal people who may have an interest for the proposed study area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places by writing to:

- a. the relevant regional office of the OEH;
- b. the relevant Local Aboriginal Land Council(s) (LALCs);
- c. the Registrar, *Aboriginal Land Rights Act 1983* for a list of Aboriginal owners;
- d. the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;
- e. NTSCORP Limited;
- f. the relevant local council(s); and
- g. the relevant catchment management authorities for contact details of any established Aboriginal reference group (now Local Land Services).

In accordance with this requirement, the following agencies were contacted via letter or email on 31 January 2019 requesting information on relevant Aboriginal persons and organisations (Appendix C):

- OEH;
- Wanaruah Local Aboriginal Land Council (WLALC);
- Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW);
- National Native Title Tribunal;
- NTSCORP Limited;
- Muswellbrook Shire Council;
- Singleton Council; and
- Hunter Local Land Services (HLLS).

Responses were received from five agencies and are attached as Appendix D:

- Singleton Council responded on 18 February 2019 advising that the primary contact for all consultation relating to Aboriginal Heritage is the WLALC;
- Office of Registrar responded on 6 February 2019 stating the study area does not have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (ALRA) and suggesting AECOM contact the WLALC;
- The National Native Title Tribunal responded on 18 June 2019 requesting an application form be completed to obtain geospatial data. AECOM subsequently downloaded the Native Title geospatial data which indicated that one Native Title Claimant was registered within the study area - Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People;
- Muswellbrook Shire Council responded on 22 February 2019 providing the names of two Aboriginal stakeholder groups - WLALC (CEO Noel Downs) and Hunter Valley Aboriginal Corporation (Secretary Rhonda Griffiths); and
- OEH responded on 20 February 2019 providing the contact details for 41 groups and individuals that may have an interest in the development.

3.1.2 Public Notification

Section 4.1.3 of the Consultation Requirements requires that, in addition to writing to the Aboriginal people identified by the agencies listed in Section 3.1.1, the proponent must also place a notice in the local newspaper circulating in the general location of the proposed project. The notification must outline the project and identify its location.

In accordance with this requirement, a public notice was placed in the Hunter Valley News on 6 March 2019 (Appendix E). The closing date for registration via this notice was 20 February 2019, which provided the necessary minimum 14-day period for expressions of interest.

Five registrations were received in response to the public notice.

3.1.3 Invitations for Expressions of Interest

Section 4.1.3 of the Consultation Requirements requires that proponents must write to the Aboriginal people whose names were obtained through the regulatory agencies and the relevant Local Aboriginal Land Council(s) to notify them of the proposed project and invite them to register an interest in participating in a process of community consultation.

In accordance with this requirement, on 22 February 2019, a letter inviting expressions of interest and containing summary information on the project was sent to all Aboriginal persons and organisations identified by the regulatory agencies. The closing date for registrations was 9 March 2019 allowing the necessary minimum 14-day period for expressions of interest.

A total of 30 Aboriginal organisations registered an interest in the Maxwell Project. Summary information on all RAPs, including registration dates, is provided in Table 1. In accordance with Section 4.1.5 of the Consultation Requirements, AECOM provides the opportunity for Registered Aboriginal Parties (RAPs) to withhold their details from being forwarded on to the Local Aboriginal Land Council and/or OEH, and respects the wishes of RAPs to withhold their details at their discretion. No RAPs requested that their details be withheld in regard to this project.

Table 1 Registered Aboriginal Parties

Organisation	Date of registration	Method	Contact Person
Tocomwall (on behalf of the PCWP)	11-Feb-19	Email	Danny Franks
HVAC	12-Feb-19	Phone	Rhonda Griffiths
Dave Horton	12-Feb-19	Phone	Dave Horton
WLALC	20-Feb-19	Email	Noel Downs
Aunty Gay Horton	20-Feb-19	Email	Aunty Gay Horton

Organisation	Date of registration	Method	Contact Person
Andrew Horton	20-Feb-19	Email	Andrew Horton
Michael Stair	20-Feb-19	Email	Michael Stair
Yinnar Cultural Services	22-Feb-19	Email	Kathie Kinchela
DNC	26-Feb-19	Email	Paul Boyd
Upper Hunter Wonnarua Council Inc.	27-Feb-19	Phone	Rhoda Perry
Murrabidgee Mullangari	27-Feb-19	Email	Ryan Johnson
Widescope	27-Feb-19	Email	Steven Hickey
Merrigam	27-Feb-19	Email	Shaun Carroll
Muragadi	27-Feb-19	Email	Anthony
John and Margaret Mathews	27-Feb-19	Phone	John & Margaret Mathews
Divine Diggers	27-Feb-19	Email	Deidre Perkins
Ungooroo Aboriginal Corporation	27-Feb-19	Email	Allen Paget
Gidawaa Walang Cultural Heritage Consultancy	01-Mar-19	Email	Craig Horne
Wonnarua Elder LHWCS	04-Mar-19	Email	Tom Miller
Kawul Cultural Services	04-Mar-19	Email	Vicki Slater
Wurrumay Consultants	04-Mar-19	Email	Kerry Slater
Wattaka WCCS LH	04-Mar-19	Email	Des Hickey
Valley ELM Corp	04-Mar-19	Email	Irene
A1 Indigenous	04-Mar-19	Email	Carolyn Hickey
Wallagan	06-Mar-19	Email	Maree Waugh
Culturally Aware	06-Mar-19	Email	Tracey Skene
Amanda Hickey Cultural Services (AHCS)	06-Mar-19	Email	Amanda Hickey
The Men's Shack Indigenous Corporation	06-Mar-19	Email	Rod Hickey
Norman Archibald	07-Mar-19	Email	Norman Archibald
Crimson-Rosie	06-Mar-19	Mail	Jeff Mathews

3.1.4 Notification of Registered Aboriginal Parties (RAPs)

Section 4.1.6 of the Consultation Requirements requires that the proponent make a record of the names of each Aboriginal person who registered an interest and provide a copy of that record, along with a copy of the EOI letter forwarded to the Aboriginal parties, to the relevant OEH regional office and LALC. Section 4.1.5 of the Consultation Requirements provides the opportunity for Aboriginal persons to withhold their details from being forwarded to these parties.

In accordance with these requirements, on 9 April 2019, a list of all RAPs was forwarded to the relevant OEH regional office and the WLALC. A copy of the EOI letter and the newspaper advertisement was included in this correspondence (Appendix F).

3.2 Stage 2 - Presentation of Information about Project

The aim of Stage 2 of the Consultation Requirements is to provide RAPs with information about the scope of the proposed project and the proposed cultural heritage assessment process.

For the current assessment, presentation of information about the study area and proposed development was provided to RAPs as part of the registration of interest process detailed in Section

3.1.3. Information on the proponent and proposed development was included in the Expression of Interest (EOI) letter mailed on 22 February 2019.

3.3 Stage 3 – Gathering Information about Cultural Significance

The aim of Stage 3 of the Consultation Requirements is to facilitate a process whereby RAPs can:

- a. Contribute to culturally appropriate information gathering and the assessment methodology;
- b. Provide information that will enable the cultural significance of Aboriginal objects and/or places on the proposed study area to be determined; and
- c. To have input into the development of any cultural heritage management measures.

For current assessment, consultation with RAPs regarding the cultural heritage values of the study area included:

- A request with the draft assessment methodology for any initial comments regarding the Aboriginal cultural heritage values of the study area;
- Discussion of cultural heritage values during fieldwork;
- Offers made to RAPs for private interviews, in case the information is considered culturally sensitive; and
- Provision of a draft report to all RAPs for comment prior to finalisation.

3.3.1 Draft Assessment Methodology

Sections 4.3.1 and 4.3.2 of the Consultation Requirements require that the proponent present and/or provide the proposed methodology for the cultural heritage assessment to RAPs and that RAPs be given a minimum of 28 days to review and provide feedback on this methodology (Appendix G).

On 10 March 2019 all RAPs were provided by mail/email with a draft of AECOM's proposed assessment methodology. RAPs were given a minimum of 28 days to review and provide feedback on this methodology with the closing date for comments on 9 April 2019.

Ten responses were received from RAPs relating to the draft methodology. No specific cultural heritage values relating to the study area were identified by RAP respondents. RAP responses are summarised in Table 3, with written responses attached as Appendix H.

Table 2 RAP responses to draft methodology

Registered Aboriginal Party	Date	Method	Summary of response	Response
Murrabidgee Mullangari	11/03/2019	Email	Endorsed the methodology	None required
Muragadi	11/03/2019	Email	Endorsed the methodology	None required
Divine Diggers	12/03/2019	Email	Endorsed the methodology	None required
Widescope	12/03/2019	Email	Endorsed the methodology	None required
Giddawaa Walang	14/03/2019	Email	No comment on the methodology	None required
Merrigarn	27/03/2019	Email	Endorsed the methodology	None required
Wurrumay Consultants	11/04/2019	Email	Endorsed the methodology	None required
Kawul Cultural Services	11/04/2019	Email	Endorsed the methodology	None required

Registered Aboriginal Party	Date	Method	Summary of response	Response
The Men's Shack indigenous Corporation	11/04/2019	Email	Endorsed the methodology	None required
DNC	16/04/2019	Email	Endorsed the methodology	None required

3.3.2 Archaeological Survey

The following RAPs participated in the fieldwork component of this ACHAR:

Table 3 RAP field representatives by organisation

Registered Aboriginal Party	Field representative(s)
Wallagan Cultural Services	Maree Waugh
Culturally Aware	Tracey Skene
Divine Diggers	Deidre Perkins
Murrabidgee Mullangari	Ryan Johnson
WLALC	Dave Horton
n/a	Barry French
Tocomwall (on behalf of the PCWP)	Mary Franks

During fieldwork, discussions were had with RAP field representatives concerning the Aboriginal cultural values of the study area. RAPs did not provide any Aboriginal cultural values associated with the study area.

It is noted that Tocomwall's (acting on behalf of the PCWP) representative did not provide any cultural values for the study area and that Tocomwall has indicated that the study area still retains cultural values despite impacts from open-cut mining. These cultural values had not been provided to AECOM at the time of writing this assessment.

3.4 Stage 4 - Review of Draft Assessment Report

The aim of Stage 4 of the Consultation Requirements is to prepare and finalise an ACHAR with input from RAPs.

In accordance with Section 4.4.2 of the Consultation Requirements, all RAPs were sent a draft of this ACHAR on 17 April 2019 for review and comment (either by email or mail). On 15 May 2019 attempts were made to phone all RAPs who had not provided comment. RAP responses are summarised in Table 4 with written and verbal responses attached as Appendix I.

A total of 13 responses were received supporting the assessment and management recommendations, one response not in support, two responses with no comment, two general comments and 12 RAPs did provide any comments.

Table 4 RAP responses to draft ACHAR

Registered Aboriginal Party	Date	Method	Summary of response	AECOM response
Wonnarua Elder LHWCS	17/04/2019	Email	Requested hard-copy of the report	A hard-copy of the report sent 18/04/2019
Merrigarn	18/04/2019	Email	Endorsed the assessment	None required
AHCS	22/04/2019	Email	Endorsed the assessment	None required
Murrabidgee Mullangari	22/04/2019	Email	Endorsed the assessment	None required

Registered Aboriginal Party	Date	Method	Summary of response	AECOM response
Divine Diggers	23/04/2019	Email	Endorsed the assessment	None required
Tocomwall (PCWP)	23/04/2019	Email	Four issues raised: 1) Stated no attempts have been made to contact the PCWP 2) Section on Native Title Claims is not detailed enough 3) Rejects statement that 'no Aboriginal cultural values within the study area' and further noted there are cultural values within the study area 4) creating a solar farm was a violation of the original mine approval.	AECOM responded: 1) An invitation was sent to RAPs to meet to discuss cultural values. In addition, Mary Franks attended the survey. 2) Further detail will be added to that section. 3) Statement reworded to 'RAPs did not identify any Aboriginal cultural values within the study area'. 4) Maxwell has met their obligations regarding rehabilitation of the site.
Tocomwall (PCWP)	30/04/2019	Email	Scott Franks responded that he would review the provided information and would be open to a paid meeting.	3/05/2019 Geordie discussed this with Scott on the phone with Scott stating contact Danny Franks for rates. An email was sent to Danny on 3/05/2019 requesting rates. Danny responded on 15/05/2019 asking if a meeting had been arranged. Geordie responded on 15/05/2019 that no meeting had been arranged and requesting meeting rates.
Wallagan Cultural Services	23/04/2019	Email	Endorsed the assessment	None required
Culturally Aware	24/04/2019	Email	Responded in support of the ACHAR. In addition, had questions around economic issues and benefits of the project to the community	On 3/05/2019 AECOM responded that there were few job opportunities within the solar farm with only two long-term positions available. Nonetheless, Malabar uses Blackrock Industries as a service provider on site for general labour and land management works. Blackrock which is based in Muswellbrook, is 100 percent indigenous owned.
Ungooroo Aboriginal Corporation	29/04/2019	Email	Melanie stated she would forward to Allen Paget for comment	None required
Muragadi	1/05/2019	Email	Responded in support of the ACHAR	None required

Registered Aboriginal Party	Date	Method	Summary of response	AECOM response
Giddawaa Walang	2/05/2019	Email	Stated they did not have any comments	None required
A1 Indigenous Services	5/05/2019	Email	Responded in support of the ACHAR	None required
John Mathews	15/05/2019	Phone	John indicated that artefacts were discovered near a dam in the vicinity of the mine and that he hoped to be able to survey that area.	It was explained that the dam was not part of the study area and John stated that he and Margaret were happy with the findings of the report.
Wattaka WCCS LH	15/05/2019	Phone	Des indicated support of the ACHAR proving that the assessment of no cultural values or sites came from the RAPs and not solely from the AECOM archaeologists.	None required
Norman Archibald	15/05/2019	Phone	Norman in support of the ACHAR providing that the creek line was surveyed.	None required
Kawul Cultural Services	15/05/2019	Phone	Responded in support of the ACHAR.	None required
WLALC	15/05/2019	Phone	Noel indicated that he would call or email back with comments that afternoon. Noel later emailed that he had nothing to add.	None required
Dave Horton	15/05/2019	Phone	Responded in support of the ACHAR.	None required
WLALC	15/05/2019	Email	Noel stated the WLALC has nothing to add	None required

4.0 Landscape Context

This section reviews the landscape context of the study area as a basis for predicting the character of past Aboriginal occupation within it and its associated archaeological record. Consideration of the landscape context of the study area is based on the now well-established proposition that the nature and distribution of Aboriginal archaeological materials are closely connected to the environments in which they occur. Environmental variables such as topography, geology, hydrology and the composition of local flora and fauna communities will have played an important role in influencing how Aboriginal people moved within and utilised their respective Country. Amongst other things, these variables will have affected the availability of suitable campsites, drinking water, economic¹ plant and animal resources, and raw materials for the production of stone and organic implements. At the same time, an assessment of historical and contemporary land use activities, as well as geomorphic processes such as soil erosion and aggradation, is critical to understanding the formation and integrity of archaeological deposits, as well as any assessments of Aboriginal archaeological sensitivity.

4.1 Physical Setting

The study area for this assessment comprises an irregularly shaped approximately 145 ha parcel of land located at the Maxwell Infrastructure site (formally known as the Drayton Mine). The site is located approximately 10 km south of the township of Muswellbrook in the Upper Hunter Valley of NSW. The study area encompasses land required for the solar arrays, battery storage, 33kV and 66kV transmission lines, as well as the proposed switching station (Figure 2). Land within the study area has been significantly modified/disturbed through historical open-cut mining activities with the majority of the study area consisting of artificially created post-mine landforms. The study area is centred on the rehabilitated overburden emplacement which forms a central ridgeline roughly in the centre of the mine site.

Reference to the Geographical Name Register (GNR) of NSW indicates that the study area falls wholly within the boundaries of the Muswellbrook LGA and cross-cuts the parishes of Brougham and Savoy in the County of Durham. Surrounding suburbs include Edderton to the north, Jerrys Plains to the south, Howick to the east and Denman to the west.

4.2 Topography

The study area lies within the Upper Hunter Valley a physiographic region referred to as the Central Hunter Foothills subregion of the broader Sydney Basin Bioregion, and characterised by undulating lowlands with rounded to steeply-inclined hills and rock outcropping on ridges formed on Permian-era bedrock (Morgan, 2001; Mitchell, 2001). The original topography of the entire study area has been modified through open-cut mining activities, installation of mine infrastructure including buildings, dams, transmission lines and roads, and is generally either rehabilitated or highly disturbed. The bulk of land within the study area has been rehabilitated following open-cut mining with the topography now comprising an artificial central north-south trending ridgeline with an associated level crest (Figure 3, Plate 1). In addition, several flat areas, both east and west of the ridgeline have been rehabilitated.

¹i.e., edible and/or otherwise useful (e.g., medicine, clothing).

Plate 1 View east showing artificial ridgeline in distance (source: AECOM 2019)



4.3 Hydrology

The study area is located within the Hunter River catchment, with the Hunter River channel located around 8 km from the study area's northern boundary. The Hunter River is the most significant watercourse in the Hunter Valley Region, and in the area near the study area generally flows in a westerly direction through a channel approximately 30 m wide and approximately 3-6 m deep.

As a result of mine related disturbances and subsequent rehabilitation activities, no watercourses are currently present within the study area. Prior to mining and rehabilitation, the principal watercourse associated with the study area was Ramrod Creek, a 4th order creekline that flowed in northwesterly direction from the study area to its junction with the Hunter River eight kilometres to the northwest. Prior to impacts, a 1st order portion, as well as several 1st order tributaries of Ramrod Creek passed through the study area, however these watercourses were fully removed during open cut mining (Figure 3).

4.4 Geology

Reference to the Singleton 1:250,000 geological mapsheet (Singleton 1:250,000 Geological Series Sheet SI 56-1) indicates that prior to mine related impacts the surface geology of the study area comprised Muswellbrook Coal Measures and Branxton Formation lithics including mudstone, sandstone and conglomerate. The geology of much of the study area now comprises a mixture of original surface geology and underlying rock material that have been utilised in the rehabilitation process.

4.5 Soils

Reference to the 1:250,000 Singleton Soil Landscape Series Sheet (SI 56-1) (Kovac & Lawrie 1991) indicates that prior to mine-related impacts soils within the study area form part of the Roxburgh, Bayswater and Liddell soil landscapes. Currently soils across the study area largely comprise overburden from mining as well as topsoil that was stockpiled throughout the operational life of the Drayton Coal Mine. Mine overburden has been used to landscape the study area with the topsoil spread across the area to allow vegetation to grow.

Figure 3 Landform & Hydrology



4.6 Flora & Fauna

Native vegetation across the majority of the study area was removed as part of mine-related activities with vegetation in the rehabilitation areas now consisting of native and introduced grasses and forbs and patches of immature trees established from direct seeding and tube stock planting. In the eastern portion of the study area, adjacent to the existing road and transmission line are patches of regenerating woodland that would not be disturbed as part of the project.

Although available historical records provide only limited insight into Aboriginal exploitation of plants within the Hunter Valley (Brayshaw 1987: 74), it can be confidently asserted that the original vegetation communities of the study area will have supplied Aboriginal people camping within, and passing through the site, with an extensive array of edible and otherwise useful plant species. Recorded native vegetation communities and locally occurring wetland will likewise have supported a large and diverse range of economic terrestrial, aquatic and avian fauna. Historical evidence for the Aboriginal exploitation of faunal and floral resources within the Hunter Valley is discussed in further detail in Section 5.3.

4.7 Historical Context and Land Use

The Hunter region was initially identified as an area of rich resources in 1797 when Lieutenant John Shortland found coal at the mouth of the Hunter's River, as it was then known. A convict settlement was established at the mouth of the River in 1801 to gather coal and timber and burn shells for lime (Hunter 2010: 6).

The 1810s saw increased pressure on land around Sydney, especially following several years of drought. The farmers on the Hawkesbury River around Windsor petitioned Governor Macquarie to allow exploration inland. In 1819, Macquarie authorised men to find an overland route into what is now the Hunter Valley. The leader of this party, Windsor chief constable John Howe, exclaimed it was the best pasture he had seen since leaving England. Confirmation of the overland route was undertaken in 1820 (Hunter 2010:7). Macquarie rewarded the men in this second party with land grants around the area now known as Singleton.

Land was quickly surveyed and by 1823 grants along rivers and creeks had been issued. Settlement, however, seems to have been made at a slower pace. A traveller in 1827 said that the area was inhabited by single shepherds with their flocks (Hunter 2010:8).

In 1829, Jerrys Plains was surveyed as a town, although it had been a campsite for travellers for some years previous. The town was not proclaimed until 1840 and official grants were not given until several years later. Despite the absence of official land ownership, development of the town continued.

Muswellbrook was proclaimed in 1833, although again, there had been earlier settlement in the vicinity. The surrounding area was largely used for grazing and cropping, with an increasing focus on dairying. Coal mining began in the 1890s, but did not become prolific until more recently.

Reference to Nineteenth Century parish maps for Brougham and Savoy indicates that the majority of land within the study area was acquired by the White family initially by the parents James White who arrived in Sydney in 1826 on the *Fairfield* and wife Sarah nee Crossman, and later their sons, brothers James, George and Francis. The brothers leased property Belltrees, near Scone later purchasing it. From the late 1840's the brothers acquired freehold properties in the Hunter District including Edinglassie, Merton and Dalwinston as well as land within the study area (Rutledge, 1976). In total by 1885 the family had over 35,000 acres. The family initially ran sheep on the properties but in the 1880's began farming cattle for which they began known and enjoyed a great deal of success (Tickle, 2005). Son James later was a notable horse breeder and racer. Francis was well known in public matters in Muswellbrook where he was chairman of the bench of magistrates and president of the hospital board and the agricultural society. By the 1950s most of the family had sold off their properties (Tickle, 2005).

Coal exploration in the area began in the 1950s and 60s with the Bayswater Colliery. Drayton Mine, which encompasses the study area commenced in the 1980s. Since mining commenced at the site in the 1980s, the flora and fauna, hydrology regimes and general landform of the study area have been subject to considerable modification.

To varying degrees, all the above-cited land use activities and associated ground impacts are relevant to the survival, integrity and identification of Aboriginal archaeological evidence within the study area. Key implications for the current assessment include:

- the likely destruction, in areas of grossly modified terrain including rehabilitation, of any pre-existing sites and deposit(s); and
- the likely removal of any culturally scarred trees that once existed within the study area.

A disturbance map combining these various ground surface impacts is provided as Figure 6. Levels of disturbance are defined as:

- **High** - Severe disturbance to natural soil profiles including complete-to-near complete topsoil loss through mining, earthworks, buildings, vehicle tracks and dams;
- **Low** - Cleared and/or grazed at some time.

As shown on Figure 6 the entire study area is assessed as highly disturbed.

Figure 4 Georeferenced excerpt of undated parish map for Parish of Brougham. Study area marked in red (Source: Land and Property Information NSW)



Figure 5 Georeferenced excerpt of undated parish map for Parish of Savoy. Study area marked in red (Source: Land and Property Information NSW)



Figure 6 Disturbance



4.8 Key Observations

Key observations to be drawn from a review of the existing environment of the study area are as follows:

- The original topography of the study area has been modified through open-cut mining activities, installation of mine infrastructure including buildings, dams, transmission lines and roads, and is generally either rehabilitated or highly disturbed.
- As a result of mine related disturbances and subsequent rehabilitation activities, no watercourses are located within the study area. Prior to mining and rehabilitation, the principal watercourse associated with the study area was Ramrod Creek with several of its 1st order tributaries passing through the study area. However, these tributaries were fully removed during open cut mining.
- Reference to the Singleton 1:250,000 geological mapsheet (Singleton 1:250,000 Geological Series Sheet SI 56-1) indicates that prior to mine related impacts the surface geology of the study area comprised Muswellbrook Coal Measures and Branxton Formation lithics including mudstone, sandstone and conglomerate. The geology of much of the study area now comprises a mixture of original surface geology and underlying rock material that have been utilised in the rehabilitation process.
- Prior to European settlement and mining activities, the floral and faunal resources of the study area and environs will have been sufficient to facilitate intensive and/or repeated occupation by Aboriginal people.
- Examination of historical aerial imagery for the study area and field observations indicate that the study area comprises highly disturbed land with negligible potential for *in-situ* Aboriginal objects to be present.

5.0 Ethnohistoric Context

5.1 Introduction

Information regarding the ways in which Aboriginal people likely used pre-contact landscapes is available to archaeologists through two primary sources: archaeological (i.e., survey and excavation) data and historical records. Section 6.0 summarised the Aboriginal archaeological context of the study area on both a regional and local scale. This section builds on this foundation by summarising relevant ethnohistoric information for the study area. As in other parts of New South Wales and Australia more broadly, non-Aboriginal people occupying the Hunter Valley began to document Aboriginal culture from first contact, with explorers, missionaries, settlers and the like recording their observations of Aboriginal people and/or their material culture in letters, journals and official reports. Many of these accounts are overtly Eurocentric in tone and the content and veracity of some is, at best, questionable. Nonetheless, taken together, they form an important source of information on Aboriginal lifeways at the time of British colonisation and can, in conjunction with available archaeological data, be used to generate working predictive models of prehistoric Aboriginal land use.

Key sources, both primary and secondary, for the post-contact languages and lifeways of the Aboriginal people occupying the Hunter Valley at the time of contact include: Backhouse (1843), Barrallier (1802), Brayshaw (1987), Caswell (1841), Capell (1970), Dawson (1830), Ebsworth (1826), Enright (1900, 1901, 1932, 1933, 1936, 1937), Elkin (1932), Fawcett (1898a, 1898b), Ford (2010), Gunson (1974), Hale (1846), Fraser (1892), Haslam et al. (1984), Larmer (1898), Lissarrague (2006), Matthews (1898, 1903), Miller (1887), McKiernan (1911), Threlkeld (1827, 1834, 1836, 1850), Scott (1929) and Sokoloff (1980). Although a detailed review of these sources is beyond the scope of this report, information of particular relevance to the current assessment is summarised below.

5.2 Social and Territorial Organisation

As highlighted by Brayshaw (1987) and a number of other researchers (e.g., ERM 2004; Kuskie 2000a), reconstructing the social and territorial organisation of the Aboriginal groups occupying the Hunter Valley at contact is extremely difficult given the enormous social upheaval that preceded any formal investigations into their languages and lifeways. The sometimes contradictory nature of primary historical records has likewise complicated the situation as has the tendency of early observers to describe all named groups of Aboriginal people, regardless of size and/or composition, as 'tribes' (Brayshaw 1987: 36).

According to Tindale's (1974) oft-cited tribal map, the current study area is located within Wonnarua territory, close to the boundary with the Geawegal (Figure 7). Tindale (1974) describes the territory of the Wonnarua as a 5,200 square kilometres (km²) area stretching from "a few miles" north of Maitland west to the Dividing Range and south to the divide north of Wollombi. To the south of the Wonnarua, Tindale (1974) places the Darkinjung, whose tribal territory is described as a 4,700 km² area extending south of the Hunter River watershed, from "well south" of Jerrys Plains, east toward Wollombi and Cessnock, south to Wisemans Ferry on the Hawkesbury River, and west to the divide east of Rylstone. To the west of the Wonnarua were the Wiradjuri, one of the largest groups in NSW occupying an area of 97,100 km² extending from the Lachlan River to Rylstone and Mudgee. To the east of the Wonnarua were the Worimi and Awabakal. The Worimi, according to Tindale (1974), occupied a 3,900 km² area extending from the Hunter River to Forster, near Cape Hawke, inland to near Gresford and south to Maitland, while he describes the Awabakal as occupying a 1,800 km² area centred on Lake Macquarie, south of Newcastle. Finally, to the north of the Wonnarua, Tindale (1974) places the Geawegal tribe, who are described as occupying the northern tributaries of the Hunter River to Murrurundi and being present at Muswellbrook, Aberdeen, Scone and the Mount Royal Range.

Although widely cited, it should be noted that Tindale's boundaries for the Awabakal 'tribe' do not accord with those provided by the missionary Reverend Lancelot Threlkeld, who established an Aboriginal mission at Belmont on Lake Macquarie in 1826² (the 'Bahtahbah' mission) and is widely regarded as one of the pioneers of Aboriginal studies in New South Wales owing to his detailed

² Subsequently relocated to Toronto in 1831 and named 'Ebenezer' mission

recordings, with the assistance of influential Awabakal leader Biraban (aka John McGill), of the language and lifeways of the Aboriginal people occupying the Hunter River Estuary.

Writing in 1828, for example, Threlkeld described the territory of the Awabakal as consisting of:

“The land bounded (to the South) by Reid’s Mistake the entrance to Lake Macquarie, (to the North) by Newcastle & Hunter’s River, (to the West) by five islands on the head of Lake Macquarie 10 miles west of our station. This boundary, about 14 miles N and S by 13 E and W, is considered as their own land” (Threlkeld 1828 in Ford, 2010: 339) (Figure 8)

Tindale’s (1974) and Threlkeld’s (1828) contradictory accounts notwithstanding, what is clear from available historical records is that the former’s oft-cited division of the Awabakal and Wonnarua into two separate ‘tribes’ does not adequately capture what was at contact a complex system of social and territorial organisation involving numerous local descent groups (i.e., clans) and bands who, critically, spoke the same language. As Lissarrague (2006: 7) has recently observed, “the evidence from archival sources suggests that the language described by Threlkeld as ‘The language of the Hunter River and Lake Macquarie’ was spoken by people now known as Awabakal, Kuringgai and Wonnarua”. Lissarrague (2006), for her part, has named this language the Hunter River and Lake Macquarie language (HRLM language) and notes that it may also have been spoken by Tindale’s (1974) Geawegal ‘tribe’.



Figure 7 Excerpt from Tindale’s (1974) tribal map (Tindale, 1974)

Critical to current interpretations of the boundaries of the HRLM language are the observations of Reverend Threlkeld. Threlkeld’s own account of the boundaries of this language, which comes from his 1838 report to the then NSW Legislative Council’s Committee on the Aborigines Question, is reproduced below:

“The native languages throughout New South Wales, are, I feel persuaded, based upon the same origin; but I have found the dialects of various tribes differ from those which occupy the country around Lake Macquarie; that is to say, of those tribes occupying the limits bounded by North Head of Port Jackson, on the south, and Hunter’s River on the north, and extending inland about sixty miles, all of which speak the same dialect.

The native of Port Stephen's use a dialect a little different, but not so much so as to prevent our understanding one another' but at Patrick's Plains the difference is so great, that we cannot communicate with each other; there are blacks who speak both dialects" (Threlkeld 1838 in Ford, 2010).

Threlkeld's observations provide strong primary evidence for the existence of a single shared language for Tindale's (1974) Awabakal and Wonnarua 'tribes'. At the same time, they suggest that this language differed from that spoken by the Worimi around Port Stephens, being the Kutthung or Kattang language described by Enright (1900, 1901).

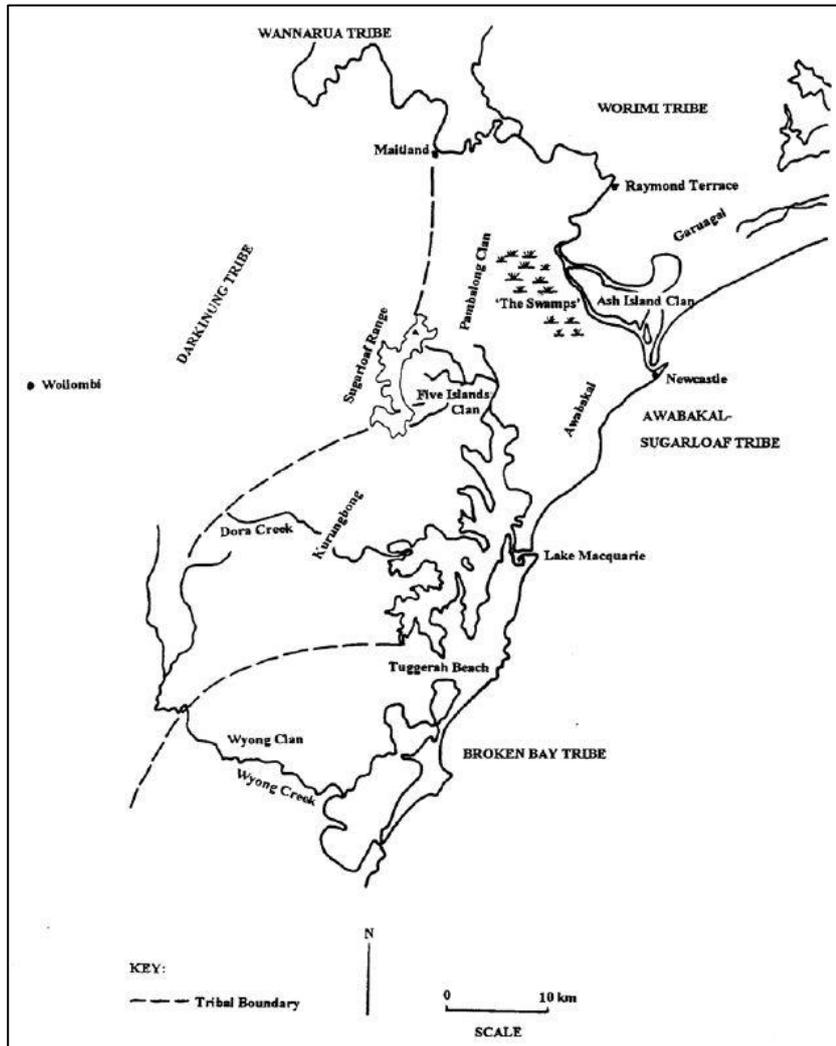


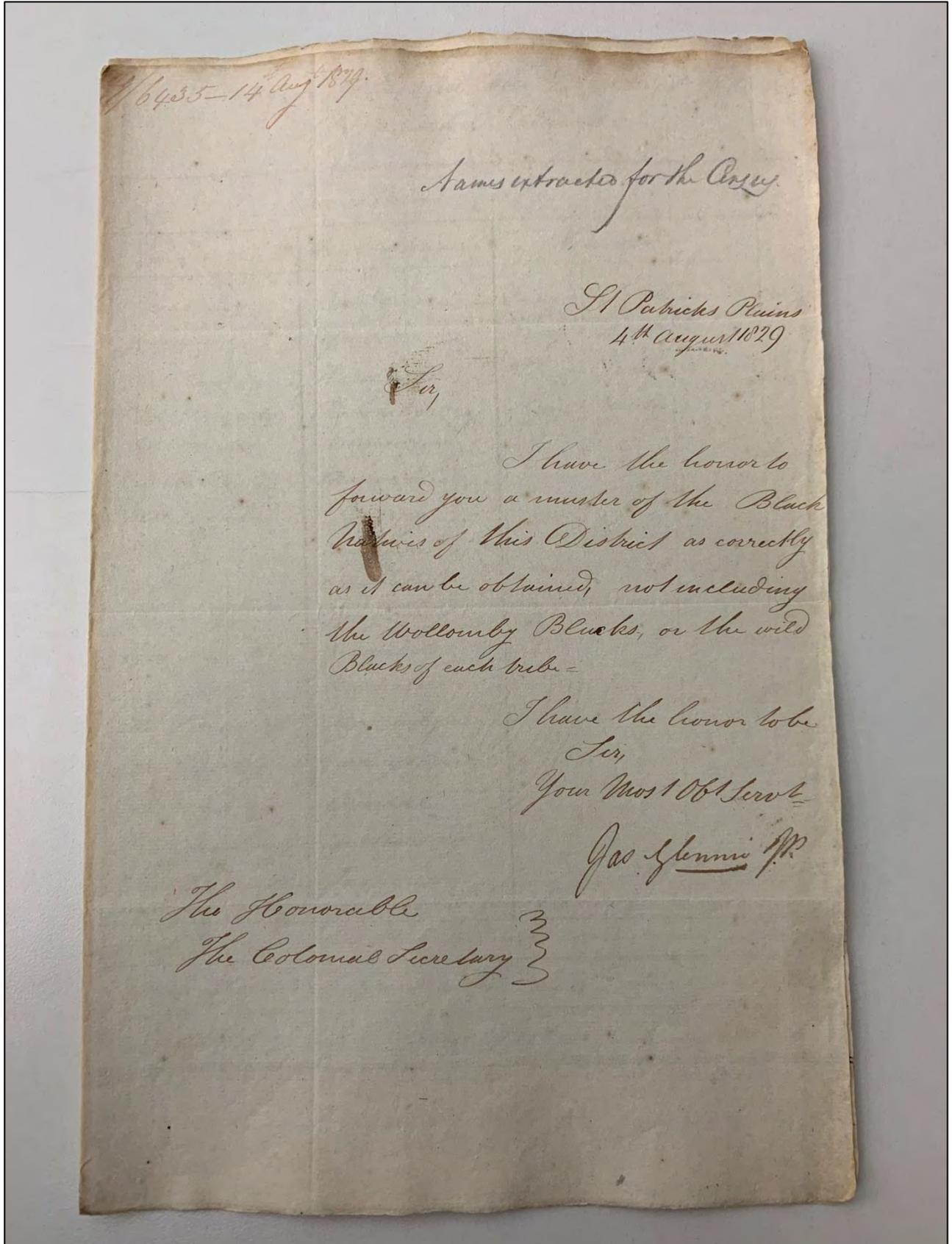
Figure 8 Gunson's (1974) tribal map for the lower Hunter Valley, based on the observations of Reverend Lancelot Threlkeld (from Kuskie, 2012: 39, Fig. 8, after Gunson, 1974)

Ford's (2010) recently completed historiographic analysis provides further insight into the social and territorial organisation of the Aboriginal groups occupying the Hunter Valley at contact. Based on his own detailed review of available historical records, Ford (2010) has argued that the actual 'tribal' and/or language name for the HRLM-speaking Aboriginal groups occupying the estuarine areas of the lower Hunter River at contact was *Wannungine* and not Awabakal, with the latter term coined, alongside *Guringai* (now *Kuringgai*), by Scottish ex-school teacher and Maitland resident John Fraser in 1892 (Fraser 1892).

The term *Wannungine*, Ford (2010: 343) notes, was the term that R.H Matthews recorded as the language or tribal name for Aboriginal peoples occupying the coastline southward from the Hunter River estuary to 'Lane Cove', but not extending to the north shore of Port Jackson, and east to the coastal range. Matthews also identified the term *Wannerawa*, applying it to the southern part of the identified Wannungine area (i.e., around Broken Bay) (Ford 2010: 344). Thus, although correctly identified by Matthews, it is Ford's contention that Miller's (1887) misapplication of the term *Wannerawa*, as *Wonnarua*, to the Middle and Upper Hunter Valley, an error subsequently reinforced through the publications of disgraced journalist J.W. Fawcett (1898a, 1898b), that has resulted in the historical anomaly of the *Wannerawa* (Miller's (1887) 'Wonnarua') being placed in the Middle and Upper Hunter. Miller's (1887: 352) reference to the principal ornament of the Wonnarua being a "nautilus shell cut into an oval shape and suspended from the neck" is cited as further evidence that Miller should actually have meant the Wonnarua to be coastal people (Ford, 2010: 354). Contrary to Miller's (1887) and Fawcett's (1898a, 1898b) widely cited accounts, Ford's research suggests that at the time of first European settlement, the mid Hunter was, in fact, occupied by Darkinjung-speaking peoples, whose territory encompassed the ranges bounded by the Hawkesbury River floodplain to the south and the Hunter River floodplain to the north and was bordered to the east-northeast by the coastal *Wannungine* (aka *Wannerawa*) (Ford, 2010: 10). Bordering the Darkinjung to the west/northwest, in the Upper Hunter, were Kamilaroi-speaking peoples, who Ford (2010: 467) suggests had penetrated over the Liverpool Range and were occupying the Hunter Valley as early as 1819.

While acknowledging the well-documented problems surrounding early European observers' use of the word 'tribe', with many tribal names, for example, comprising European inventions, attention is also drawn to the fact that several Aboriginal 'returns' for the mid-to-upper Hunter Valley contain the names of individual 'tribes', with places or districts of 'usual resort' sometimes also specified. For the mid-to-upper Hunter Valley, a review of returns prepared for districts and estates within this region (e.g., Patrick's Plains, Wallis Plains, Invermein and Merton) reveals marked differences in the amount of information available regarding group names and associations. Returns for the Merton district, for example, contain almost no useful information, with only one return, prepared in July 1844, containing an Aboriginal group name, the 'Gnarnical' or 'Gnarnoical', which is likely an alternative spelling of 'Gundical'. The Gundical, according to Edward Ogilvie, son of magistrate William Ogilvie, were one of the four 'tribes' that made up the Gummun Kamilaroi of the Upper Hunter - Goulburn River valleys, with the remaining three groups consisting of the "warlike" Marawancal, the Toolomm-pikilal and the "fine Intelligent" Panin-pikilal (Wood, 1972: 137).

In general, returns for the Patrick's Plains district are the most informative for the region, with James Glennie's August 1829 return (Plate 2,3 and 4), for example, identifying four distinct 'tribes' within this district; namely, 'The Plains Tribe', 'The Bulcara Tribe', 'The Micarrawillung Tribe' and the 'Kinkigyne or Hungary Hill Tribe'. Glennie's return also contains the European and Aboriginal names of all of the men in each group, including their respective 'kings'. Places of usual resort for the groups listed are not specified. However, it is noted that a June 1834 return for the district places the 'Kinkigyne or Hungary Hill Tribe' at Fal Brook. Moving further up the valley, Francis Little's June 1828 return lists two 'tribes' within the district under his jurisdiction: the 'Tullong Tribe' and the 'Murawin Tribe', with Little placing the Tullong in the Dartbrook area and the Muarwin along the Paterson and Pages Rivers. Peter McIntyre's December 1829 return for Segenhoe, in contrast, contains no useful information with respect to group names and localities.



6435-14 Aug 1829

Names extracted for the Census

St Patricks Plains
4th August 1829

Sir,

I have the honor to forward you a muster of the Black Natives of this District as correctly as it can be obtained, not including the Wollombi Blacks, or the wild Blacks of each tribe -

I have the honor to be Sir,

Your Most Obedt Servt

James Glennie

The Honourable
The Colonial Secretary

Plate 2: James Glennie's August 1829 return for the Patrick's Plains district, Page 1 of 3 (SRNSW, 4/2045)

*List of Black Natives in the District of
St Patricks Plains*

The Plains Tribe

<i>Name</i>	<i>Native name</i>	<i>Remarks</i>
<i>Black Boy</i>	<i>Pandoba</i>	<i>King of the Plains Blacks</i>
<i>Johm</i>	<i>Yulloba</i>	<i>King's Brother</i>
<i>Old Daddy</i>	<i>Wardarra</i>	<i>King's Father</i>
<i>Old Brandy</i>	<i>Parlombalong</i>	<i>King's Uncle</i>
<i>W^r Baldon</i>	<i>Nurrocurra</i>	
<i>Old Peter</i>	<i>Marroboli</i>	
<i>Old Shepherd</i>	<i>Pyalong</i>	
<i>Billy</i>	<i>Cungoo</i>	
<i>Jacky</i>	<i>Cunduloug</i>	
<i>Bit's Bread</i>	<i>Pyrybyry</i>	
<i>Tommy</i>	<i>Trumbol</i>	
<i>Big Jack</i>	<i>Mundoe</i>	
<i>Old Jimmy</i>	<i>Burrahyne</i>	
<i>Old Daddy</i>	<i>Caringaleav</i>	
<i>Old Charley</i>	<i>Ounall</i>	
<i>Old Jimmy</i>	<i>Mattocurry</i>	
<i>Buchamall</i>	<i>Toongary</i>	
<i>N^o of Men in the Plains Tribe</i>		<i>17</i>
<i>N^o of Women & children in the Plains Tribe</i>		<i>29</i>
<i>Total N^o of the Plains Tribe</i>		<i>46</i>

Plate 3: James Glennie's August 1829 return for the Patrick's Plains district, Page 2 of 3 (SRNSW, 4/2045)

The Bulcara Tribe			Name	Native Name	Remarks
Name	Native Name	Remarks	Charlie		
Billy Bowman	Boringoomung	King of the Bulcara Blacks	Jackey		
Jackass	Girrogun	King's Brother	Nero		
Jimmy	Birroul		Old Daddy		
No of men in the Bulcara Tribe		3	Governor		
No of women & children in the Bulcara Tribe		8	Old Daddy		
Total No of the Bulcara Tribe		11	No of men in the Kinkigyne Tribe		
The Micarrawilling Tribe			13		
Jacky	Balboa	King of the Micarrawilling Tribe	No of Women & Children as correctly as can be ascertained		
Nimrod	Koorakie		15		
Baboon	Bouyangung		Total No of the Kinkigyne Blacks		
Soby			28		
Jemmy	Goberah		Number of the Plains Tribe		
Jerry			46		
No of Men in the Micarrawilling Tribe		6	Number of the Bulcara Tribe		
No of Women & Children		8	11		
Total No of the Micarrawilling Tribe		14	Number of the Micarrawilling Tribe		
The Kinkigyne or Hungary Hill Blacks			14		
Coonijery	Nimbu	King of the Kinkigyne Blacks	Number of the Kinkigyne Tribe		
Glennie	Orripo		28		
Shepid	Ngocung	Deaf & Dumb	Total Number of Blacks in the District of		
Buchannale	Tuloy		St. Patricks Plains		
Monkey	Tulcary		} 99		
Harry			Jas. Glennie J.P.		
Bobby					

Plate 4: James Glennie's August 1829 return for the Patrick's Plains district, Page 3 of 3 (SRNSW, 4/2045)

1834.

RETURN of ABORIGINAL NATIVES, taken at Patrick's Plains 2nd June 1834.

No.	ENGLISH NAMES.	NATIVE NAMES.	Probable Age.	Number of Wives.	CHILDREN.		Designation of Tribe.	Place or District of usual Resort.
					Male.	Female.		
1	Tommy	Wylleary	19	1	-	-	Hungary Hill	Fal Brook
2	Stupid	Pogong	20	-	-	-	do	do
3	Harry	Tellingum	22	1	-	-	do	do
4	Monkey	Kulcary	18	1	-	-	do	do
5	Billy	Wekinda	18	1	-	-	do	do
6	Paddy	Pungum	14	-	-	-	do	do
7	Yellowmouldy	Bowara	14	-	-	-	do	do
8	Ners	Corringut	23	-	-	-	do	do
9	Crooked Billy	Mullanderry	18	-	-	-	do	do
10	Jackey	Cuttagong	21	1	-	-	do	do
11	Old Brandy	Parlombalong	42	-	-	-	Patrick's Plains	Patrick's Plains
12	Bate	Murokura	30	1	1	-	do	do
13	Jimmy	Binosoul	20	1	2	-	do	do
14	Wollombuc	Dungani	40	1	2	-	do	do
15	Old Diamond	Fulo	40	1	1	-	do	do
16	Billy	Mouie	18	-	-	-	do	do
17	Black Boy	Paudotah	28	-	-	-	do	do
18	John	Yullotah	27	1	-	-	do	do
19	Big Jack	Munday	29	1	-	-	do	do
20	Old Jimmy	Carringalar	58	-	-	-	do	do
21	Bot o' Buaa	Banybury	29	1	1	-	do	do
22	Billy	Cungoa	23	-	-	-	do	do
23	Billy Bowum	Carringoomung	28	2	1	1	do	do
24	Jacky	Guero-gura	32	1	-	-	do	do
25	Timrod	Cooraky	26	1	-	1	Glenison	Glenison
26	Babron	Collogary	27	2	1	-	do	do
27	Jimmy	Zoberah	22	2	-	1	do	do
28	Glenon	Cups	32	2	2	-	do	do
29	Jackey	Balbra	40	1	-	-	do	do
30	Jimmy	Derim	26	-	-	-	do	do
31	Foby	Boorall	27	1	1	-	do	do
32	Billy	Mattambone	21	-	-	-	do	do
33	Old Barrall	-	50	-	-	-	do	do
34	Bungary	-	40	-	-	1	do	do

Figure 9 Return of Aboriginal Natives, Patrick's Plains, 2 June 1834. This return lists the 'place of district of usual resort' for the 'Hungary Hill Tribe' as Fal Brook (SRNSW, Reel 3706)

Putting aside early European observers' use of the term 'tribe', in common with other regions of New South Wales (eg, Attenbrow, 2010) and Australia more broadly (Peterson, 1976), available historical records suggest that the primary units of social organisation amongst the Aboriginal language groups present in the Hunter Valley at contact were, in fact, the clan and band. Although these terms are often used interchangeably (eg, Kohen 1993), following Attenbrow (2010), a distinction can be drawn between the two, with clans comprising local descent groups and bands, land-using groups who, though not necessarily all of the same clan, camped together and cooperated daily in hunting, fishing and gathering activities. Individual bands will have habitually occupied and exploited the resources of particular tracts of land within the overall territory of their clan. However, the territorial boundaries of each band will have been permeable or elastic in the sense of complex kinship ties facilitating inter-band territorial movements and the reciprocal use and/or exchange of resources (Brayshaw 1987: 36).

The size of the individual bands occupying the Hunter Valley at contact appears to have varied considerably and was no doubt activity and season dependent (Brayshaw 1987). However, an upper limit of around 70 individuals, consisting of several families, is suggested by available historical records (see, in particular, Table B in Brayshaw 1987). Individual band sizes notwithstanding, much larger groups of Aboriginal people, numbering in the hundreds, are known to have come together for events such as corroborees, ritual combats and feasts (e.g., Anon 1877a; Scott 1929: 32; Threlkeld in Gunson 1974: 55).

Fawcett (1898b) notes the existence of four exogamous clans amongst the Wonnarua, with different clan names for men and women:

"The Wonnah-ruah tribe, like most other tribes, was divided into four classes or clans, and the laws of consanguinity, which existed in this tribe, as other tribes, effectually barred a man's marriage with the women of his own class or clan and also with the class or clan of his mother. Every man in the Wonnah-ruah tribe was either an Ippye (Ipai), a Kumbo, a Murree (Murri), or a Kubbee (Kubbi); and every women an Ippatha (Ipatha), a Butha, a Matha or a Kubbeetha (Kubbitha)" (Fawcett, 1898b: 180).

5.3 Settlement and Subsistence

Available historical records attest to exploitation, for food and other resources (e.g., skins for clothing), of a large and diverse range of terrestrial, avian and aquatic fauna by Aboriginal peoples occupying the Hunter Valley at contact. A broad economic division between 'coastal' and 'inland' groups is also evidenced, with the subsistence regimes of those living along the coast geared principally towards the exploitation of marine foods and those of inland groups based chiefly on the exploitation of land mammals (e.g., Ebsworth 1826: 80).

The diet of inland Aboriginal groups occupying the Hunter Valley at contact consisted of a variety of freshwater animal foods, with kangaroos, wallabies, bandicoots, echidnas, possums, flying foxes, kangaroo-rats, koalas, dingos, lizards, goannas and snakes variously reported as having been hunted and/or eaten (see Brayshaw 1987; Haslam et al. 1984 and Sokoloff 1980 for primary references). Various species of freshwater and estuarine fish, eels and mussels were also consumed, as were turtles (e.g., Anon 1877b; Cunningham 1828: 151; Grant 1803: 61). Possums appear to have been a favoured food, particularly in inland areas, with a number of early accounts detailing their method of capture and remarking on the tree climbing skills of the Aboriginal people involved (e.g., Dawson 1830: 238; Scott 1929: 21). Flying foxes, too, appear to have been actively sought out by groups in both areas (e.g., Anon 1877a; Scott 1929: 23), though not by the Awabakal at Lake Macquarie who held the animal in high esteem (Threlkeld in Gunson 1974: 206). Macropods were sometimes stalked and speared by individual huntsmen (Dawson 1830: 216; Threlkeld in Gunson 1974: 190). However, their capture was more commonly a communal exercise (Dawson 1830: 182; Scott 1929: 20; Threlkeld in Gunson 1974: 191). Threlkeld (in Gunson 1974: 206) and Fawcett (1898a: 153) report the burning off of particular tracts of land to promote new growth and attract kangaroos and wallabies.

References to the hunting and consumption of a variety of birds, including the emu, are also present in the writings of a number of early observers (e.g., Fawcett 1898a; Scott 1929: 23; Threlkeld in Gunson 1974: 55, 65). Fawcett (1898a: 153) reports the use of nets to trap emus and use of returning boomerangs to bring down "ducks and other birds". Larvae, namely 'Cabra' or shipworm (*Teredo navalis*) and other tree dwelling grubs, appear to have been a popular foodstuff in both coastal and inland areas (Anon 1877b; Scott 1929: 21-22). Honey collected from the hives of native bees was both eaten directly and mixed with water to form a sweetened drink (Breton 1833: 195; Dawson 1830: 60; Scott 1929: 34-35; Threlkeld in Gunson 1974: 67, 124).

Compared with their faunal counterparts, the plant food resources of coastal and inland groups are poorly represented in the writings of early colonial observers. Nonetheless, available descriptions do suggest that plants formed a regular part of the diets of groups in both areas. Fern roots, likely those of the bracken fern (*Pteridium esculentum*) and various water ferns (*Blenchum spp.*), appear to have played an important role in the diets of those Aboriginal people occupying the estuarine reaches of the Hunter River (Barrallier 1802: 81-82; Dawson 1830: 92; Ebsworth 1826: 71; Threlkeld in Gunson 1974: 19). Other plant foods mentioned in the writings of early observers include yams, macrozamia seeds, various fruits and the stems of the water lily (Backhouse 1843: 380; Caswell 1841; Scott 1929: 41; Threlkeld in Gunson 1974: 74). Nectar obtained from the blossoms of the grass tree (*Xanthorrhoea spp.*) and flower spikes of the dwarf banksia was also consumed (Dawson 1830: 244).

Regarding levels of residential mobility, available records suggest that this was generally quite high. Fawcett (1898a), for example, notes of the Wonnarua that: "they had no permanent settlements, but roamed about from place to place within their tribal district, in pursuit of game and fish, which was their chief sustenance, making use periodically of the same camping grounds, generation after generation, unless some special cause operated to induce them to abandon them". Dawson's (1830: 172) observation that "they [being the Aboriginal people of the Port Stephens area] seldom...stay more than a few days at these places [their camps], frequently not more than one night" is similarly suggestive, as is the 1877 observation, by an anonymous long-term resident of Maitland, that the Aboriginal people with whom he was familiar in the Maitland area "appeared to lead a very restless kind of life, constantly on the move, shifting their camps from one place to another, seldom remaining more than three or four days in one camp" (Anonymous, 1877d). Along the coast, Sokoloff (1980: 8) has suggested seasonal differences in settlement duration, noting that "the relative abundance of marine sources of food in summer tended to make the natives more sedentary at this time".

As for the selection of campsites, we are limited to Fawcett's (1898a: 152) observation that "in choosing the site, proximity to freshwater was one essential, some food supply a second, while a vantage ground in case of attack from an enemy was a third important item".

5.4 Material Culture

Aboriginal material culture is explicitly linked to the natural environment and resource availability. For the Hunter Valley, available historical records identify an extensive array of hunting and gathering 'gear' and provide detailed insight into associated materials and manufacturing processes. The form and construction of everyday domestic structures are likewise well documented. Brayshaw (1987), in particular, provides a useful synthesis of both forms of material culture and highlights regional variability in raw material acquisition and utilisation between coastal and inland groups.

Campsites and domestic structures are well-represented in the accounts of early observers and were often the subject of illustration (Plate 5 and Plate 6). Huts, commonly referred to as "gunyers" or "gunyahs", were of timber and bark construction. Fawcett (1898a: 152) describes the form and construction of huts as follows:

"A couple, or three, forked sticks, a few straight ones, and some sheets of bark, stripped from trees growing nearby, supplied the requisites for the construction of their home. The forked sticks were thrust into the ground and the straight ones placed horizontally in the forks. The sheets of bark were then set up against the horizontal poles in a slanting position, the bark of the structure being toward the windy point of the compass. The sides were frequently enclosed for further shelter, but the front was generally open. Before each one was a small fire, which was seldom allowed to go out, and which was used for warmth, or to cook by".

Similar hut forms and construction methods can be found in the accounts of several other early observers, for example, Scott (1929: 13), Dawson (1830: 171-72), Caswell (1841) and Threlkeld (in Gunson 1974: 45).

Alongside its use in hut manufacture, tree bark also served as the primary construction medium for canoes, an integral component of the material culture repertoire of Aboriginal peoples occupying the Hunter Valley at contact. Available descriptions indicate that canoes were manufactured by bending, with the assistance of fire, a suitable sheet of bark into shape and securing the ends with bark cord or other 'wild vines' (Ebsworth 1826: 82; Dawson 1830: 79; Fawcett 1898a; Mrs Ellen Bundock in Brayshaw 1987: 60; Scott 1929: 38-39; Threlkeld in Gunson 1974;). Scott (1929: 39) reports that the gaps between the cord bindings at either end of the canoe were plugged with clay. Clay hearths were also added for warmth and cooking (Threlkeld in Gunson 1974; Scott 1929: 39). At Lake Macquarie, leaking canoes were repaired by sewing patches of tea tree bark over damaged areas and sealing them with melted grass tree resin (Threlkeld in Gunson 1974: 54).

Spears, which feature prominently in the literature, were an important component of men's 'gear' and were used in hunting, fishing, combat and ceremony (Scott 1929: 35; Threlkeld in Gunson 1974: 67-68). Spears for all purposes, Brayshaw (1987: 65) notes, were of composite manufacture and alongside sea shells, iron tomahawks and pieces of bottle glass, were important trade items, with significant numbers traded inland for possum skin rugs and fur cord (Dawson 1830: 135-136; Threlkeld in Gunson 1974: 65). Various hard woods and grass tree stems served as primary spear shafts and were shaped using shell scrapers and pieces of glass (Dawson 1830: 67, 135; Scott 1929: 35; Threlkeld in Gunson 1974: 67-68).



Plate 5 Joseph Lycett's '*Aborigines resting by camp fire, near the mouth of the Hunter River*', c.1820 (Source: National Library of Australia)



Plate 6 Augustus Earle's '*A Native Camp of Australian Savages near Port Stevens, New South Wales*', 1826 (Source: National Library of Australia)

Threlkeld (in Gunson 1974: 67) describes the manufacture and use of three different types of spears in the Lake Macquarie area, namely the fishing spear, the hunting spear and the battle spear. Primary shafts, in all three instances, comprised grass tree stems. However, differing types of points were added according to function. For the fishing spear, Threlkeld (in Gunson 1974) describes the affixing of bone barbs onto three or four 'shorter spears' of fire-hardened wood, themselves fastened to the main spear shaft with bark thread and grass-tree gum, while the hunting spear is described as being equipped with a single hard wood point. The battle spear, Threlkeld (in Gunson 1974: 67) reports, also had a single hard wood point but differed from its hunting counterpart in having "pieces of sharp quartz stuck along the hard wood joint on one side so as to resemble the teeth of a saw" (Threlkeld in Gunson 1974: 66). The substitution of glass for quartz on battle spears is also known to have occurred. In common with the Lake Macquarie area, Scott (1929: 35) notes the use, around Port Stephens, of different types of spears for hunting, fishing and combat. Differing functions aside, spears of all varieties were launched using spearthrowers or woomeeras, also of composite manufacture (Brayshaw 1987: 66).

Hatchets, like spears, were an important component of men's 'gear' and were used for variety of tasks including bark and wood removal, animal butchery, cutting toeholds in trees to facilitate climbing and extracting game and honey from logs and trees (Anon 1877a; Dawson 1830: 202; Scott 1929: 41; Threlkeld in Gunson 1974: 67). Known as *mogo*, hatchets were composite implements consisting of an edge-ground stone hatchet head and withe or flat, hardwood handle, the former secured to the latter using grass tree resin and cord (Dawson 1830: 202; Fawcett 1898a: 153; Scott 1929: 40). Hatchets, Scott (1929: 5) notes, were carried by men in belts worn around the waist. Post-contact, stone hatchets appear to have been rapidly replaced by iron substitutes (Brayshaw 1987: 66; Dawson 1830: 16).

Other notable items of men's gear described in the accounts of early observers include several types of hard wood clubs, two types of shield (one broad and one narrow) and returning and non-returning hard wood boomerangs (Anon 1877b; Scott 1929: 36-38; Threlkeld in Gunson 1974: 41, 68). Threlkeld (in Gunson 1974: 68) also describes the use of a "wooden sword" similar to a boomerang but with "a handle at one end with a bend contrary to the blade".

As for women's gear, Brayshaw (1987: 65) notes that, in addition to their daily use in gathering activities, digging sticks, also known as yamsticks, were status symbols that were sometimes used during altercations. These implements, up to 2 m long and around 4 centimetres (cm) in diameter, were manufactured out of hardwoods, were fire-hardened and typically not decorated (Brayshaw 1987: 65). Cord used in the manufacture of fishing lines and nets was made by women using the bark of various trees (e.g., the Cabbage-tree (*Livistona australis*) and the Kurrajong (*Brachychiton populneus*)) and is reported as having been extremely strong and durable (Ebsworth 1826: 79; Dawson 1830: 67; Scott 1929: 17). Dilly-bags were used by women for carrying small items such as fish-hooks, prepared bark cord, lumps of grass tree resin and food (e.g., fish and shellfish) and were worn slung around the head and draped down the back (Ebsworth 1826: 79-80).

Fish-hooks were reportedly manufactured out of oyster and pearl shell (Caswell 1841; Dawson 1830: 66, 308; Ebsworth 1826: 79; Threlkeld in Gunson 1974: 54). Threlkeld (in Gunson 1974: 54) reports that a suitable shell was simply "ground down on a stone until it became the shape they wished". However, Dyall's (2004) analysis of excavated examples from the Birubi Point midden complex suggests a more complex, multi-stage production process. Pieces of fine sandstone, shale and quartzite were used for filing down the hooks (Sokoloff 1980: 23).

Awls or 'needles' manufactured out of kangaroo bone were used in the repair of canoes and the sewing of skin cloaks (Fawcett 1898a; Threlkeld in Gunson 1974: 54). Items of clothing, where worn, included spun possum-fur belts, worn only by men, possum fur headbands and cloaks or rugs made from sewn kangaroo and possum skins (Dawson 1830: 15-16; Scott 1929: 5). Cloaks were worn by both men and women.

Alongside women's dilly bags, early accounts indicate the production and use of a variety of other containers, with tea tree bark a common construction material. Threlkeld (in Gunson 1974: 67, 156), for example, refers to tea-tree bark 'cups' and wooden 'bowls' "formed from some large protuberance of a growing tree" while Dawson (1830: 250) refers to "small baskets" made from tea tree bark.

Notably, references to the production and/or use of flaked stone artefacts are virtually absent from the historical record. Excluding hatchets, Threlkeld's (in Gunson 1974: 67) reference to the use of "pieces of sharp quartz" for barbing battle spears remains the only known primary reference in this respect. Brayshaw (1987: 68), for her part, has proposed that effective absence of flaked stone artefacts from the historical record may be a product of the fact that such artefacts were not being used at the time of European settlement, having been replaced with other materials (e.g., shell, glass, wood and bone)³. However, she also acknowledges that their use may simply have escaped the notice or interest of early observers.

5.5 Ceremony and Ritual

Evidence for ceremonial or ritual behaviour amongst the Aboriginal groups occupying the Hunter Valley at contact can be found in the accounts of a number of early observers (e.g., Anon 1877c; Dawson 1830; Enright 1936; Fawcett 1898a, 1898b; Scott 1929; Threlkeld in Gunson 1974), with documented 'ceremonial' activities including corroborees, male initiation ceremonies, marriage, ritual combat and various burial, body adornment and modification practices. Although limited in number, references to spiritual beliefs of the Aboriginal groups occupying the region are also present and attest to regional variability in belief systems.

Male initiation ceremonies, in which boys were "initiated into the privileges of manhood" (Fawcett 1898a: 153), are described by Enright (1936), Fawcett (1898a), Scott (1929) and Threlkeld (in Gunson 1974). Amongst the Wonnarua, Fawcett (1898a: 152) notes that the male initiation ceremony was known as *Boorool*. Enright (1936: 86), writing on the Worimi people, refers to the ceremony as the *Keeparra* while Scott (1929: 29) cites the terms *poombit* and *bora* in his recollections, noting that the latter was a colloquial term for the former. Initiation grounds, referred to by Scott (1929: 29) as 'poombit grounds', were elaborately prepared and consisted of one or two⁴ cleared circles in secluded areas of bushland. Images of animals and other designs were carved into surrounding trees and, in some cases, "figures of raised earth were created on the ground" (Brayshaw 1987: 83). Threlkeld (in Gunson 1974: 50-51, 63-65) describes attending, in November 1825, a ceremony "prepatory [sic] to removing the front tooth of several young men who would then be capable of marrying a wife". The site of this ceremony, Threlkeld (in Gunson 1974) reports, was known as the "Mystic Ring, or "Porrobung" and consisted of a circle "thirty-eight feet in diameter" with a small hillock at its centre. Trees near the ring were marked with "representations of locusts, serpents &c on the bark chopped with an axe".

As for the ceremonies themselves, Enright (1936: 87) reports that the *Keeparra*, in which "candidates learnt all those laws which governed his future life", lasted approximately one month but was "only a prelude to a long system of instruction which lasted some five years". Fawcett (1898a: 154), meanwhile, describes a ceremony involving tests of skill and endurance, the teaching of tribal laws, "emblematical dances" and the restricted involvement of women. Scott (1929: 28-34), too, describes the restricted involvement of women and dancing in the *poombit* or *bora* ceremonies of the Port Stephens area. Alongside their other important roles, medicine men or native doctors, known as *Karaji* (also spelt *Karadjys*), appear to have played an active role in initiation ceremonies and, together with group elders, were responsible for overseeing initiates' observance of instructed laws (Enright 1936; Fawcett 1898a).

Alongside its use in the initiation ceremonies described above, body painting with animal fat and/or ochre was undertaken as part of corroborees and for the purposes of ritual combat. For men, tooth avulsion, body scarification and septum piercing appear to have been undertaken in ceremonies subsequent to that associated with initiation (Fawcett 1898b; Scott 1929). Regarding items of personal adornment, Miller (1887: 3543) notes that the "principal ornament" of the Wonnarua was a "nautilus shell cut into an oval shape and suspended from the neck" while Fawcett (1898a: 153), also writing on the Wonnarua, reports that "the girls often adorned themselves with flowers, bone or reed ornaments, and shell necklaces". References to the dressing of men's hair in a conical form with tufts of grass attached are present in Dawson (1830) and Anon (1877c).

³ Historic references (e.g., Dawson 1830: 67, 135; Scott 1929: 35) to the use of shell scrapers and/or fragments of bottle glass for the shaping/sharpening of wooden spears provide some support for this suggestion.

⁴ Where two circles were used, these were separated by a distance of up to 400 m.

Available historical records suggest that burial in the earth was the most common form of burial practised by Aboriginal groups occupying the Hunter Valley at contact, with tea tree bark widely used as a burial shroud (Fawcett 1898b: 180; McKiernan 1911: 889; Miller 1887: 354; Scott 1929: 3; Threlkeld in Gunson 1974: 47, 89, 100). Grave goods consisted of items of personal gear such as spear and hatchets (McKiernan 1911: 889; Threlkeld in Gunson 1974: 47, 89, 100). Cremation is also known to have been practiced but is poorly represented in the historical record (Threlkeld in Gunson 1974: 99).

Regarding inter-group conflict, Haslam et al. (1984) have noted of the Hunter Valley as a whole that, although skirmishes were common, major clashes were infrequent. Ritual combat appears to have been linked principally to unsanctioned territorial incursions and the abduction of women (Fawcett 1898b).

Gunson (1974) notes a distinct difference between the spiritual beliefs of the Aboriginal groups occupying the inland and coastal portions of the Hunter Valley at contact. In contrast to the Awabakal of Lake Macquarie⁵, for example, whose supreme spiritual entity was known as *Koun* (pronounced cone), the inland Wonnarua and Kamilaroi are believed to have honoured *Biame*, the 'Sky Father' or 'Great Spirit', who is understood to have created the earth and to have given the Wonnarua and Kamilaroi their laws, traditions, songs and culture. In 'Biame Cave', a rockshelter site located on the western side of Bulga Creek, in Milbrodale, southwest of Singleton, Biame is famously depicted in human form with long, outstretched arms and large eyes (Figure 10). Surrounding motifs include boomerangs, hand prints, hafted stone axes and a series of perpendicular lines interpreted as the upper ends of spears.

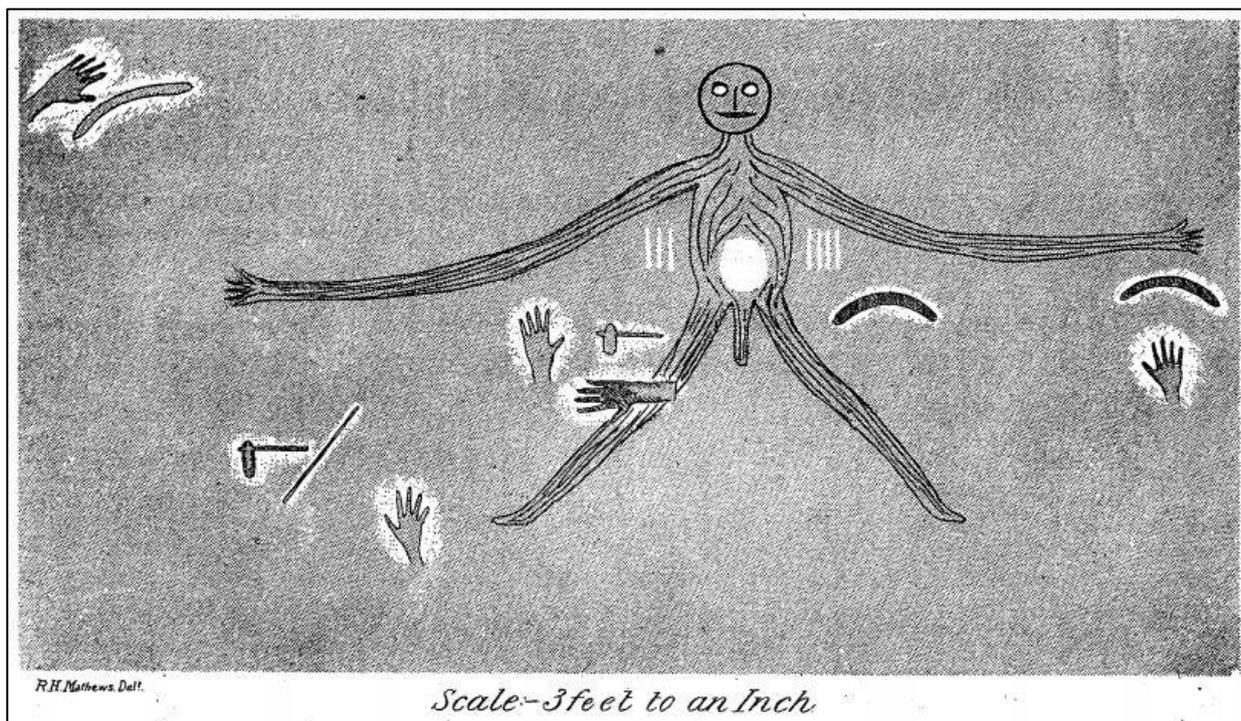


Figure 10 Depiction of Biame in Biame Cave, Milbrodale, as recorded by Matthews (1893) (from Matthews 1893: Plate XIX)

5.6 Post-contact History

As in other parts of NSW and Australia more generally, the early post-contact history of the Aboriginal people of the Hunter Valley is primarily one of dispossession and loss, with traditional hunting and

⁵ Dawson's (1830: 153, 158, 163, 219, 220, 322) multiple references to an "evil spirit of woods" known as "Coen" suggest that the Worimi of the Port Stephens area, like the Awabakal, venerated *Koun* as opposed to *Biame*.

camping grounds rapidly claimed and settled by Europeans and populations decimated by introduced diseases. However, active resistance and friendly relations are also attested in available records.

5.6.1 Dispossession and Resistance

Concerted Aboriginal resistance to European colonisation of the mid-to-upper Hunter Valley commenced in the mid-1820s, with the opening of the valley for free settlement in 1822 prompting a land rush that fairly rapidly placed the region's resident Aboriginal population and European colonisers at loggerheads with each other. Initially, at least, the relationship between the two parties appears to have been one of relative peace, with few reported incidents of violence prior to 1825⁶ (Dunn, 2015: 188-95; Miller, 1985: 33). As Dunn (2015: 190-91) has observed with reference to the Hunter Valley more broadly:

*Initially the establishment of European farms did not seriously impinge Aboriginal movements across the country. In the first months and in some cases years after establishment, few of the estates had fence lines or enclosed lands, with large areas of the surrounding forest remaining uncleared. Aboriginal food sources were maintained to some degree, with access to grey kangaroo, possum, bandicoot and other small mammals and reptiles still available in the forests and across the open grassland, as were the freshwater mussels from the river and its tributaries. Yams were a staple through the valley, growing in the alluvial soil close to the river, with the seeds of the *Zamia spiralis*, berries of the *Exocarpos cupressiformis* or Native Cherry also included in the diet.*

However increasing numbers of European livestock, growing areas of cultivation and European farms along the rivers did begin to compromise traditional food sources by the mid-1820s. European hunting of kangaroos and emus with dogs for sport disrupted this food source, scattering mobs from their feeding grounds. Flocks of sheep tended by shepherds and herds of cattle let loose in the bush gradually trampled native pastures. New settlers now ensconced on their grants, worked to clear the land, erecting huts and planting orchards while their convict servants built fences, systematically locking in land parcels. Their growing sense of entitlement and ownership appears to have worked to harden their views on an Aboriginal presence in their neighbourhood. So, soon after many of these settlers had utilised the skills of Aboriginal guides and interpreters, they were putting in place measures, often threatening or violent, to exclude Aborigines from the very country they had led them through. Evidence of extreme violence and depravity committed by European settlers and their convict servants were seemingly overlooked in the quest to secure land and property.

By late 1825, simmering tensions in the mid-to-upper Hunter, rooted in Aboriginal peoples' loss of access to traditional hunting and fishing grounds, a sharp decline in the availability of economic plant and animal resources and individual acts of physical violence against Aboriginal individuals and/or groups, boiled over into violent conflict. Regardless of the terminology used, be it a 'war' or 'uprising', available historical source materials for the mid-to-upper Hunter Valley attest to a short but intense period of Aboriginal-European conflict between late 1825 and mid-1827, with the conflict here, as in many other parts of NSW, characterised by a series of 'incidents'⁷, each linked to a particular set of circumstances (Dunn, 2015: 189).

Dunn (2015), drawing on the results of an exhaustive review of Aboriginal-European relations in the Hunter Valley between 1820 and 1850, has identified an October 1825 incident on James Greig's farm 'Martindale', south of present-day Denman, as the 'opening act' of the short but intense period of conflict referred to above. On the 28th of October 1825, two settlers, Mr Forsyth and Mr Allen, called at James Greig's farm for breakfast only to discover what they believed to be Greig's dead body on the floor of his hut, as well as his convict servant missing, presumed dead (The Australian, 10 November 1825: 3). The deceased, as it was later confirmed, was actually Greig's cousin, Robert Greig, whom the former had charged with tending to his property and livestock while in Sydney on business. Newspaper reports at the time provided no obvious cause for Greig's killing, though local magistrates sent to investigate raised Greig's known aversion to Aboriginal people as a potential motive (Scott and

⁶ As Miller (1985) has noted, the fact that Aboriginal-European relations during the initial years of settlement appear to have been more-or-less cordial is of particular note given both the rapidity of European settlement at this time and well documented violence occurring in the adjoining Bathurst Plains region.

⁷ Often violent in nature

McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 610). James Grieg himself, writing to this brother in Scotland the following year, said he could not tell the exact cause of the attack but noted that he had been informed by a friendly Aboriginal man that Robert had beaten another Aboriginal man, which had “irritated the tribe he belonged to” and caused his “ultimately end” (Grieg to his brother, 11 November 1826, ML, Doc 2316). In letter to a friend, penned on the same day, Grieg explained the situation further, stating that “[a]lthough the black natives are by no means hostile, [they] are always very revengeful when injured by any white person” (Grieg to Andrew Kettie, 11 November 1826, ML, Doc 2316) That Robert Grieg’s individual conduct was the motive for his murder was reinforced by Lancelot Threlkeld, who informed then Attorney General, Saxe Bannister, that he had heard that Grieg had struck the Aboriginal man and driven his party from the property (Gunson (ed), 1974: 91). Cunningham’s (1827: 36-37) account of the incident identifies an Aboriginal man named Nullan-Nullan (“the beater”) as the perpetrator, with Cunningham describing how Nullan-Nullan, after approaching in a friendly manner, had “glided behind” Grieg and killed him with a single blow to the back of the head. Upon killing Grieg and plundering the hut, Nullan-Nullan and his party are reported to have withdrawn southward, into the mountains, with Cunningham (1827: 37) and magistrates Scott and McLeod describing this action as a retreat made in fear of European retaliation (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 610). An attack on two European shepherds in the Putty area, one of whom was killed, followed soon after, and prompted the colonial authorities to send a party of soldiers from Windsor to Putty to apprehend the individuals involved. In a clear escalation of violence, the soldiers intercepted and killed several members of what would later be determined to be a friendly Aboriginal group (Cunningham, 1827: 38-39).

Although linked to the attack on Grieg’s property by Cunningham (1827), available sources suggest that the Putty attacks were, in fact, rooted in events that occurred several years earlier. In an 1839 letter to magistrate Robert Scott, George Bowman of ‘Archerfield’, near Singleton, recounted how the two men attacked at Putty had played a central role in Governor Macquarie’s 1816 punitive military expedition along the Hawkesbury-Nepean River, which would see at least 14 Aboriginal men, women and children massacred at Appin (the so called ‘Appin massacre’). Bowman, whose reminiscences of Aboriginal-European conflict in the Hunter Valley were requested by Scott, described the situation as follows:

In 1825 a party of Natives from Richmond and another from the Hunter met at Putty on the old Hunters River road and killed one man and left the other as they supposed dead, but who was found by Mr. G. Bowman’s overseer and men when driving his sheep to the Hunter, in a speechless state, his head crawling with worms in the wounds received from the Blacks.

This murder was supposed and believed to be true, from information received from other Natives, to have taken place through those two men having been instrumental in having some of the natives apprehended in 1816 or 17, when Governor Macquarie offered the reward for and outlawed by his proclamation. The Natives were not allowed to carry any warlike instruments within a certain distance of any White Man’s Dwelling on pain of being dealt with according to Martial Law. The military did not attempt to take the Blacks and make prisoners of them, but shot all they fell in with and received great praise from the Government for so doing. (Bowman to Scott, 5 January 1839, Indigenous Peoples File: Correspondence on Black Natives, Upper Hunter 1826, Singleton District Historical Society)

In June 1826, colonial authorities, responding to various “acts of violence” in the ‘upper districts’ of the Hunter⁸, deployed ten soldiers, with accompanying bush constables, inland from Newcastle. Several Aboriginal men suspected of involvement in recent robberies and attacks were captured in turn. However, all managed to escape (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 611). An attack on George Forbes’ Edinglassie estate around the same time saw one of the settler’s Merino sheep killed, a shepherd in his employ speared through the shoulder and a hut on the property plundered⁹. In their report to the Colonial Secretary, magistrates Scott and McLeod note that an Aboriginal man, known as Billy, was subsequently apprehended for his involvement in the raid and jailed in Newcastle. Shortly after the raid on Forbes’ property, a stockmen working on the Ravensworth

⁸ Alongside the murder of Grieg, Scott and McLeod’s report to Colonial Secretary McLeay refers to “several petty robberies” on the road above James Bowman’s Ravensworth estate, as well as raids on the farms of Peter McIntyre (Segenhoe) and Francis Little (Invermien), with McIntyre reportedly pursuing the raiders until forced to retreat.

⁹ Note that soon after the raid on Forbes’ property, local magistrate William Ogilvie, accompanied by a “friendly” Aboriginal man, was able to track down the raiding party and negotiate the return of items taken from the settler’s hut.

estate of James Bowman, located around 25 km southwest of Edinglassie, was attacked and stripped naked, with the same individual killed two days later. A raid on James Chilcott's farm, located on Fal Brook, a few kilometres east of Bowman's estate, followed only days later, with Scott and McLeod reporting the involvement of the "same Natives", who "attempted by force to plunder the house" before being repelled (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 611).

To assist the troops already deployed to the region, on 24 June 1826, Governor Darling ordered a detachment of Mounted Police, commanded by Lieutenant Nathaniel Lowe of the 40th regiment, to the region (Chaves, 2007: 130). Shortly after Lowe's arrival in the valley, *The Australian* reported that "the natives who lately committed such havoc among the stockmen ...retreated to the other side of the mountains" (*The Australian*, 24 June 1826). Regardless, continued Aboriginal threats of further raids prompted the deployment of additional troops to support Lowe, with the killing of Aboriginal people commencing in July (Chaves, 2007: 130). Scott and McLeod, for their part, report the shooting of four individuals, one of whom was deemed responsible for the death of Dr Bowman's stockman. All were shot while in custody (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 611). By August, rumours of Aboriginal people being killed "peculiar circumstances" were starting to emerge from the region, with Threlkeld, for example, informing the Attorney General that Aboriginal people at the Bahtahbah mission, along with those arriving from the mountains, were reporting indiscriminate shootings and hangings, as well as the massing of bands of warriors in the mountains for a wide-scale attack across the valley (Gunson (ed), 1974: 92). Upon hearing the rumours, and conferring with Captain Allman at Newcastle, Governor Darling ordered an investigation by local magistrates Scott and McLeod, who prepared their report for his review (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12). Despite his earlier instructions from Lord Bathurst to oppose hostile Aboriginal incursions across the Colony with force and his belief, in this particular arena, in the "criminality of the natives", Darling made it clear that "the massacre of prisoners in cold blood" was unacceptable as "as a measure of justifiable policy" (Darling to Bathurst, 6 October 1826, HRA, Vol. 12: 623). Unsatisfied with the level of information provided by Scott and McLeod, Darling would soon order a second investigation into Aboriginal-European hostilities in the Hunter, which was undertaken by Scott and another local magistrate, E.C. Close. As part of this second investigation, Lowe and others, including local settlers John Larnach of "Rosemount" and James Glennie of "Dulwich", provided depositions in which they outlined their own versions of events. These depositions document various acts of violence against Aboriginal people, including multiple shootings, with those deposed invariably framing such incidents as justifiable responses to attempted escapes (see Dunn, 2015: 202-204).

In contrast to the 'sanitised' depositions of Lowe and his party, other contemporary sources paint a much darker picture of the unfolding conflict (Dunn, 2015: 204). In an August 1826 letter to Saxe Bannister, for example, Threlkeld described how, upon visiting one of the two fencers attacked on James Bowman's property in Newcastle hospital, he was informed by the fencer that Lowe's troops had captured and summarily executed an Aboriginal man who, while part of the group involved in the attack, was not involved in physically injuring him (Threlkeld to Bannister, 21 August 1826). Ultimately, inconsistencies in Scott and McLeod's initial inquiry, coupled with obfuscations in Scott and Close's second inquiry, prompted Governor Darling to order a third investigation, which saw Acting Attorney General W.H. Moore travel to Newcastle and Wallis Plains in January 1827 (Dunn, 2015: 205). As part of his inquiries, Moore sought Threlkeld's opinion on the situation, who informed him, on the basis of information provided by his own Aboriginal informants, of three troubling incidents. These included the execution of a man, later identified as Jackey Jackey, at the gaol in Wallis Plains, the shooting of an escapee near the Hunter River and a macabre shooting / hanging on James Bowman's Ravensworth estate (Gunson (ed), 1974: 95).

By mid-July 1826, Lowe's actions in the valley appear to have subdued Aboriginal peoples' resistance activities. In a letter to Lieutenant De La Condamine, penned on 18 July 1826, Captain Allman informed his superior that "no acts of violence have been committed by the Aborigines in this District from some weeks past; and, from the preserving exertions of Lieut. Low and his Detachment, there is every reason to hope for permanent tranquillity" (Allman to De La Condamine, 18 July 1826, HRA, Vol. 12: 622). Hostilities, however, soon resumed, with August 1826 witness to two major incidents, the first occurring on William Ogilvie's Merton estate and the second on Captain Robert Lethbridge's Bridgman estate at Fal Brook. That on Ogilvie's property, which ended without bloodshed, saw around 200 painted and armed warriors, led by an Aboriginal man known as Jerry, approach the farm, their presence prompted by two recent on-property incidents involving the wrongful detainment of Jerry

and, earlier, two boys named Tolou and Mirroul¹⁰ (Wood, 1972: 121-123). The confrontation at Merton, which would see Mary Ogilvie and her second son, Edward, who had learnt the local language, deescalate a potentially violent situation, is described in detail in Mrs Ellen Bundock's (1932) memoir of her childhood at Merton:

Amongst my recollections of my childhood was playing with my brother Fred outside of the house when on looking up we suddenly saw the whole hill covered with Blacks all armed to the teeth except the King or Chief Jerry who was most amicable to us - a fine dignified looking man. He was clothed in an opossum skin rug and strips of fur round the loins - he kept shaking hands with each of us in turn to convince his subjects that he was on friendly terms with us. Our father was absent in Sydney just then so our Mother was alone with us children and only a few convicts about the place. The only weapon the Chief had was a Waddy stuck in his belt which was worn on all occasions by the natives. He kept going amongst the other blacks trying to quiet them and last they filed away over the hills to our inexpressible relief having only taken a little corn from a shed at hand and having shaken all of the Constable's rations on the ground.

The cause of all this trouble and of the Blacks anger was an act of treachery committed by the Constable and soldiers who were left for our protection and who were placed under our Mother's orders. These soldiers had persuaded some of the Blacks to come to Merton under pretence of seeking guides to go after the Bush rangers but when the Blacks came they seized two of them (our chief Jerry and another man) believing that this Jerry was a murderer of the same name for whom a reward was offered. Our Mother...had seen the Constable and soldiers struggling with two Blacks, one of whom escaped and the other they forced into the hut. She...insisted on seeing the Black they had shut up who proved to be Jerry our Chief and on our Mother's declaring who he was and that he was not the murderer the soldiers released him, but fearing the indignation of the Blacks at their treacherous dealing with them they deserted us, clearing away in the night and leaving us to reap the consequences of their bad conduct which might have resulted in the loss of all our lives...[T]he blacks said to the last that if they had found the constable and soldiers they would have murdered them all for their treachery.

Contemporary accounts of the incident at Merton are full of praise for Mrs Ogilvie conduct. The Australian, for example, applauded her "great degree of resolution" (The Australian, 9 September 1826: 3), while Governor Darling reported to London that Mrs Ogilvie "had acted with much judgement and spirit" (Darling to Hay, 9 September 1826, HRA, Vol. 12: 574). Cunningham, too, referred to Mrs Ogilvie's actions as "[a] fine instance of intrepidity". While Mary and Edward Ogilvie's actions were undoubtedly brave, as Dunn (2015: 209) has observed, the crisis at Merton also highlights "the intimate nature of the frontier", with the Ogilvie family's personal friendship with Jerry and Edward's knowledge the local language serving to defuse what could well have been a deadly confrontation.

Unlike that at Merton, the incident at Robert Lethbridge's Bridgman estate would involve significant bloodshed and precipitate what is colloquially known as the 'Ravensworth massacre'. On the 28th of August 1826, a group of approximately 15 Aboriginal men gathered at the hut of Richard Alcorn, overseer for Lethbridge's Bridgman estate. Alcorn's hut was situated on Fal Brook, around half a mile upstream from Dulwich, the homestead of James Glennie and around a quarter of a mile from James Chillcott's hut, which had, as noted above, been recently raided. Alcorn's wife, Charlotte, is reported to have offered the group some kangaroo to eat, which they took and roasted on a nearby fire (Deposition of John Woodbury, 29 August 1826, HRA, Vol. 12: 613-614)). The warriors also requested maize and bread but were told that there was none. A few of the assembled warriors entered the hut though none showed any signs of violence. Around 4pm, Alcorn returned to the hut and was reportedly unsettled by the presence of so many armed warriors, three of whom he recognised as being involved in the raid on Chillcott's farm. After discussing the situation with John Woodbury, a stockman of Thomas Cullen who was present at the hut, the two men ordered the group to leave. This order, according to Woodbury's testimony, sparked a fierce attack by the assembled warriors, which ultimately resulted in the wounding of Woodbury and Alcorn and the deaths of two other Europeans, Henry Cottle and Morty Kernan. After raiding adjoining workers' huts for bedding and blankets, the warriors are said to have retreated into the bush (Deposition of John Woodbury, 29 August 1826,

¹⁰ Tolou and Mirroul, whose European names were Ben and Denis, had been arrested at Merton in mid-August, allegedly for the spearing of cattle. Both were transferred to Newcastle goal on 16 August 1826.

HRA, Vol. 12: 614). Mounted troops alerted to the unfolding incident pursued the group the same day but were unable to locate them.

Robert Scott, the nearest magistrate, arrived at Alcorn's hut the following day and concluded that the warriors involved were not those involved in other incidents in the district, though Woodbury identified four by name, including three he believed to have been involved in the attack on Chilcott's farm (Deposition of John Woodbury, 29 August 1826, HRA, Vol. 12: 614; Deposition of Robert Scott, 30 August 1826, HRA Vol. 12: 615). Scott was quick to organise a posse to track down the group involved and three days later, approximately 20 miles (32 km) from Alcorn's hut, "came up with the murderers" (Scott and McLeod to McLeay, 3 October 1826, HRA, Vol. 12: 612). According to Scott and McLeod's brief account of the event, a 'skirmish' ensued, with one European speared in the face, two Aboriginal warriors killed and "some more" wounded. However, a more detailed account of the event in *The Australian*, published on 23 September 1826 and reproduced in part below, listed the number of Aboriginal dead at 18, with two others reportedly taken into custody:

Further particulars have been communicated to us of the fight with the blacks in the district of Hunter's River. It appears that as soon as it was made known that the black fellows had committed the outrage on Mr. Lethbridge's farm, three of the Mounted Police, accompanied by Mr. Scott and some prisoners, and some friendly natives, set out in quest of them. Having continued the pursuit for some time, they at length discovered their tract, and afterwards lost it, but on the following day they were fortunate enough to fall in with it again, and by the light of fires which the hostile tribes kindled towards evening, the precise spot they occupied was soon ascertained. Two men, one a white man, and the other a black, were sent forward to reconnoitre their position, &c. and as they came suddenly upon them they were descried by the party of blacks, who immediately set up the cry "Kill white man." Upon this the two being each provided with a musket (the blacks are good shots, we are informed) fired among them, and then retired behind trees to reload. At this moment a spear was hurled which struck the native black on one side of the face, pierced his cheek, and protruded through the opposite cheek, having passed curiously enough through a hollow in the mouth, occasioned by the loss of a tooth! The remainder of the pursuers hearing the firing, hastened to the spot, and as the whole of them, mounting probably to about sixteen, were furnished with muskets — they discharged these among the sable enemy. A hot conflict followed, the natives maintaining their ground, and making the most dexterous use of their spears. At last they were obliged to yield, betake themselves to flight, leaving behind them about eighteen of their comrades who were numbered with the dead. A man and his gin were taken prisoners. The attacking party sustained no loss of lives. (The Australian, 23 September 1826)

As with most incidents of conflict in the mid-to-upper, the exact location of the Ravensworth massacre site remains unclear. Gollan (1993), for her part, has argued that the Mount Arthur area is the most likely place for the massacre to have taken place. According to Gollan, this area was the only portion of the upper Hunter that had not been taken up by European settlers by this time and likely functioned as a 'bastion' for post-contact Aboriginal occupation. A contemporary reference¹¹ to the Aboriginal warriors involved in the attack retreating to the "mountains" is likewise deemed indicative by Gollan, as is the Mount Arthur area's 'strategic' location with respect to launching the kinds of attacks witnessed up to that point. Contra Gollan's interpretation, Umwelt's (2004) analysis of the incident, undertaken as part of an Aboriginal heritage assessment for the Glendell open cut coal mine, casts doubt on the suggestion that the massacre took place to the west of Alcorn's hut (i.e., "up" valley, towards Mount Arthur). As Umwelt (2004) explain, contemporary accounts of the incident imply

...that the Aboriginal people that took part in the attack came from the mountains and were returning to the mountains when the reprisal attack (massacre) took place. The account by Scott and MacLeod (HRA XII 1826: 612) also suggests that at least one woman was included in the Aboriginal group attacked. If the Aboriginal attackers had travelled 20 miles (approximately 32 kilometres) in the direction of the mountains (or even into the mountains) they could have travelled in a northerly or easterly or (less likely) southerly direction from Bridgman Farm. There are no mountains in a westerly direction (and no significant range to the south). A westerly direction would have taken the fleeing Aborigines and their pursuers up the valley rather than

¹¹ The Sydney Gazette and New South Wales Advertiser, 9 September 1826:3

into the mountains. If the Aboriginal people that attacked the hut at Bridgman Farm travelled towards the mountains they would have travelled away from the area now proposed for the Glendell Open Cut. Thus, the massacre site is highly unlikely to be located within the Glendell ML or within the Ravensworth Estate. Even if the Aboriginal people had travelled in an easterly direction they would have passed through the area of the present Glendell ML and the Ravensworth Estate by the time they had travelled 7 miles, rather than the 20 miles they were reported as travelling prior to the pursuing party catching up with them.

In common with Umwelt (2004), other, more recent considerations of the massacre (e.g., ACHM, 2013; Dunn, 2015) have placed it outside of Bowman's Ravensworth estate. Dunn (2015), whose exhaustive review of Aboriginal-European hostilities in the Hunter Valley remains one of the most detailed studies of its kind for the region, has mapped it as occurring in mountainous terrain to the northwest of Alcorn's hut. ACHM, meanwhile, have prepared a map which shows an approximate area where the massacre cannot have occurred (see ACHM, 2013: 69, Map4-1) with the current study area falling wholly within this area.

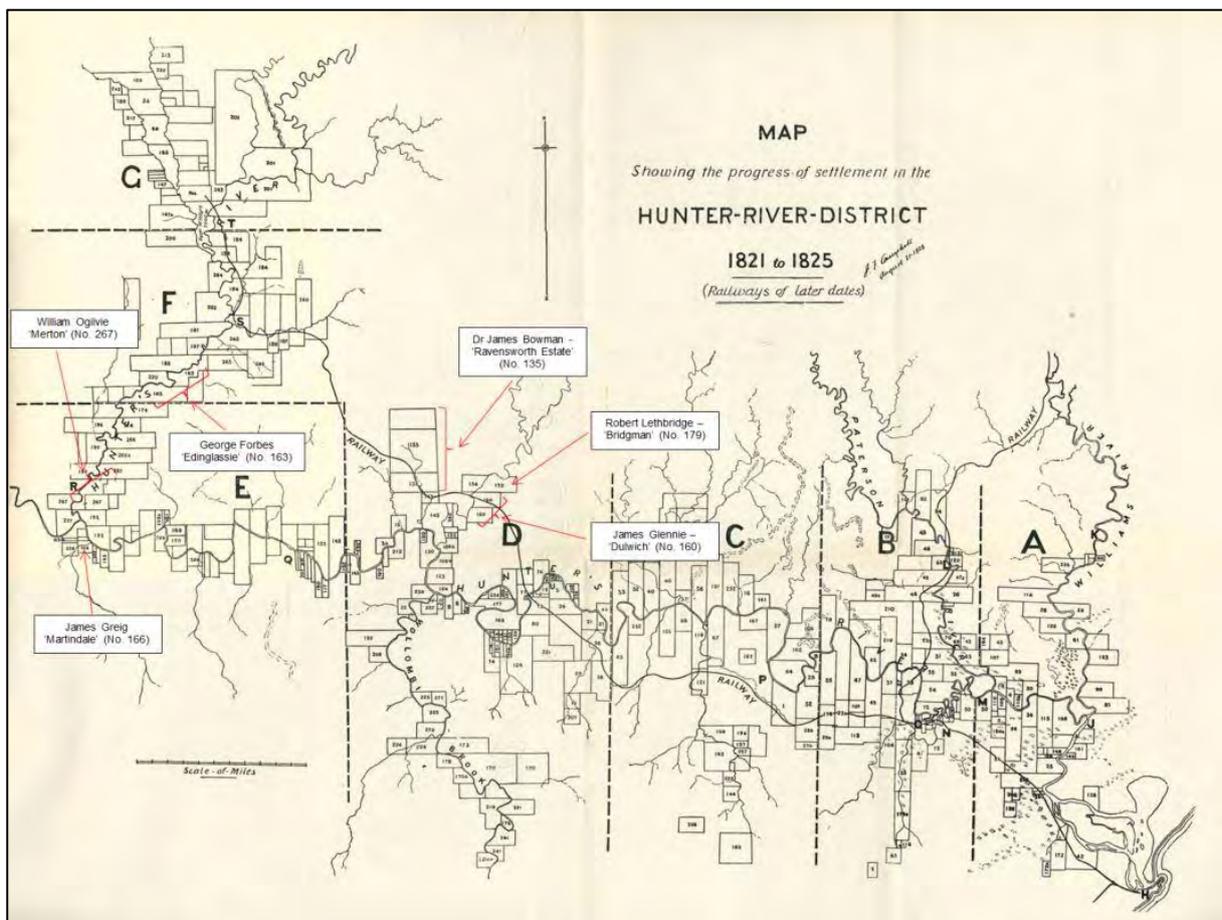


Figure 11 Map of the Hunter Valley showing European landholdings up to 1825. Estates of relevance to incidents of Aboriginal-European conflict between 1825 and 1827 marked with arrows and labelled modified from (Campbell, 1926)

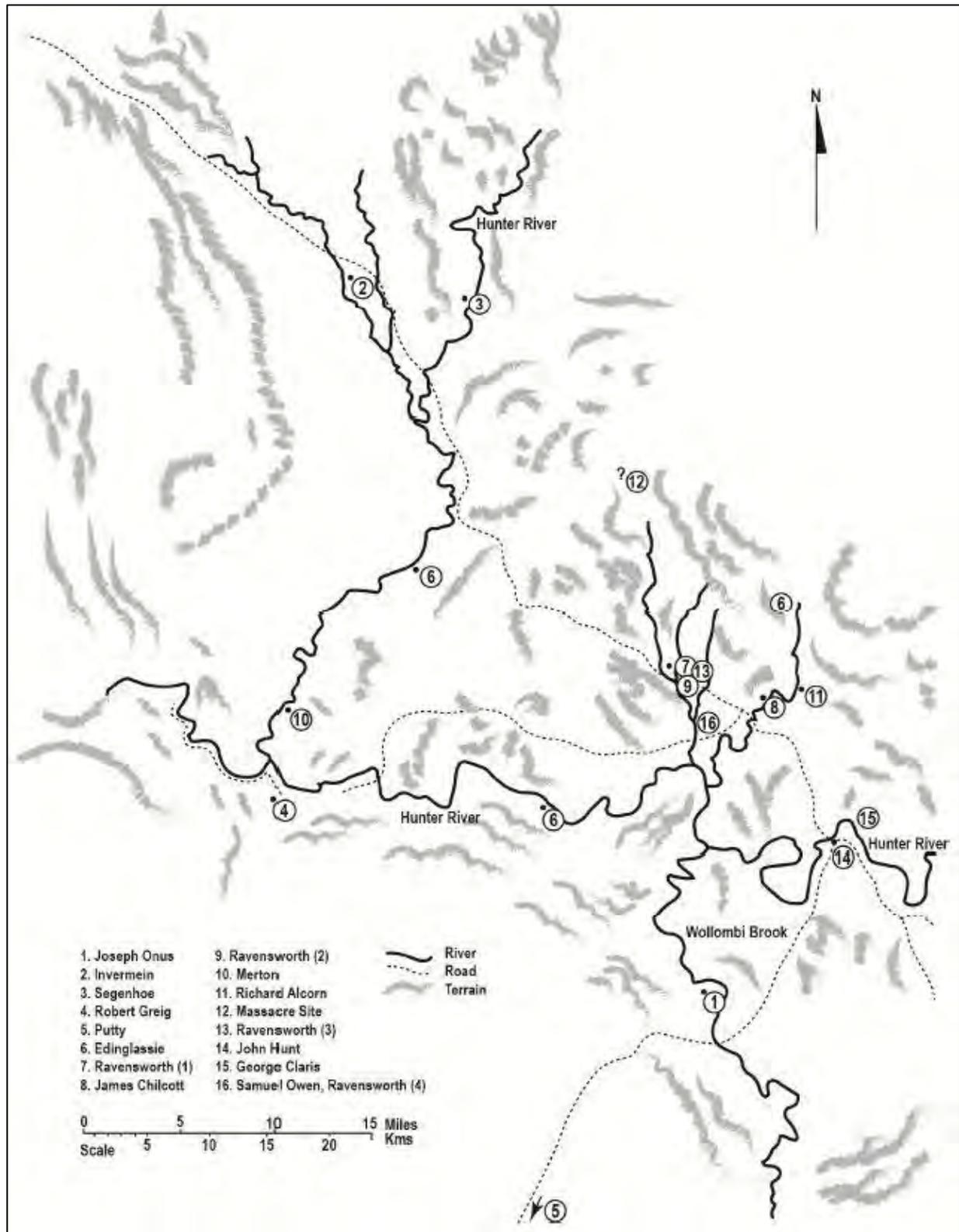


Figure 12 Map showing the location of reported incidents of Aboriginal-European conflict in the Hunter Valley between 1825 and 1827, including the 'Ravensworth massacre' (from Dunn, 2015: 228, Fig. 16).

By September 1826, tensions in the mid-to-upper Hunter had reached fever pitch, with various contemporary observers, such as Threlkeld and Robert Scott's brother, Helenus Scott, talking of war (see Gunson, 1974: 93; Helenus Scott to Augusta Scott, 25 September 1826, Scott Family Correspondence, ML). Fears of Aboriginal attacks amongst the settler population were such that on the 4th of September 1826 a group of concerned landholders, including James Bowman, Peter McIntyre and William Ogilvie, petitioned Governor Darling to maintain the Mounted Police's presence in the district:

May it Please Your Excellency,

We, the undersigned, Landholders at Hunter's River's river, beg leave most respectfully to represent to Your Excellency the present very disturbed state of the Country by the incursions of numerous Tribes of Black Natives, armed and threatening death to our Servants, and destruction to our property.

We are fully impressed with the intentions of Your Excellency by ordering the protection of the Horse Patrole; at this moment; we have received information that some of the Soldiers are withdrawn to attend an Investigation at Newcastle on a subject connected with the marauding conduct of the Natives.

We most humbly trust Your Excellency will take this into Your consideration, either by ordering others to take their places, or by suspending the order of their recall to Newcastle, until the threats and murderous designs of the Natives shall have subsided; for, in the event of our losing the protection of the Troops, our property will be exposed to the revenge and depredation of these infuriated and savage people.

The Natives lately burnt all the grass on the several Farms, killed some Men, have speared several Cattle, and threatened to destroy the Wheat of the ensuing Harvest.

We have, &c.,

J.Bowman J.H. Winder.

Peter McIntyre David Maziere

A.B. Spark William Ogilvie

Leslie Duguid, H. Malcom

J. Gaggin. John Brown

John Cobb

(Landholders to Governor Darling, 4 September 1826, HRA, Vol. 12: 576)

As highlighted by Dunn (2015: 217), this petition had arisen from Governor Darling's decision to withdraw Lowe and his troops from the district and his ordering of the second inquiry into the actions of the Mounted Police under Lowe's command. The landholders involved were unlikely to have been impressed with Darling's response, with the Governor urging the settlers themselves to unite and adopt "vigorous measures" to establish their "ascendency" over the district's Aboriginal population (Darling to Landholders at Hunter's River, 5 September 1826, HRA, Vol. 12: 576-577). In a closing rebuke, the Governor felt it necessary to point out the fact that not one of the petitioners, all of whom were based in Sydney, were physically present in the district to witness any of the outrages they were reporting. As hinted at by the signatories themselves, whose petition contains the word 'revenge', the closing sentences of Darling's response, reproduced below, point not to indiscriminate violence on the behalf's of the district's Aboriginal population but rather to retaliatory strikes:

As you very properly attach much importance to the preservation of your property, I would remark that your presence and personal example would tend to this object than any measure of the Government. It would have the effect of preventing irregularities on the part of your own people, which I apprehendis in many instances the cause of the disorders committed by the Natives. (Darling to Landholders at Hunter's River, 5 September 1826, HRA, Vol. 12: 577)

Attorney General Saxe Bannister, for his part, urged Governor Darling to deploy the military to the district, claiming that those "interested upon Hunter's River" would be best served by a show of "overwhelming force" (Bannister to Darling, 5 September 1826, HRA, Vol. 12: 577). Bannister

suggested the declaration of martial law, as had occurred in Bathurst in 1824, proposing that this would not only reinforce the government's determination to resolve the matter but also provide legal protection for any soldiers sent to the district. Darling would subsequently dismiss Bannister's call for martial law, informing the Attorney General that the size of the district's settler population was such that the threat posed by the 'natives' was a minor one.

The war feared by Threlkeld and others was not to eventuate. Nonetheless, hostilities continued throughout the remainder of 1826 and first half of 1827, with notable incidents from this period including the November 1826 abduction of the 20 month old daughter of John and Catherine Hunt¹², an act attributed to an Aboriginal man known to Europeans as 'Bit-O-Bread' (Byirbyrry), and a bloodless March 1827 confrontation at George Claris' hut on John Howe's Redbourneberry estate, near Singleton, the primary motivation for which appears to have Byirbyrry's anger at being accused of the kidnap of Hunt's daughter. "King" Jerry, who was present with Byirbyrry at Claris' hut, is said to have warned Claris that any harm to Byirbyrry would result in him amassing 1000 warriors to kill any European they encountered. Outside of the Hunter Valley, the first half of 1827 would also bear witness to the Supreme Court trial of Lieutenant Lowe for the August 1826 murder of Jackey Jackey at Maitland Gaol, with Lowe, perhaps predictably, acquitted of the crime (for a detailed review of Lowe's trial see Chaves, 2007)).

The accounts of Dunn (2015) and others (e.g., Miller, 1985; Wood, 1972) point to a significant reduction in the scale of Aboriginal-European conflict in the mid-to-upper Hunter from mid-1827. Attacks and confrontations continued to occur. However, the high point of conflict had passed, with the majority of 'prime' land within the region now firmly in European hands¹³. Despite this stranglehold, Aboriginal 'returns' from 1827 onward attest to the continued presence of relatively large numbers of Aboriginal people in the region. Data of relevance to the mid-to-upper Hunter is summarised in Table 5. As indicated, despite several years of European occupation, 'early' (ie, 1827-1829) returns for the mid-to-upper Hunter indicate a total Aboriginal population well into the hundreds.

¹² John Hunt served as a district constable at Patricks Plains

¹³ Note that Miller (1985: 42) has suggested that, post-1830, the majority of Aboriginal resistance to European colonisation of the Hunter Valley was passive, as opposed to armed, in nature.

Table 5 Aboriginal returns for districts and estates in the mid-to-upper Hunter valley between 1827 and 1844 (data compiled from originals / facsimiles held at the State Archives of New South Wales, [4/2045], Reel 3706)

Year	Date(s)	District	Record taken at	Recorder(s)	Total # of people	Tribal affiliation	Place / district of usual resort	Comments
1827	17-Apr	Patrick's Plains and Luskintyre	-	Scott and McLeod	c. 300	-	Patrick's Plains and Luskintyre including all Wallumby Brook [Wollombi] Brook] and extending westward as high up the River as Dr Bowman's and William Bells Farm"	Recorder refers to the inability to accurately measure numbers, stating they will have a better idea of numbers once they have distributed clothing
1827	22-Apr	Merton	-	William Ogilvie	Up to 300	-	Between Bylong/Mudgee and Liverpool Plains	Recorder refers to the inability to accurately measure numbers
1827	22-Apr	Merton	-	William Ogilvie	100	-	Merton	Recorder refers to the inability to accurately measure numbers
1827	2-Jul	All districts	-	Colonial Secretary's Office	c. 300	Patrick's Plains and Luskintyre	Patrick's Plains and Luskintyre	-
1827	2-Jul	All districts	-	Colonial Secretary's Office	c. 100	Hunters River	Hunters River	-
1827	2-Jul	All districts	-	Colonial Secretary's Office	.120	Wallis Plains	Wallis Plains	-
1828	6-May	Wallis Plains	-	A.Roberston	95	Wallis Plains	-	-
					20	Wollambi	-	Only includes those individuals known, actual numbers are likely to be higher
1828	5-Jun	-	Invermien	Francis Little	39	Tullong	Dart Brook / Paterson and Pages Rivers	-
					29	Murawin	Dart Brook / Paterson and Pages Rivers	-
1829	14-Apr	Wallis Plains	-	Samuel Wright	120	-	-	-

Year	Date(s)	District	Record taken at	Recorder(s)	Total # of people	Tribal affiliation	Place / district of usual resort	Comments
1829	4-Aug	Patrick's Plains	-	James Glennie	46	Plains Tribe	Patrick's Plains	"Not including the Wollomby Blacks or the Wild Blacks of each tribe" 'King': Black Boy/Pandoba
					11	Bulcara	Patrick's Plains	'King': Billy Bowman/Oonungoonung
					14	Micarrawillung	Patrick's Plains	'King': Jacky/Balboa
					28	Kinkigyne	Patrick's Plains	'King': Coori Jerry/Nimbue
1828	16-Apr	-	Segenhoe	Peter McIntyre	2	-	-	'King' Tom 'Queen' Maria
1828	10-Jun	-	Segenhoe	Peter McIntyre	3	-	-	-
1829	7-Apr	-	Segenhoe	Peter McIntyre	2	-	-	'King' Tom
1829	16-Jun	-	Segenhoe	Peter McIntyre	14	-	-	'Queen' Maria
1832	-	North and North Western Districts	-	-	30	-	Darlington / Patrick's Plains	-
					30	-	Merton	-
					40	-	Invermein	-
					100	-	Casillis	-
1832	-	North and North Western Districts	-	-	30	-	Darlington / Patrick's Plains	
					30	-	Merton	
					40	-	Invermein	

Year	Date(s)	District	Record taken at	Recorder(s)	Total # of people	Tribal affiliation	Place / district of usual resort	Comments
					120	-	Casillis	
1833	3-May	All districts	-	-	50		Maitland (including Patersons River and Wollombi)	-
					30	-	Darlington and Patrick's Plains	-
					30	-	Merton	-
					20	-	Casillis	-
					40	-	Invermein	-
1834	-	North and North Western Districts	-	-	55	-	Maitland including Paterson's Plains and Wollombi	-
					30	-	Darlington and Patrick's Plains	
					30	-	Merton	
					40	-	Invermein	
					35		Casillis	
1834	25-May	Merton	Merton	William Ogilvie & Gregory Blaxland	30	Merton	Merton	-
1834	2-Jun	Patrick's Plains	Patrick's Plains	-	10	Hungary Hill	Fal Brook	-
					14	Patrick's Plains	Patrick's Plains	-
					10	Glendon	Glendon	-
1835	-		-	-	70	-	Maitland, inc. Wollombi	Number of blankets not people

Year	Date(s)	District	Record taken at	Recorder(s)	Total # of people	Tribal affiliation	Place / district of usual resort	Comments
		North and North Western Districts			30	-	Paterson	Number of blankets not people
					60	-	Darlington and Patrick's Plains	Number of blankets not people
					50	-	Merton	Number of blankets not people
					100	-	Invermein	Number of blankets not people
1837	6-Jun	Patrick's Plains	Patrick's Plains	-	11	Fal Brook	Fal Brook	-
					11	Plains Tribe	Patrick's Plains	-
					12	Glendon	Glendon Brook	-
1838	-	Patrick's Plains	Various	L.E.Threlkeld	15	-	Glendon	-
					15	-	Dulwich	-
					15	-	Patrick's Plains	-
					15	-	Wollombi	-
1838	-	Patrick's Plains	-	L.E.Threlkeld	64	-	-	Children not included in numbers
1842	16-May	Patrick's Plains	Singleton	-	18	Patrick's Plains	Patrick's Plains	'Chief' listed with English Name (Cobon Billy) and Aboriginal name (Congoa)
1842	25-May	Patrick's Plains	Glendon	-	14	Glendon	Glendon	-
1842	27-Jun	Patrick's Plains	Wollombi	-	10	Lower Wollombi	Lower Wollombi	-

Year	Date(s)	District	Record taken at	Recorder(s)	Total # of people	Tribal affiliation	Place / district of usual resort	Comments
1842	10-Aug	Patrick's Plains	Dulwich/Falbrook	-	15	KingsKine (Kinkigyne)	Fal Brook	-
1843	May	Patrick's Plains	Singleton / Glendon / Wollombi / Falbrook	James Glennie	14	Patrick's Plains	Patrick's Plains	-
					11	Glendon	Glendon	-
					7	Wollombi	Wollombi	-
					18	Falbrook	Bridgman, Mount Royal, St Clair, Glendon Brook & 	-
1844	30-Jul	Merton	Merton	George Blaxland and William Ogilvie	16		Merton	Additional 20 individuals not listed as there were not enough blankets

5.6.2 Adaption and Resilience

Perhaps predictably, historical accounts of Aboriginal-European relations within the Hunter Valley have tended to focus on the violence that took place across the region during the first two decades of European settlement, with other aspects of interaction, such as co-operation, friendship and positive working relationships, largely overlooked. For the Hunter Valley, in particular, the historical emphasis on Aboriginal-settler conflict has obscured what available historical sources indicate a complex pattern of interaction. As Dunn (2015: 236) has stressed, the reaction of the valley's resident Aboriginal population to European colonisation

...was a complex and varied one. Violence and confrontation was one response, with clashes particularly intense during the period between the mid-1820s and mid-1830s as more Europeans moved into the valley. The drama and tragedy of the violence on both sides of the frontier, which for many people was inescapable, has in part obscured the cooperation, friendships and working relationships that also formed throughout the region during the same period. Some relationships transitioned through friendship, violence and co-existence: these highlight the blurred and fluid nature of alliances and affiliations in the colonial Hunter.

As in other parts of New South Wales and Australia more broadly, the majority of Aboriginal-European interaction across the Hunter Valley in the decades following the region's colonisation by Europeans was "driven by the need for and value of Aboriginal labour, which was the most important component of the exchange between the two cultures" (Dunn, 2017: 44). Recent considerations of Aboriginal peoples' involvement in the colonial economy of the Hunter Valley (e.g., Blyton, 2012; Dunn, 2015, 2017) have highlighted the many and varied roles that Aboriginal played in its establishment and operation. Alongside their frequent appointment as guides and trackers, Aboriginal people were regularly employed on the estates and farms of the region for tasks such as shepherding, shearing, harvesting, clearing land, cutting wood, stripping bark, carrying water and tracking lost animals (for a detailed review see Dunn, 2017).

By the late 1800s, growing concerns over the plight of Aboriginal people across New South Wales led to a series of Governmental initiatives aimed at both 'protecting' and 'civilising' the state's Aboriginal population. In 1881, the Aborigines Protection Association was formed, with George Thornton appointed as 'Protector of the Aborigines'. Thornton was charged with investigating the status of Aboriginal people across NSW and to make recommendations for further action. Shortly thereafter, in 1883, the NSW Government established the Aborigines Protection Board (APB), which operated without any statutory power until the passing of the Aborigines Protection Act in 1909. This act provided the board with extensive legal powers to control the lives of Aboriginal people, including powers to dictate where people lived and to remove children from their families. George Thornton, the APB's founding chairman, was a strong advocate for the creation of Aboriginal reserves across the colony, arguing that such reserves would "enable them [Aboriginal people] to form homesteads, to cultivate grain, vegetables, fruit etc, for their own support and comfort". The reserves, Thornton proposed, would also "provide a powerful means of domesticating, civilizing and making them comfortable" (Thornton, 1881 in Goodall, 2008: 105).

Blyton et al. (2004), in their history of Aboriginal and European contact in the upper Hunter Valley, note that by the turn of nineteenth century "there were few outward signs that aspects of traditional Aboriginal society had survived in the Hunter Valley". In November 1888, the APB designated a c.230 acre parcel of land to the east of the study area, in the vicinity of the present day suburb of Singleton Heights, as an Aboriginal reserve. However, this reserve does not appear to have been occupied. Two years later, in July 1890, a 58 acre (23 hectare) parcel of land at Carrowbrook, north of Singleton, was also designated as a reserve, with a community of Aboriginal people having lived in this area since at least the 1850s (Miller, 1985: 107). Three years later, in 1893, Reverend James S. White, Minister of St. Andrew's Presbyterian Church in Singleton, established the St Clair Mission in this location, with the APB increasing the original reserve by 24 acres (10 hectares) (Miller, 1985: 107). Aboriginal people whose traditional Country encompassed the Hunter Valley comprised a significant proportion of the mission's population, with Wonnarua, Awabakal, Worimi and Darkinjung peoples represented. Occupants farmed the land, successfully growing and harvesting a variety of vegetables, but also engaged in traditional subsistence practices (Blyton et al., 2004: 57; Gray, 2018). In 1905, the mission came under the control of the Aborigines' Inland Mission (AIM), an evangelical organisation founded by Baptist Missionary Retta Long (nee Dixon). Amongst other initiatives, the AIM was responsible for the establishment of the Singleton Girls' Home (later Singleton Aboriginal Children's

Home) at 'Glasgow Place', on George Street in Singleton. The St Clair Mission operated under the control of the AIM until 1916 when control was taken over by the APB. The APB appointed a station manager to control the mission and its occupants and renamed it 'Mount Olive Reserve'. Aboriginal people living at Mount Olive, Blyton et al. (2004: 58-59) note, were subjected to the "absolute control of the manager", with a significant number expelled for failing to adhere to strict regulations. In 1923, the reserve was closed to Aboriginal people.

Around Singleton itself, the mid-to-late 1800s saw communities of Aboriginal people living on Reverend White's 777.5 acre Gowrie estate, as well as at Redbourneberry (Miller, 1985: 106-108). White's Gowrie estate, which encompassed the majority of Alexander Waugh McDougall's 900 acre land grant adjacent to the Hunter River¹⁴ was one of a handful of 'safe havens' occupied by Aboriginal people living in the greater Singleton area at this time, with a 1939 newspaper article in the Singleton Argus pointing to the long-lived importance of this area:

"The Aboriginal [sic] population of the immediate vicinity of Singleton was considered to be 1000 on the coming of Constable Howe and party in 1819. Their largest camp was in the cedar brush on what is now "Gowrie. (Trombone, 1939)

Ordained to the pastoral charge of Singleton and Patrick's Plains in 1847, Reverend White was an ardent advocate for the district's surviving Aboriginal population and, in particular, those living on his property. Outraged by the APB's apparent lack of concern on the subject, White published writings reveal an "outstanding Christian humanitarian" (Miller, 1985: 107) who was intent on securing the health and well-being of the Aboriginal people living at Gowrie. White died in 1902, with an obituary in The Maitland Daily Mercury noting his "infinite respect and regard" for Aboriginal people (Anon., 1902).

Aboriginal families at Redbourneberry camped principally on the Redbourneberry Hill common, with the flood-free site comprising a traditional camping area and offering easy access town (Miller, 1985: 107-108). Court records indicate that Aboriginal people were living in this location from at least 1862, with many later records citing Redbourneberry as the place of residence for Aboriginal witnesses and defendants (Miller, 1985: 107). In July 1896, a portion of land to the south of Redbourneberry Bridge, around three kilometres east of Singleton's CBD, was designated as an Aboriginal reserve, superseding an earlier, smaller reserve in the same general location. In the late 1930s, the construction of a large army camp outside Singleton saw a number of Aboriginal families evicted from their rented accommodation in town, with Miller (1985: 157) reporting their relocation to Redbourneberry Hill and the construction of make-shift houses from old kerosene tins and hessian bags.

Today, modern Wonnarua people retain strong cultural connections to the Hunter Valley and are actively involved in the protection and promotion of their culture for future generations

¹⁴ Consultation with the Singleton Historical Society has revealed that Reverend White purchased 777.5 acres from Alexander Waugh McDougall in the 1850s (P. Moore, Singleton Historical Society, pers. comm., February 2019).

6.0 Archaeological Context

This section describes the archaeological context of the study area on a regional and local scale. Archaeological data of relevance to this area, including the results of previous archaeological investigations within and surrounding the study area, are reviewed in order to contextualise the results of the current assessment.

6.1 Regional Context - The Hunter Valley

6.1.1 Introduction

Formal archaeological interest in the Aboriginal archaeological record of the Hunter Valley can be traced to the late 1930s, with the then Curator of Anthropology at the Australian Museum Fred McCarthy undertaking an archaeological reconnaissance of the Valley in 1939 (Moore 1970: 29). McCarthy's subsequent investigation, with F.A. Davidson, of an extensive open artefact site on a terrace of the Hunter River at Gowrie, near Singleton, is widely regarded as the first serious archaeological study of stone artefacts in the Hunter Valley proper (McCarthy & Davidson 1943). McCarthy's early endeavours aside, more detailed investigation of the Valley's Aboriginal archaeological record did not begin until the mid-to-late 1960s, a period that witnessed a series of archaeological surveys and site excavations completed as part of the Australian Museum's long term and wide ranging archaeological research project into the Aboriginal prehistory of the Hunter Valley (Moore 1969, 1970, 1981).

Intensive development activities since this time have secured the Hunter Valley's place as one of the most intensively investigated archaeological regions in Australia, with hundreds, if not thousands, of Aboriginal archaeological investigations involving survey and/or excavation having now been undertaken, the majority as part of larger environmental impact assessments associated with coal mining projects. Not surprisingly, these investigations have varied significantly in scale and scope, ranging from targeted small-scale surveys to complex, multi-phase survey and excavation projects over large areas. Nonetheless, together, they have generated a large and diverse body of evidence for past Aboriginal occupation, with thousands of Aboriginal sites now registered on OEH's AHIMS database. Together with Dean-Jones and Mitchell's (1993) pioneering environmental study, existing syntheses of the Aboriginal archaeological record of the Hunter Valley (e.g., ERM 2004; Hughes 1984; Koettig 1990; MacDonald & Davidson 1998) provide a suitable interpretive framework for the current assessment. Key research themes are detailed in brief in the following sections.

6.1.2 Open Artefact Sites: Distribution, Contents and Definition

Surface and subsurface distributions of stone artefacts, variously referred to as open artefact sites, open sites and open camp sites, are by far and away the most common and widely distributed form of Aboriginal archaeological site in the Hunter Valley (ERM 2004; Hughes 1984; MacDonald & Davidson 1998). Other site types, such as scarred trees, shell middens, quarries, grinding grooves, burials and rock shelters with deposit and/or art or PAD, have also been identified but are comparatively rare. Accordingly, open artefact sites remain the most intensively investigated component of the Aboriginal archaeological record of the Hunter Valley, with site distribution, site structure and the technology of backed artefact manufacture, in particular, comprising key research topics (Baker 1992a, 1992b, 1992c; Hiscock 1986a, 1986b, 1993a; Koettig 1992, 1994; Moore 1997, 2000; White 1999, 2012).

As highlighted by Hughes (1984) and reiterated by numerous other researchers (e.g. ERM 2004; Koettig & Hughes 1983, 1985;; Koettig 1992,1994; Kuskie 2000; Rich 1992), existing archaeological survey data for the Hunter Valley indicate a strong trend for the presence of open artefact sites along watercourses, specifically, on creek banks and 'flats' (i.e., flood/drainage plains), terraces and bordering slopes. Although this distribution pattern can be attributed in part to geomorphic dynamics and archaeological sampling bias, with extensive fluvial erosion activity along watercourses resulting in higher levels of surface visibility and, by extension, concentrated survey effort, an occupational emphasis on watercourses is supported by the results of several large scale subsurface salvage projects (e.g., Koettig 1992, 1994; Kuskie & Clarke 2004; Kuskie 2000; MacDonald & Davidson 1998; OzArk 2013; Rich 1992; and Umwelt 2006). Collectively, these projects have also shown that assemblage size and complexity tend to vary significantly in relation to both landform and stream

order, with larger, more complex¹⁵ assemblages concentrated on elevated, low gradient landform elements adjacent to higher order streams.

In the Lower Hunter Valley, a similar pattern has been identified for the permanent to semi-permanent wetlands of the Hunter 'delta' (e.g., Kuskie 1994; Kuskie & Kamminga 2000). Outside of these contexts, surface and subsurface artefact distributions have typically been found to be sparse and discontinuous and are often referred to as 'background scatter'.

Flaked stone artefacts dominate archaeological assemblages from recorded open artefact sites within the Hunter Valley (Hiscock 1986a), with heat fractured rock also well represented. Items such as complete and fragmentary grindstones, hammerstones, edge-ground hatchet-heads, ochre and shell have also been identified though comparatively infrequently. With the notable exception of 'knapping floors', a relatively common component of the open artefact site record of the Hunter Valley, associated archaeological features (e.g., hearths and heat treatment pits) have likewise proven elusive (for examples see Koettig 1992; Kuskie & Kamminga 2000).

Defined in slightly different ways by different researchers, knapping floors can be broadly defined as spatially-discrete activity areas in which primacy was given to the reduction of one or more stone packages (White 1999:152). Recorded knapping floors in the Hunter Valley vary considerably in size and complexity, with some of the largest and most complex examples identified through excavation as opposed to survey. Backed artefacts are a common feature of knapping floors and most of these features were likely specifically associated with their production. At Narama, near Ravensworth, a detailed analysis of the contents of knapping floor and non-knapping floor assemblages revealed significant differences between the two, including variation in the frequency of backed artefacts, other retouched and/or utilised tools and cores, and the application of different reduction strategies (Rich 1992). Together with differences in the spatial distribution of the two forms of assemblage, this evidence was used to suggest that backed artefact production within the Narama landscape was a highly structured activity, and that knapping floor assemblages were the product of a more restricted range of behaviours than more generalised scatters. Although limited to a single landscape, evidence from other parts of the Valley (e.g., Hiscock 1986a; Koettig 1992, 1994) provides further support for the suggestion that backed artefact manufacture in the Hunter Valley was a highly structured activity.

Although relevant to a variety of site types, geomorphic processes such as soil erosion, colluvial/fluvial aggradation and aeolian transportation are of particular relevance to the identification and definition of open artefact sites. As in other archaeological contexts (e.g., Attenbrow 2010; Fanning & Holdaway 2004; Fanning et al. 2009; Holdaway *et al.* 2000), it is now widely accepted by archaeologists working in the Hunter Valley that the visibility and distribution of open artefact sites within the region are, for the most part, products of contemporary and historical geomorphic processes which have variously exposed and obscured them. As demonstrated by numerous large scale archaeological salvage projects within the Valley (e.g., Koettig 1992, 1994; Kuskie & Clarke 2004; Kuskie & Kamminga 2000; MacDonald & Davidson 1998; OzArk 2013; Rich 1992; Umwelt 2006), surface artefacts invariably represent only a fraction of the total number of artefacts present within recorded surface open artefact sites, with the majority occurring in subsurface contexts. Artefact exposure, unsurprisingly, is highest on erosional surfaces and lowest on depositional ones. At the same time, in many areas, surface artefacts have been shown through large-scale subsurface testing to form part of more-or-less continuous subsurface distributions of artefacts, albeit with highly variable artefact densities linked to environmental variables such as distance to water, stream order and landform.

Such evidence has posed a significant analytical and interpretive dilemma for archaeologists working in the Hunter Valley. Defining sites on the basis of surface artefacts alone is clearly problematic, with modern site boundaries frequently reflecting the size and distribution of surface exposures as opposed to the actions of Aboriginal people in the past. Nonetheless, for pragmatic reasons, this has been the most commonly used approach, with 'distance' and 'density-based' definitions dominating. In the Hunter Valley, two of the most commonly employed distance-definitions are '*two artefacts within 50m of each other*' and '*two artefacts within 100 m of each other*'. Neither definition is derived from a particular theoretical approach or body of empirical research - they are simply pragmatic devices for site definition. Definitions based on artefact density also vary in their particulars. However, one of most

¹⁵ Those containing a wider variety of raw materials and technological types and/or higher mean artefact densities and features such as knapping floors and hearths.

commonly used definitions is that which isolates, within an arbitrarily defined 'background scatter' of one artefact per 100 m², higher density clusters that are subsequently defined as 'sites'.

While not widely employed, Kuskie's (1994, 2000a) system of open artefact site definition, developed for use in the Hunter Valley and other surrounding regions, is also worthy of note here. In short, this system is predicated on the definition of 'survey areas' within broader 'Archaeological Terrain Units' (ATUs), with the latter comprising discrete, recurring areas of land defined on the basis of landform element and slope class, and the former, an area of a single ATU bounded on all sides by different ATUs (Kuskie 2000: 65-67).

Within this overarching environmental scheme, open artefact sites are defined by the presence of one or more stone artefacts within a survey area, with site boundaries corresponding with the boundaries of the broader survey area irrespective of the visible extent of artefacts within it. Spatially discrete occurrences of stone artefacts within a given site boundary are referred to as 'loci' (Kuskie 2000: 65-66).

6.1.3 Flaked Stone Artefact Technology

Flaked stone artefacts are a ubiquitous element of the Aboriginal archaeological record of the Hunter Valley and, as such, have assumed a pre-eminent role in archaeological reconstructions of past Aboriginal land use in the region. To date, hundreds, if not thousands, of surface-collected and excavated chipped stone assemblages from the Hunter Valley have been analysed, with individual assemblage sizes, research questions, aims, analytical methodologies and terminological schemes varying significantly between researchers and projects. Studies to date have ranged from basic descriptive accounts of assemblage composition in typological terms to detailed reconstructions of specialised knapping techniques through rigorous technological analyses (including conjoining) and, in some instances, experimental research. Particularly informative analyses in the context of the Hunter Valley include those undertaken by Hiscock (1986a, 1986b, 1993a), Koettig (1992, 1994), Moore (1997, 2000), White (1999, 2012) and Baker (1992a, 1992b, 1992c).

As highlighted by Koettig (1994) and others (e.g., Hiscock 1986a; Hughes 1984), available technological and typological data for surface collected and excavated flaked stone artefact assemblages from the Hunter Valley suggest that the majority of these assemblages belong to what is known as the 'Australian small-tool tradition', a term coined by Gould (1969) to describe what was then thought to be the first appearance, in the mid- Holocene¹⁶, of a new suite of chipped stone tool forms in the Aboriginal archaeological record of Australia, including Bondi points, geometric microliths, adzes and points (both unifacially and bifacially flaked). Complex, hierarchically-organised reduction sequences associated with the production of these tools contrast markedly with the simple sequences of earlier periods (Moore, 2014). Tools of the Australian small-tool tradition, it has been suggested, formed part of a portable, standardised and multifunctional tool kit aimed specifically at risk reduction (Hiscock 1994, 2006). Stone artefact assemblages from late Pleistocene and early Holocene contexts, in contrast, are described by archaeologists as belonging to the 'Australian core tool and scraper tradition', a term first used by Bowler *et al.* (1970) to describe the Pleistocene assemblages recovered from Lake Mungo in western New South Wales. Bowler *et al.* (1970) saw the main components of these assemblages - core tools, steep-edged scrapers and flat scrapers - as characteristic of early Australian Aboriginal assemblages and as being of a distinctly different character to those associated with small-tool tradition.

In southeastern Australia, including the Hunter Valley, the Australian small-tool and core tool and scraper traditions are most commonly described in terms of McCarthy's (1967) *Eastern Regional Sequence* (ERS) of stone artefact assemblages. Based on appreciable changes in the composition of chipped stone artefact assemblages over time, the ERS hypothesises a three phase sequence of 'Capertian' (earliest), 'Bondaian' and 'Eloueran' (most recent) assemblages and was developed on the basis of McCarthy's (1948, 1964) pioneering analyses of stratified chipped stone assemblages from Lapstone Creek rockshelter, on the lower slopes of the Blue Mountains eastern escarpment, and Capertee 3 rockshelter in the Capertee Valley north of Lithgow. At present, the most widely cited characterisation of the ERS is that of a four-phase sequence beginning with the *Pre-Bondaian*

¹⁶ Note that more recent research into the chronology of backed artefacts and points in Australia (e.g., Hiscock & Attenbrow, 1998, 2004; Hiscock, 1993b) has demonstrated a long history of production and use for these implement types, with both now known to have been produced in the early Holocene and likely in the late Pleistocene as well.

(McCarthy's *Capertian*) and moving successively through the Early, Middle and Late phases of the *Bondaian*, the last of which equates to McCarthy's (1967) *Eloueran* phase. The tripartite division of the Bondaian is based principally on the presence/absence and relative abundance of backed artefacts (Attenbrow 2010: 101). However, other factors, such as changes in the abundance of bipolar artefacts and different stone materials, as well as the presence/absence of edge-ground hatchet-heads are also relevant.

Table 6 McCarthy's Eastern Regional Sequence (ERS) of stone artefact assemblages

Current phasing	McCarthy's (1967) Phasing	Approximate date range	Backed artefact frequency	Bipolar artefacts	Edge-ground hatchet heads
Pre-Bondaian	Capertian	40,000-8,000 BP	Absent	Rare	Absent
Early Bondaian	Bondaian	8,000-4,000 BP	Very low	Rare	Absent
Middle Bondaian		4,000-1,000 BP	Very high	Increasingly common	Present
Late Bondaian	Eloueran	1,000 BP to European contact	Very low	Very common	Present

Existing assemblage data indicate that Aboriginal knappers occupying the Hunter Valley utilised a diverse range of lithic raw materials for flaked stone artefact manufacture (Hughes 1984). However, two rock types - silcrete and silicified tuff (also known as mudstone) - overwhelmingly dominate the region's existing stone artefact record and appear to have been routinely selected for this task, likely due to both basic raw material abundance and their desirable flaking qualities (Hiscock 1986a). Alongside other, less-commonly exploited raw materials, such as quartz, quartzite, chalcedony, chert, petrified wood and various fine-grained volcanics, both are available in alluvial and colluvial gravel deposits¹⁷ associated with the Hunter River and its tributaries (Raggatt 1938; see also Hiscock 1986a:14-16). Widely distributed and easily accessible, it would appear that these deposits functioned as the primary source of lithic raw materials for Aboriginal flaked stone tool manufacture in the Hunter Valley proper.

In the Hunter Valley, asymmetrical and symmetrical backed artefacts dominate the retouched components of surface collected/recorded and excavated flaked stone assemblages. Accordingly, the technology of backed artefact manufacture has been a particular focus of research (e.g., Baker 1992a; Hiscock 1993a; Koettig 1992, 1994; Moore 2000). Studies by Hiscock (1993a), Moore (2000) and others (e.g., Baker 1992a; Koettig 1992, 1994; White 1999, 2012) have demonstrated that backed artefact manufacture in the Hunter Valley was a highly structured activity involving a complex system of raw material procurement, transportation, preparation and reduction. Differences in the technological character of recovered cores and conjoin sets across the Valley indicate a significant degree of variability in the strategies used by Aboriginal knappers to produce blanks for backed artefact manufacture (Figure 13). Heat treatment, notably, appears to have been an integral component of the backed artefact manufacturing process, with evidence for the thermal alteration of stone packages throughout the reduction process both abundant and widespread. As Hiscock (1993:66) has observed, "the thermal alteration of Hunter Valley silcrete drastically improves flaking qualities and increases the lustre and smoothness of the fracture surface". Compared with silcrete, evidence for the thermal alternation of indurated mudstone blanks is rare (e.g., Koettig 1992) and likely reflects the generally higher 'raw' flaking quality of this material.

Alongside the reconstruction of backed artefact manufacturing processes, the identification of diachronic change in Bondaian lithic technology in the Hunter Valley has also received considerable analytical and interpretive attention (e.g., Baker 1992c; Haglund 1989; Hiscock 1986a, 1986b). Hiscock's (1986a) pioneering attribute analysis of a sample of unretouched mudstone flakes recovered from the Sandy Hollow 1 rockshelter excavated by Moore (1970) is of particular significance in this regard and can be regarded as the foundation upon which subsequent studies have been carried out. This analysis sought to test a tripartite division of the Sandy Hollow 1 (SH1) assemblage made on the

¹⁷ i.e., active point and mid-channel gravel bars, as well as elevated terrace and palaeochannel remnants.

basis of chronological changes in the frequency of backed artefacts. Three phases were recognised: the *Pre-Bondaian*, with no backed artefacts, the *Phase I Bondaian*, with numerous backed artefacts and the *Phase II Bondaian*, with few backed artefacts. Attribute analysis of a sample of 742 complete mudstone flakes from Square AA revealed technological changes consistent with this division, including, but not limited to, changes in the relative frequency of platform preparation and overhang removal as well as flake shape and platform size (see Table 7).

Table 7 Hiscock's relative dating scheme for the Sandy Hollow 1 flaked stone assemblage (after Hiscock 1986a: 100)

Phase	Date range	Flake type	Knapping practices employed for flake production	Backed artefact frequency
Pre-Bondaian	>1300 BP	Medium-sized, relatively squat flakes with very large platforms	<ul style="list-style-type: none"> • Large amounts of force applied with little control; • Mostly normal or inward directions of force application; • Imprecise blow application; • Use of relatively low platform angles on cores; • Very little platform preparation of any kind; • Many blows delivered to cortical surfaces; • No platform faceting; • Infrequent overhang removal; and • Low to moderate amounts of core rotation. 	Absent
Phase I Bondaian	1300-800 BP	Larger and more elongate flakes with medium sized platforms	<ul style="list-style-type: none"> • Relatively high amounts of force; • Mostly normal or inward directions of force application; • Imprecise blow applications; • High platform angles; • Large amounts of platform preparation (principally faceting and larger platform flaking); • Infrequent overhang removal; and • High amounts of core rotation. 	Numerous
Phase II Bondaian	800 BP - Contact	Relatively small and squat flakes with small platforms	<ul style="list-style-type: none"> • Low to moderate amounts of force; • Outward directions of force application; • Precise application of force; • High platform angles; • Moderate amounts of platform preparation (flaking onto platform but no faceting) • Frequent overhang removal; and • Moderate to low amounts of core rotation. 	Few

Having established the validity of the three phase Bondaian sequence at SH1, Hiscock applied the same attribute analysis to a series (n = 15) of flaked stone assemblages recovered from open artefact sites on the Mount Arthur North and Mount Arthur South coal leases and found that individual assemblages could be assigned to one of the three Bondaian phases recognised at SH1. On this basis, Hiscock (1986b) proposed that the attribute analysis employed at SH1 could serve as a relative dating system for open sites in the Hunter Valley. Given the number of open artefact sites within the region, this argument was particularly ground-breaking and has prompted several archaeologists to apply Hiscock's analysis to assemblages from other areas, albeit with mixed success (e.g., Dean-Jones 1992; Baker 1992c; Haglund 1989; Rich 1991). Difficulties in replicating Hiscock's results, Holdaway (1993:29) has suggested, likely stems from spatial variability in the methods used by Aboriginal knappers to reduce stone, variability itself linked to variables such as raw material type and accessibility, site function and stylistic differences between Aboriginal groups.

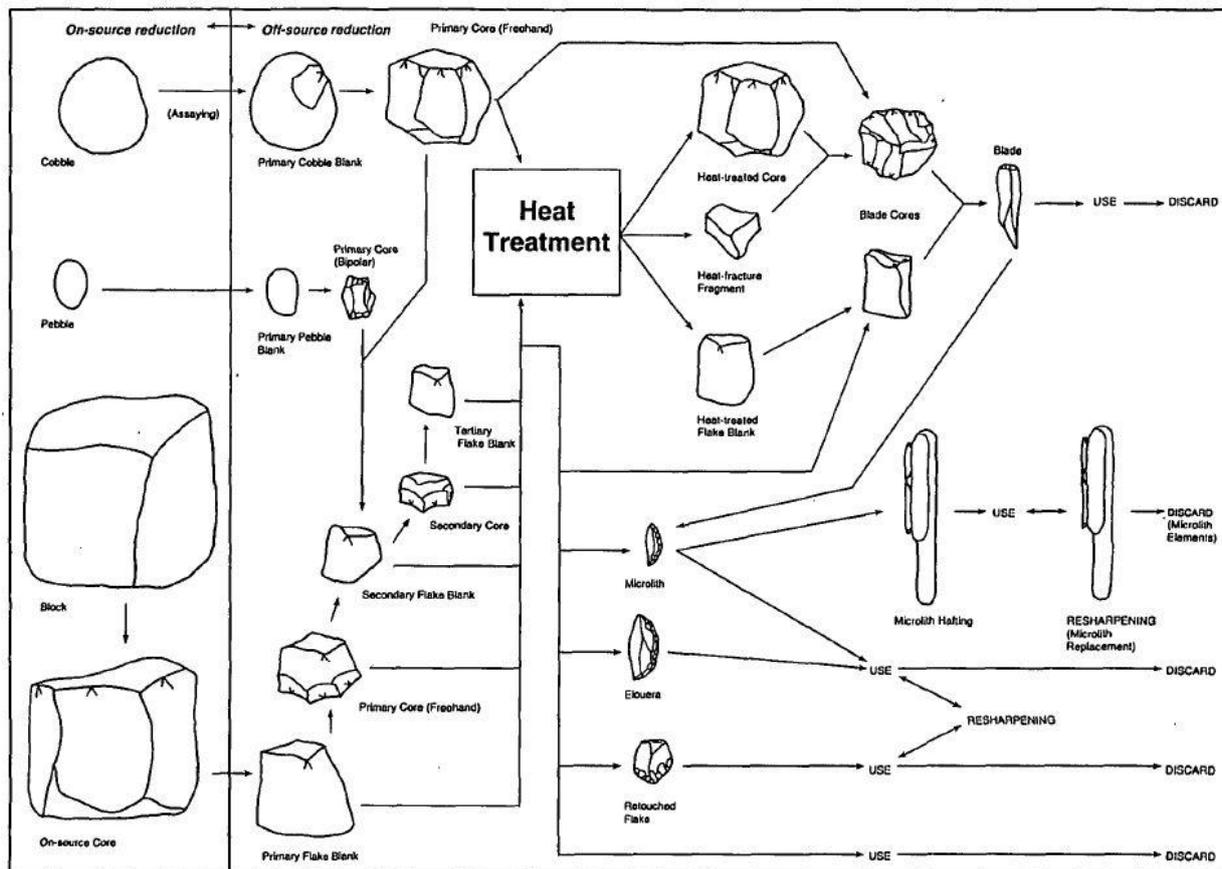


Figure 13 Moore's (2000) reduction model for the technology of Hunter Valley microlith assemblage (from Moore 2000: 29, Fig. 5)

6.1.4 Aboriginal Stone Quarrying: Australia & the Hunter Valley

Investigations of Aboriginal stone quarry sites in Australia began more than a century ago (Helms 1895; Noetling 1907, 1908). From the late 19th Century to the mid-20th Century these investigations largely comprised simple descriptive accounts of quarry sites and their contents, focusing on artefact typologies, types of activities undertaken and site ownership (Doleman 2008). During the 1970's, reflecting broader changes to archaeological theory and development of processual methodologies (Binford 1980; Binford & Binford 1968), quarry sites were incorporated into studies of settlement system organisation and their role in such systems explored.

However, despite the long history, comparatively few quarry sites in Australia have been subject to detailed investigations, particularly on mainland Australia in comparison to Tasmania (Reid 1998). In their evaluation of previous work on stone quarries in Australia, Hiscock et al. (1993:78-80) recognised four major areas of research involving quarries including:

1. Manufacturing technology;
2. Organisation of production;
3. Organisation of stone distribution; and
4. Logistical and settlement patterns.

A fifth area of research, the focus of Doleman's (2008) BAR Series, is the study of technical organisation, that is, studies that link artefact patterning and variability to technological strategies used by hunter-gatherers to adapt to their particular environment. Combined, these studies have produced a wealth of information about how stone was procured and reduced at quarry sites alongside the organisation of behaviour and distribution of material across the landscape. However, as noted by Hiscock & Mitchell (1993) despite the potential for quarries to reveal important information about past societies, overall our knowledge of quarries is "diminutive and patchy".

As to the definition of what constitutes a quarry, definitions have varied amongst researchers ranging from simply a source of stone artefact raw material in the form of pebbles, cobbles and/or boulders (utilised or not) through to sites where only particular types of reduction activities were taking place (e.g., tool manufacture). In search of a definition that was inclusive of the full range of activities linked to stone procurement, Hiscock & Mitchell (1993) proposed the definition – “the location of an exploited stone source” as this incorporates both mines and non-mines, alongside quarries where visible manifestations of use are not available. On the basis of this broad definition, three attributes might reasonably be expected at quarry sites. Firstly, there must be a source of raw material suitable for the production of stone tools. Secondly, there may be either evidence of modification of this raw material (artefacts) or thirdly evidence of procurement in the form of excavation and/or gathering. Evidence of modification/procurement will vary according to the type of quarry e.g., underground or surface, hardstone or ochre. For surface hardstone quarries, Hiscock & Mitchell (1993:61) suggest the main indications of quarrying will be a source of stone with an associated reduction activity, petrological distinctiveness of material and debris created from breaking stone too large to transport, or evidence of rock removal i.e., impact scars, use of wedges or fires to shatter rock.

In terms of reduction activities associated with raw material sources, Moore (2000:29) divides these into on-source reduction activities and off-source reduction, and notes that both were practiced by Hunter Valley knappers, with procurement generally focused on Hunter River gravels. Researchers in the Hunter Valley have contended that evidence of quarrying at gravel sources will tend to produce a low density background scatter of flakes and flaked cobbles that are the results of assaying (and cobble rejection) through to high densities associated with systematic reduction activities (i.e., flaking and heat shattering of stone) (Jones & White, 1988; White 1998; Moore 2000). Moreover, on-source reduction is argued to produce flake blanks considerably larger than those produced off-source, with the blanks considered to be early stages in the reduction sequence (Hiscock & Mitchell 1993; Moore 2000). Heating may also have also been utilised to split boulders into more manageable packages (White 1998). Moore (1997) suggests that raw material procurement and on-site reduction may have been undertaken during logistical forays or ‘embedded’ during the carrying out of subsistence tasks.

As discussed in Section 6.1.3, existing artefact assemblage data for the Hunter Valley indicate that Aboriginal people utilised a diverse range of lithic raw materials for flaked stone artefact manufacture albeit with a focus on silcrete and silicified tuff. Other, less-commonly exploited raw materials, such as quartz, quartzite, chalcedony, chert, petrified wood and various fine-grained volcanics have also been identified. Accordingly, quarry sites in the Hunter Valley would be expected to contain exploitable clasts of these materials with higher frequencies of silcrete and silicified tuff. Previous studies have suggested that the Hunter River Gravels are the most well-known source of silicified tuff, silcrete, and quartz raw materials in the Hunter Valley (Dean-Jones & Mitchell 1993; Moore 2000). Exposed at numerous locations in the valley, both as active gravel bars and elevated terrace/palaeochannel remnants, they have been recorded at Muswellbrook, Denman, Jerrys Plains and Singleton (Dean-Jones & Mitchell 1993). Raw materials, including silicified tuff and silcrete, are thought to be locally derived, reflecting the Hunter River’s underlying geology, and smaller deposits of non-local material transported from other parts of the system (MacDonald and Davidson 1998).

In context of the Hunter Valley, Aboriginal stone quarry sites are a comparatively rare component of the archaeological record, with only eight instances, for example, recorded on the AHIMS database (search completed in 2012) of which two are recorded as potential raw material sources without associated evidence of exploitation. The remaining known six sites vary in relation to raw materials present, intensity of use and their topographical locations. A review of available site cards for the sites indicates that exposed silcrete cobbles of varying sizes were an almost universally present raw material, being recorded at five of the six locations and exclusively at three locations. Cobbles of silicified tuff (i.e., mudstone, chert) were recorded, alongside silcrete at three sites, and quartzite/quartz at three locations. Estimates of the total number of artefacts were recorded on only four site cards with artefacts numbers ranging from five to several hundred. In three instances, initial stages of reduction were noted, including shattered cobbles, large flakes and minimally modified cores. In almost all cases, quarry sites were recorded within 1 km of the Hunter River or its major tributaries, amongst alluvial and colluvial gravel deposits. Despite the presence of quarry sites in both the Upper and Lower Hunter Regions, only one has been excavated and subject to detailed investigation - the B10 quarry site (White 1998).

Nonetheless, Moore (2000:29) noted, during an inspection of riverbed gravels near Jerrys Plains and a gravel quarry south of Maison Dieu Road, a number of silcrete and tuff cores thought to represent on-source reduction. No detailed recording was made of these finds. In addition, Hughes and Lance (in Hiscock 1986:14-16) identified 22 Aboriginal mudstone cores within a 1,200 m² section of large gravel bar (80 m wide and 1.5 km long) at the mouth of the Goulburn River near Denman.

6.1.5 Chronology and Texture-Contrast Soils

Evidence for late Pleistocene and/or early Holocene Aboriginal occupation of the Hunter Valley is rare, with dated and undated evidence from these periods obtained from only a handful of sites, two of which (i.e., Moffats Swamp Dune & Galloping Swamp) are located on the Valley's coastal plain (AMBS 2002; Baker 1994; Hughes & Hiscock 2000; Koettig, 1986; Kuskie in prep.; Rich 1993; Scarp Archaeology 2009). As recently discussed by Hughes et al. (2014), the dearth of early sites in the central lowlands of the Hunter Valley can be attributed to long term geomorphic and soil formation processes which have acted to either remove completely or widely disperse older archaeological materials.

Studies by Koettig (1990), Baker (1994) and Kuskie (in prep.) suggest that the flaked stone technology employed by Aboriginal knappers occupying the Hunter Valley during the terminal Pleistocene/early Holocene was focused on the opportunistic or non-specific reduction of early reduction cores (*sensu* Moore 2000) - some of which were very large. Core reduction appears to have been geared towards the production of robust flakes for immediate use or retouching into simple scrapers, with no evidence for the complex, hierarchically-organised reduction sequences typical of the mid-to-late Holocene. Tool edges, Moore (2000: 36) notes, were refurbished by unifacial retouching. A preference for volcanic materials over silcrete and mudstone has also been noted (Baker 1994; Koettig 1990, 1992:5), as has the paucity of evidence for deliberate heat treatment (Moore 2000)

In contrast to the late Pleistocene/early Holocene, evidence for mid-to-late Holocene Aboriginal occupation of the Hunter Valley abounds, with numerous excavated sites producing assemblages that can be confidently ascribed to these periods on the basis of radiometric dates and/or their typological/technological profiles. Taken at face value, available radiocarbon determinations suggest a progressive increase in the Aboriginal population of the Hunter Valley over the course of the Holocene (Attenbrow 2006). However, as argued by Hiscock (2008) on a national scale, it seems likely that the directional population growth suggested by such data is, to a certain extent at least, a product of differential site preservation, with younger sites better preserved than older ones. Other factors, such as the burial of older sites through sediment deposition and aeolian processes and bias in the location of archaeological surveys and excavations, may also be relevant.

Critical to any discussion concerning the antiquity of Aboriginal occupation within the Hunter Valley are the well-documented difficulties surrounding the dating of open artefact sites with active 'biomantles' (*sensu* Paton et al. 1995; see Dean-Jones & Mitchell 1993; Balek 2002; Hofman 1986; Johnson et al. 2005; Johnson 1989; Paton et al. 1995; Peacock & Fant 2002; Stein 1983). In the Hunter Valley, the term biomantle is typically used as a collective descriptor for the 'A' soil horizons of the Valley's dominant texture contrast or duplex soil profiles¹⁸, which tend to be relatively thin (<30 cm), and exhibit extensive evidence of bioturbation in the form of roots, open/infilled burrows, live insects and/or earthworms and stone lines¹⁹. As highlighted by Dean-Jones and Mitchell (1993) and others (e.g., Balek 2002; Johnson 1989), excavated finds assemblages from archaeological sites with active biomantles are subject to a range of interpretive constraints, with intact depositional stratigraphy unlikely to be preserved and inset archaeological features (e.g., hearths and heat treatment pits) representing the only reliable means of dating (with any specificity) intercepted archaeological events (Mitchell 2009: 4). Any stone artefacts discarded at the surface in landscapes with active biomantles are likely, over time, to have been incorporated into the soil profile through bioturbation, with depth of artefact burial ultimately corresponding to the base of major biological activity (i.e., the base of the biomantle). Where biomantles remain relatively undisturbed, patterns of artefact discard may be

¹⁸ Such profiles are characterised by loamy topsoils and silty clay to clay subsoils, with boundaries between these two units typically clear to abrupt. Clayey subsoils have formed by *in situ* weathering of the parent material, while topsoils are derived from a combination of *in situ* weathering and the deposition of colluvially and/or fluvially transported materials.

¹⁹ Stone lines, where present, typically occur at the interface between the A and B horizons.

preserved. However, in heavily disturbed contexts, the preservation of such patterning is unlikely (Mitchell 2009: 4).

For archaeologists working in the Hunter Valley, the analytical and interpretive constraints posed by intensive bioturbation have, in combination with a real paucity of dateable features, led to a reliance on the dating of excavated archaeological finds assemblages through relative means, specifically, through consideration of the typological and technological composition of associated flaked stone artefact assemblages and reference to a modified version of McCarthy's (1967) ERS (Table 6). While offering a useful chronological framework within which to assess diachronic changes in the stone artefact technologies and raw material use, the largely undated and palimpsest character of the Valley's lithic record represents a significant analytical and interpretive obstacle for period-specific reconstructions of Aboriginal mobility regimes (cf. Cowan 1999).

More broadly, Dean-Jones and Mitchell (1993: 63-64) have highlighted a series of geomorphic contexts within the Hunter Valley that they believe represent favourable locations for the preservation of Pleistocene and/or early Holocene archaeological evidence. These include:

- rock shelters and large middens;
- Aeolian sand deposits (e.g., source bordering dunes);
- the distal portions of low angle alluvial fans;
- stream junctions where each tributary has a different rate of sediment supply; and
- colluvial deposits at the base of steeply inclined surfaces.

To date, the two contexts that been shown to have the potential to contain recognisable older archaeological materials include late Pleistocene windblown sand dunes/sheets (e.g., AMBS 2002) and late Pleistocene/early Holocene colluvial deposits (e.g., Hughes & Hiscock 2000).

6.1.6 Occupation models

A number of Aboriginal occupation models have been proposed for the Hunter Valley over the past three decades, with existing models based on varying combinations of archaeological, environmental and ethnohistoric data. Key models for the Central and Lower Hunter Valley include those developed by Haglund (1992), Koettig (1992, 1994), Kuskie (2000) and Kuskie and Kamminga (2000). These models are summarised in Table 8.

Table 8 Aboriginal occupation models for the Hunter Valley

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
Koettig	1992 & 1994	Salvage of sites within the Camberwell and Bulga Coal Mine Leases	Central lowlands	<ul style="list-style-type: none"> Repeated occupation of an area is likely to be represented by continuous, or near continuous, distributions of archaeological sites and/or features; Sporadic or less intensive occupation of an area is likely to be represented by non-continuous or more widely dispersed archaeological sites and/or features; Continuous to near- continuous distributions of archaeological evidence along watercourses suggest that Aboriginal people did not camp at specific locations; Frequency of occupation at a given location is likely to have been related to the availability of subsistence resources (e.g., food, water, lithic raw materials); Some locations may have been foci for Aboriginal occupation owing to the presence of particular resources (e.g., sandstone exposures suitable for grinding hatchet-heads); and The duration of occupation at a given location may be evidenced by levels of disturbance to associated archaeological deposits, with sites occupied for shorter duration potentially having more intact deposits, as the length of stay may have been insufficient to disperse artefacts or mask the original form of knapping floors. 	Koettig 1992, 1994
Haglund	1992	Salvage of sites along Doctors Creek, Warkworth	Doctors Creek area, Central Hunter Valley	<ul style="list-style-type: none"> Kangaroos, wallabies, and other large and small game would have been abundant in the area during dry periods, and would have been hunted by small hunting parties of men who would prepare and repair their hunting equipment in close proximity to watercourses; Larger family groups likely visited the area during wetter periods when watercourses would be flowing more reliably and moisture dependent plants occurred in greater abundance; Women and children would procure and process plant foods, such as ferns, yams and other tubers, in the vicinity of creeks and watercourses; Sporadic visits would have resulted in debris left behind being incorporated into the turf or buried by leaf litter and Casuarina needles more quickly than more intensive, long term visits; and While some equipment such as grindstones may have been retained and carried throughout the landscape, flakes and other implements were likely manufactured, utilised and discarded on an "as needed" basis. 	Haglund 1992
Kuskie	2000	Archaeological survey of Mount Arthur North Coal Mine Lease	Mount Arthur Area, Central Hunter Valley	<ul style="list-style-type: none"> The area has been occupied for at least the past 5,000 years; Occupation may extend as far back as 30,000 - 40,000 years; 	Kuskie 2000

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
				<ul style="list-style-type: none"> • The area has predominantly been occupied by tribes of the Wonnarua language group, although members of neighbouring groups may also have sporadically visited and occupied the area. • The Mount Arthur North area was likely utilised and occupied by Aboriginal people at varying intensities on a seasonal basis; • Occupation was most intensive within 50m of the main watercourses (3rd and 4th order streams); • Aboriginal occupants had a strong preference for camping on level ground adjacent to reliable water sources and potentially more abundant subsistence resources; • Individual campsites were mainly occupied by single nuclear family groups and multiple family groups (bands); • Larger campsites from broader gatherings of people likely took place along the nearby Hunter River flats; • A greater range and frequency of activities were undertaken at camp sites, rather than in the surrounding landscape; • Camp sites along the major watercourses were occupied by small groups of people for varying lengths of time, during both the course of the seasonal round and in different years; • Occupation of camp sites throughout the entire Mount Arthur North area was predominantly sporadic rather than continuous; • Occupation, such as focussed camping, likely also occurred along level to very gentle drainage depressions (particularly 1st and 2nd order streams). These water sources were likely to be intermittent and occupation along these lower order streams may only have occurred when standing water was available; • Most camp sites involved overnight visits of small hunting parties rather than entire family groups; • Other than focused camping, activities engaged in across the survey area involved hunting activities (larger game) by small hunting parties of men, and gathering activities by small parties of women and children, along with transitory movement, procurement of lithic resources, and cultural activities. • The utilisation of areas such as simple slopes, ridge crests, spur crests and minor watercourses was less intense than the valley flats where base camps were situated; 	

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
				<ul style="list-style-type: none"> • Simple slopes were used during hunting or gathering activities in the course of the normal daily or seasonal round, to access higher ground or stone resources, or to move between camp sites. Ridge and spur crests were also used for these purposes and for accessing vantage points or moving to special ceremonial sites; • Vantage points were important to the Aboriginal occupants of the area, particularly gentle to steep upper slopes adjacent to several ridges, which were mainly accessed by groups of men on hunting expeditions, or for security and/or cultural purposes; • Silcrete and tuff were the preferred stone materials, both of which are locally available and likely procured from local sources during the course of the normal daily or seasonal round, with tuff being the preferred material for manufacture of flaked stone tools; • These materials were also procured from other sources within the region, most notably the alluvial gravels of the nearby Hunter River; • Chert, quartz, petrified wood, chalcedony, and porcellanite were also utilised to a lesser extent and were also procured from local sources, probably during the course of the normal seasonal round; • Silcrete was deliberately heat treated to improve its flaking properties. This may have been undertaken at single locations (e.g., a campsite adjacent to a watercourse) or in different locations reflecting the stages of procurement, heat treatment, reduction and use); • Manufacturing stone tools, particularly flaked implements, was likely a casual or opportunistic activity, conducted on an “as needed” basis; • There was little emphasis on rationing or conservation of the use of most stone materials, due to their wide availability; and • The manufacture of microblades (e.g., hunting spear barbs) was also widely undertaken. While likely a planned and organised activity, it did not necessarily occur at base camps, but may also have occurred in places traversed during the course of hunting expeditions on a more casual or opportunistic basis. 	
Kuskie & Kamminga	2000	Salvage of sites impacted by the construction of the Hunter Expressway, near Black Hill	Black Hill - Woods Gully - Hexham Wetlands Locality, Lower Hunter Valley	<ul style="list-style-type: none"> • The locality was occupied by Aboriginal people of the Pambalong Clan and potentially clans of the broader Awabakal language group; • Occupation focused on wetlands, swamps, lakes, estuaries, the coastline, and potentially also the junctions of multiple resource zones; • Occupation of the area has predominantly occurred within the past 4,000 years; 	Kuskie & Kamminga 2000

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
				<ul style="list-style-type: none"> • Occupation may have extended as far back as 30,000 – 40,000 years, but few landscape contexts exist in which archaeological evidence of older occupation would be conserved; • Occupation encompassed the entire region, but at varying intensities, on a seasonal basis, and across different time periods within the overall time-span of occupation; • Seasonal occupation of some resources and localities may not be evidenced in the extant archaeological record; • Occupation of the area reflects a wide range of activities, including transition between locations, hunting, gathering, procurement and utilisation of lithic and other resources, camping, ceremonial and spiritual activities, and burial practices; • Activities conducted and engaged in by the Aboriginal occupants of the area likely included: food procurement, processing, and consumption; production and maintenance of stone and wooden tools and implements; resource procurement; erection of shelters, children’s play, ceremonial and spiritual activity, and social and political activity; • Landscape features and variables such as topography, resources, proximity to water, aspect, slope, and cultural preference likely influenced the activities conducted by the Aboriginal occupants of the area; • Few of the activities engaged in by past Aboriginal people are likely to be evident within the archaeological record, other than those involving the use of stone or where preservation conditions permit; • Locally available indurated rhyolitic tuff was the preferred material for knapping and stone tool production, followed by silcrete, which was also able to be procured locally in terrace and alluvial gravels; • Both tuff and silcrete were likely obtained during both daily and seasonal movements throughout the landscape on an “as needs” basis, not during “special purpose trips”, and conservation of these materials was not a priority due to their wide availability; • Other locally available stone materials including quartz, quartzite, acidic volcanics, chalcedony and chert were also utilised to a lesser extent; • Non-locally available stone materials such as dacite and rhyodacite (used for grindstones) may have been obtained through trade or exchange with other cultural groups, through special purpose trips, or during visits to other areas during the seasonal round; 	

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
				<ul style="list-style-type: none"> • Ochre was utilised for ceremonial purposes and may have been procured from sources near Lake Macquarie, the Hunter River, or from outside the region; • Heat treatment of silcrete was undertaken to improve flaking qualities and possibly to obtain desired colours; • A reasonably high proportion of silcrete used in knapping activities was deliberately heat treated, but tuff was not; • Microblade production was a widespread, likely planned and organised, activity with the primary goal of producing microliths (e.g., bondi points) for hunting implements/purposes. • Microblade production may have occurred at both campsites and also in places on transitory routes during hunting expeditions, which may represent more casual or opportunistic behaviour; • Production of microliths was time-consuming and the end result was likely highly desirable and socially valuable; • The investment of time and energy in activities such as heat treatment of silcrete and production of microliths for hunting and fighting spears may have more social than utilitarian values, as floral and smaller faunal subsistence resources would probably have been most prominent in the economy of the local Aboriginal people.; • Casual and opportunistic knapping or selection of flakes to meet requirements on an “as needs” basis was widespread. • A high proportion of knapping products were likely discarded at the site of their manufacture, without use; • Use of bipolar technique was uncommon; • Floral subsistence resources were locally abundant, predominantly obtained and processed by women, and were consumed at campsites and at the site of procurement; • Ferns may have been a staple of the local diet, along with the bulbs and roots of other wetland plants; • Plant preparation sites may include camping places around the margins of Hexham Wetland and other swamps. Tools such as Worimi cleavers were utilised to pound the starch-rich rhizomes of bracken and swamp fern and the roots of other plants obtained from the wetlands; 	

Researcher(s)	Year(s)	Project(s)	Area to which the model applies	Summary of model	Reference(s)
				<ul style="list-style-type: none"> • Eloueras may have been used for extracting the perennial herb cumbungi (<i>Typha australis</i>), abundant in the freshwater parts of wetlands, or less likely, tall spike rush (<i>Eleocharis sphacelata</i>); • Less portable special tools such as Worimi cleavers and grindstones may have been deliberately stored at base camps; • Faunal resources were processed and consumed at temporary hunters or gatherers camps, at nuclear base camps, campsites of larger congregations of people, and at the site of procurement; • Men hunted for larger game, while women played a key role in gathering plants and obtaining smaller game; • Hunting was a planned and coordinated event; • Fish were obtained by several methods, including boating, hooks and lines, spearing, using hand nets, and creating fish traps; • Strategic management of resources such as fish traps was aimed at increasing the reliability and productivity of food resources; • Nuclear family base camps may have been strategically positioned in relation to food resources, at the conjunction of two or more subsistence zones, close to potable water, and on level or very gently inclined ground. Visual aspect and security may have also been important considerations; • Site occupants of nuclear family base camps may have foraged within an area of up to 10 km radius from the campsite; • Campsites in more favourable locations may have been subject to more intensive occupation; and • Community base camps or camps of larger congregations of people tended to be situated on level ground adjacent to plentiful food resources and potable water such as river terraces or flats. 	

6.2 Local Archaeological Context

6.2.1 AHIMS Database

The AHIMS database, administered by the OEH, contains records of all Aboriginal objects reported to the Secretary of the Department of Premier and Cabinet in accordance with Section 89A of the *National Parks and Wildlife Act 1974*. It also contains information about Aboriginal places that have been declared by the Minister to have special significance with respect to Aboriginal culture. Previously recorded Aboriginal objects and declared Aboriginal places are known as 'Aboriginal sites'.

A search of the AHIMS database was undertaken on 18 June 2019 over a 5 km x 5 km area centred on the study area. The search resulted in the identification of 56 Aboriginal sites, comprising 55 open artefact sites (i.e., isolated artefacts and artefact scatters) (four of which have associated areas of Potential Archaeological Deposit [PAD]) and one midden site. Consideration of the location of previously recorded Aboriginal sites indicates that none are located within the study area with the closest site – artefact site 'Ramrod R1' (AHIMS ID#37-2-2338) located 105 m from the existing road access.

Table 9 Site search results (5 km x 5 km area)

Site Type	Count	%
Open artefact site (i.e., isolated artefacts and artefact scatters)	51	91.1
Open artefact site with PAD	4	7.1
Midden	1	1.8
Total	56	100

In addition to the above sites, on 8 October 2018 AECOM was notified by Scott Franks acting on behalf of the PCWP, that five sites were registered on AHIMS that may be relevant to the project (37-2-5834, 37-3-1506, 37-3-1507, 37-6-3906 and 37-6-3907). AECOM subsequently requested a copy of the site cards from Mr Franks, however, was informed that the site cards were restricted. Instead, Mr Franks provided maps showing the site boundaries. AECOM georeferenced the maps and determined that the study area falls wholly within one of the site boundaries.

In an attempt to gather more information about the sites, AECOM requested a copy of the site cards from the Heritage Information Officer at OEH on 12 October 2018. OEH responded:

"Unfortunately all the Site Cards you have listed below are "Under Investigation" and I won't be able to release any information relating to them to you. They are also all Restricted, so even if they were not "Under Investigation" as per our normal procedures you would need Aboriginal Community Permission to access them".

From discussions AECOM has had with Mr Franks for this project and others, it is understood that these sites represent locations where local Aboriginal people lived, sustained a continued connection to Country and include areas where conflict between Aboriginal people and European settlers and police occurred.

AECOM understands that these sites are currently listed on the AHIMS database as 'not a site'.

6.2.2 Previous Archaeological Investigations within the Study Area

Existing AHIMS data indicates that numerous Aboriginal archaeological investigations incorporating survey and/or test excavation have been undertaken within the study area since the 1970s. Investigations undertaken directly within the study area include targeted surveys by Kamminga (1978), Dyll (1980), HLA Envirosciences (2002), and ARAS (2006) as part of the Drayton Mine. In addition to these, one archaeological salvage incorporating surface collection, mechanical grader scrapes and hand excavation was undertaken by ARAS (2010). Summaries of these assessments are provided in Table 10.

Table 10 Previous Aboriginal Heritage Assessments

Consultant	Year	Project / Location	Assessment type	Summary of results
Kammainga	1978	Drayton Coal Lease	Survey	Kammainga (1978) undertook a targeted survey of land within the Drayton Coal Lease as part of the preparation of the EIS for the coal mine. No Aboriginal sites were identified during the survey.
L.K. Dyall	1980	Drayton Coal Lease	Survey	Dyall (1980) undertook a survey of an area immediately south of the Bayswater Colliery and north of the study area within the Maxwell Infrastructure area. Three sites, all artefact scatters, were recorded on the banks of Saddlers Creek. The sites contained flakes, cores and backed blades of chert, rhyolite (tuff) and quartz.
HLA Envirosciences	2002	Drayton Mine Extension	Survey	HLA Envirosciences (2002) completed an archaeological survey for the Drayton Mine extension. A total of 14 artefact scatters were located during survey. Indurated mudstone/tuff was the dominant material (51%), followed by silcrete (39%), quartz (5%) and porcellanite (5%). Artefacts comprised flakes (49%), flaked pieces (41%), cores (9%), and backed blades (1%). All sites were located along creeklines, ridgelines or crests.
Archaeological Risk Assessment Services	2006	Drayton Mine Extension	Survey	ARAS (2006) undertook an assessment for the Drayton Mine extension. A total of 480 stone artefacts were recorded from 39 sites that were identified, comprising of 22 artefact scatters and 17 isolated finds. A large proportion of the sites contained less than 10 artefacts, though five sites had over 50 artefacts and were associated with drainage lines or gullies. Of the 480 artefacts identified, 38% were complete flakes, 31% broken flakes, 26% flaked pieces and 5% cores. A majority of artefacts were of indurated mudstone/tuff (55%), followed by silcrete (25%), porcellanite (14%) and quartz (4.6%).
Archaeological Risk Assessment Services	2010	Drayton Mine Extension	Survey and salvage	ARAS (2010) undertook a program of salvage excavation for 26 Aboriginal sites for the Drayton Mine Extension Project. The salvage included surface collection of artefacts at 22 sites, mechanical grader scrapes at 11 locations and hand excavation at three locations. A total of 8505 artefacts were recovered as part of the works. Of these, 7500 artefacts were recovered from three distinct knapping locations at Ramrod Creek, identifying the creek as archaeologically sensitive. OSL (optically stimulated luminescence) dating of deposits at Ramrod Creek and Delpah returned dates of 3-1.4 ka years ago placing them in the Late Holocene. Raw materials utilised included porcellanite, silcrete, tuff and chert. At Ramrod Creek, porcellanite was the dominant raw material, while at Delpah, silcrete and tuff were dominant. ARAS (2010) proposed two main site types, reflecting two differing site functions, were present within the study area: fringe sites representing short-term occupation, and sites principally focused on the manufacture of backed

Consultant	Year	Project / Location	Assessment type	Summary of results
				artefacts. On the basis of site size (i.e. number of artefacts) and the ratio of discarded tools to waste material, ARAS (2010) proposed that sites adjacent to ridgelines and overlooking ephemeral water systems were the result of 'short term settlement". Conversely, ARAS (2010) found sites associated with Ramrod Creek were specific to stone tool manufacturing activities, with particular emphasis on producing Bondi points from porcellanite.

Figure 14 AHIMS Sites



6.3 Archaeological Predictions

A review of the existing archaeological and environmental context of the study area suggests that material evidence of past Aboriginal activity within the area is likely to be restricted to flaked stone artefacts occurring in topsoil used a part of the rehabilitation process. Accordingly, key predictions for the study area's Aboriginal archaeological record are as follows:

- identified stone artefacts encountered within the study area would be in disturbed contexts and not *in-situ*;
- most, if not all, of the Aboriginal archaeological materials present within the study area will be of mid-to-late Holocene antiquity;
- the dominant raw material for flaked stone artefact production within the study area will be silicified tuff, with silcrete the second most common material;
- flaked stone objects will be dominated by flake debitage items (*sensu* Andrefsky 2005), with formed objects (i.e., cores and retouched flakes) comparatively poorly represented;
- the majority of silcrete artefacts will exhibit evidence of thermal alteration;
- knapping floors would not be present;
- complete and/or fragmentary backed artefacts will dominate the retouched components of recorded flaked stone artefact assemblages; and
- tool types of demonstrated temporal significance, if present, will be limited to edge-ground hatchet heads and backed artefacts.

7.0 Archaeological Survey

7.1 Survey

7.1.1 Aim and Objectives

The aim of the archaeological survey was to identify, record and map Aboriginal heritage values within the study area. These values include both the tangible remains of past Aboriginal activity (i.e., archaeological evidence) as well as intangible cultural values. To achieve these aims, the following specific survey objectives were developed:

- to comprehensively survey, by pedestrian transects, land within the study area where topsoil collected prior to open-cut mining has been utilised as part of the rehabilitation process;
- to identify and record Aboriginal archaeological objects within the study area; and
- to obtain sufficient data to facilitate the development of appropriate management and mitigation measures for identified Aboriginal sites and areas of archaeological sensitivity.

7.1.2 Methodology

A field team of two AECOM heritage specialists (Geordie Oakes and Dr Andrew McLaren) and RAP representatives completed the archaeological survey within the study area on 10 April 2019. As noted in Section 1.4 and the project methodology issued to RAPs on 10 March 2019 indicated that archaeological survey was proposed within those portions where Project related impacts are proposed and where topsoil collected prior to mining has been utilised as part of the rehabilitation process. This portion of the study area was approximately 96 ha in size.

All survey was conducted on foot, with a total of four transects executed across the study area. Participants in the survey (ten) were spaced roughly at 10 m intervals during the survey. Areas of steep terrain or where machinery/plant was actively working on rehabilitation of the open cut mine were not surveyed due to restricted access for safety reasons. The location of each transect completed during the survey, including start and end points, was recorded using one of two handheld differential GPS units, with associated transect data (e.g., GSV and GI ratings) entered directly into the same unit upon the completion of each transect.

7.2 Survey Results

7.2.1 Survey Coverage and Effective Coverage

As indicated in Section 7.1.2 and shown on Figure 15, a total of four pedestrian transects were completed over the study area. Recorded transect data indicate that a total survey coverage of approximately 55 ha, representing around 57.2% of the topsoil area, was achieved.

Effective coverage estimates for each transect completed during survey, shown in Table 11 were good, with three exceeding 10%. Ground Surface Visibility (GSV) across the study area was generally good, ranging from 30-50% due to rehabilitation and limited vegetation cover. Areas of enhanced GSV comprised erosion exposures and areas lacking vegetation. Calculation of the total effective coverage achieved for the current survey indicates that around 12.8% (approximately 7.041 ha) of the survey area could be effectively surveyed for surface Aboriginal archaeological materials.

Table 11 Effective coverage data for the current survey

Survey Unit	Landform Unit	Survey Unit Area (ha)	Visibility %	Exposure %	Effective coverage (ha)	Effective coverage %
Transect 1	Crest, slope	13.67	50	20	1.367	10
Transect 2	Crest, slope	12.73	30	30	1.14	8.6
Transect 3	Flat	24.9	40	40	3.984	16
Transect 4	Flat	3.669	50	30	0.55	14.9

Survey Unit	Landform Unit	Survey Unit Area (ha)	Visibility %	Exposure %	Effective coverage (ha)	Effective coverage %
Total	-	54.969	-	-	7.041	12.8

7.2.2 Findings

Survey within the study area identified a modified landscape with no original landforms present. Soils within the area were assessed in the field as comprising mixed A¹, A² and B soil horizons combined within underlying geological profiles (Plate 7 and Plate 8). Vegetation comprised grasses as well as patches of planted trees of various ages.

Plate 7	Sample of surface soils observed during the archaeological survey (source: AECOM 2019)	Plate 8	Sample of surface soils observed during the archaeological survey (source: AECOM 2019)
			

No Aboriginal objects were identified during the field survey. Subsurface archaeological sensitivity was assessed as low due to historic disturbances.

RAPs present during the survey likewise suggested that land within the study area has been subject to significant historic disturbances.

Figure 15 Survey Coverage



8.0 Significance Assessment

8.1 Principles of Assessment

Heritage sites hold value for different communities in a variety of different ways. All sites are not equally significant and thus not equally worthy of conservation and management (Pearson & Sullivan 1995: 17). One of the primary responsibilities of cultural heritage practitioners, therefore, is to determine which sites are worthy of preservation and management (and why) and, conversely, which are not (and why) (Smith & Burke 2007: 227). This process is known as *the assessment of cultural significance* and, as highlighted by Pearson and Sullivan (1995: 127), incorporates two interrelated and interdependent components. The first involves identifying, through documentary, physical or oral evidence, the elements that make a heritage site significant, as well as the type(s) of significance it manifests. The second involves determining the degree of value that the site holds for society (i.e., its cultural significance) (Pearson & Sullivan 1995: 126).

In Australia, the primary guide to the assessment of cultural significance is the *Australian ICOMOS Charter for Places of Cultural Significance* (1999), informally known as *The Burra Charter*, which defines cultural significance as the “aesthetic, historic, scientific, social or spiritual value for past, present or future generations” of a site or place (ICOMOS 1999: 2). Under the Burra Charter model, the cultural significance of a heritage site or place is assessed in terms of its aesthetic, historic, scientific and social values, none of which are mutually exclusive (Table 12). Establishing cultural significance under the Burra Charter model involves assessing all information relevant to an understanding of the site and its fabric (i.e., its *physical* make-up) (ICOMOS 1999: 12). The assessment of cultural significance and the preparation of a statement of cultural significance are critical prerequisites to making decisions about the management of any heritage site or place (ICOMOS 1999: 11).

With respect to Aboriginal heritage, it is possible to identify two major streams in the overall significance assessment process: the assessment of *scientific value(s)* by archaeologists and the assessment of *social (or cultural) value(s)* by Aboriginal people. Each is considered separately below.

Table 12 Values relevant to determining cultural significance, as defined by The Burra Charter (ICOMOS 1999).

Value	Definition
Aesthetic	“Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use” (ICOMOS 1999: 12).
Historic	“Historic value encompasses the history of aesthetics, science and society...[a] place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may have historic value as the site of an important event” (ICOMOS 1999: 12).
Scientific	“The scientific or research value of a place will depend on the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information” (ICOMOS 1999:12).
Social	“Social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group” (ICOMOS 1999: 12).

8.2 Scientific Value

Scientific value refers to the importance of a place in terms of its rarity, representativeness and the extent to which it may contribute further information (i.e., its research potential) (OEH 2011: 9).

8.2.1 Rarity and Representativeness

Rarity and *representativeness* are related concepts. *Rarity* refers to the relative uniqueness of a site within its local and regional context. The scientific significance of a site is assessed as higher if it is

unique or rare within either context. Conversely, it is considered to be of lower significance if it is common in one or both. The concept of representativeness, meanwhile, refers to the question of whether or not a site is “a good example of its type, illustrating clearly the attributes of its significance” (Burke & Smith 2004: 247). Representativeness is an important criterion as one of the primary goals of cultural heritage management is to preserve for future generations a representative sample of all archaeological site types in their full range of environmental contexts.

In common with rarity, assessments of representativeness within a region are dependent on the state of current knowledge concerning the number and type of archaeological sites present within that region²⁰. This is a critical point, for as suggested by Kuskie (2000) and others (e.g., Bowdler 1981; Godwin 2011; Pearson & Sullivan 1995), the absence across most of Australia of regional-scale quantitative data for Aboriginal sites and places represents a major constraint in assessments of representativeness and rarity. As stressed by Bowdler (1981) some 30 years ago, detailed regional-scale assessments of the Aboriginal archaeological record of Australia are required to address this issue.

8.2.2 Research Potential

Research potential can be defined as the potential of an archaeological site to address what Bowdler (1981: 129) has referred to as “timely and specific research questions”. These questions may relate to any number of issues concerning past human lifeways and environments and, as suggested by Bowdler’s quote, will inevitably reflect current trends or problems in academic research (Burke & Smith 2004: 249). For their part, Bowdler and Bickford (1984: 23-4) suggest that the research potential of an archaeological site can be determined by answering the following series of questions:

1. Can the site contribute knowledge which no other resource can?
2. Can the site contribute knowledge which no other such site can?
3. Is this knowledge relevant to general questions about human history or other substantive subjects?

Several criteria can be used to assess the research potential of an archaeological site. Particularly important in the context of Aboriginal archaeology are the intactness or integrity of the site in question, its complexity and its potential for archaeological deposit (NPWS 1997: 7). The connectedness of the site to other sites or natural landscape features may also be relevant.

Integrity refers to the extent to which a site has been disturbed by natural and/or anthropogenic phenomena and includes both the state of preservation of particular remains (e.g., animal bones, plant remains) and, where applicable, stratigraphic integrity. Assessments of archaeological integrity are predicated on the notion that undisturbed or minimally disturbed sites are likely to yield higher quality archaeological and/or environmental data than those whose integrity has been significantly compromised by natural and/or anthropogenic phenomena. Establishing levels of preservation or integrity in the context of a surface survey is difficult. Nonetheless, useful rating schemes are available for ‘open’ sites (Coutts & Witter 1977: 34) and scarred trees (Long 2003).

The *complexity* of a site refers primarily to the nature or character of the artefactual materials or features that constitute it but also includes site structure (e.g., the physical size of the site, spatial patterning in observed cultural materials). In the case of open artefact sites, for example, the principal criteria used to assess complexity are the site’s size (i.e., number of artefacts and/or spatial extent), the presence, range and frequency of artefact and raw material types, and the presence of features such as hearths.

Potential for archaeological deposit refers to the potential of a site to contain subsurface archaeological evidence which may, through controlled excavation and analysis, assist in answering questions that are of contemporary archaeological interest. Assessing subsurface potential in the absence of subsurface investigation is difficult. Nonetheless, consideration of a range of factors, including the integrity of the site, the complexity of extant surface evidence, the nature of the local

²⁰ There is, of course, a temporal fluidity to this criterion (i.e., as knowledge of the Aboriginal archaeology of a region increases, assessed levels of representativeness may change, a point of equal relevance to rarity).

geomorphology (as established through surface observations and documentary research) and the results of previous archaeological excavations in the area, will help inform assessment of this criterion.

Connectedness concerns the relationship between archaeological sites within a given area and may be expressed through a combination of factors such as site location, type and contents. It may, for example, be possible to establish a connection between a stone quarry and hatchet found nearby. Demonstrating connectedness archaeologically, however, is far from straightforward, especially when dealing with surface evidence alone. Ultimately, this difficulty rests with the need to demonstrate contemporaneity between sites that may have been created hundreds, if not thousands, of years apart. As Shiner (2008: 13) has observed, “much of the surface archaeological record documents the accumulation of materials from multiple behavioural episodes occurring over long periods of discontinuous time”. Contemporaneity, then, needs to be demonstrated not assumed.

8.2.3 Identification Process for Current Assessment

For the current assessment, information on the scientific values of the study area has been obtained through a review of existing environmental and archaeological data for the study area, as detailed in Sections 4.0, 5.0 and 6.0, and archaeological survey across the study area described in Section 7.2.

8.3 Assessment of Scientific Significance

No Aboriginal objects were identified during the archaeological survey. The potential for subsurface archaeological deposit was assessed as low due to historical disturbances. As such, no assessment of significance is warranted.

8.4 Cultural Value

Social or cultural value refers to the spiritual, traditional, historic and contemporary associations and attachments a place or area has for Aboriginal people and can only be identified through consultation with Aboriginal people (OEH 2011: 8).

No Aboriginal objects or specific cultural values were identified during the assessment. However, Tocomwall, acting on behalf of the PCWP, has stated that the study area still retains cultural values despite impacts from open cut mining. However, these cultural values had not been provided at the time of writing this assessment. Nonetheless, it is noted that a number of cultural values have been identified by the Aboriginal community in previous assessments in the local area. A summary of these is provided below.

8.4.1 Cultural Landscape

The study area sits within a broader cultural landscape that has cultural significance for Aboriginal people. Forming part of this cultural landscape are important local landscape features such as Mount Arthur and the Hunter River. Landscape features, as well as Aboriginal sites, are often associated with stories or songs and form links along songlines or pathways. More broadly, the study forms part of larger collection of Aboriginal places including Mount Yengo, Biame Cave in Milbrodale, Lizard Rock at Laguna and Burning Mountain at Wingen.

8.4.2 Landscape Features

Mount Arthur is the dominant landscape feature in the local area and has been identified by the Aboriginal community as a significant landscape feature both spiritually and as a visual landmark. One of the first references to the importance of Mount Arthur to the local Aboriginal community was from Dyall (1977) during his archaeological assessment of Mt Arthur. Dyall noted that during his enquiry with local residents there were ‘suggestions that Mount Arthur itself was of special significance to the Aboriginal people’ (Dyall 1977: p1). Since that time, several archaeological and cultural heritage assessments have reported on the significance of Mount Arthur to Aboriginal people. Umwelt (2006) noted the significance of Mount Arthur as the dominant topographic feature of the region and additionally identifies the prominent ridgeline that radiates southeast of the mountain towards Saddlers Creek. As a visual landscape feature, Mount Arthur would have formed a landscape point (or node) within an Aboriginal pathway linking with other points or features and drawing together the broader cultural landscape. In addition, the Aboriginal community have identified Mount Arthur as the location of a potential massacre site (see discussion below). The identification of an Aboriginal burial site on

the Mount Arthur Coal Lease in 2001 likewise forms an important contribution to the significance of Mount Arthur to local Aboriginal people.

8.4.3 Aboriginal Dispossession and Resistance

The Aboriginal community has indicated that conflict between Aboriginal people, local settlers and Mounted Police occurred in the region surrounding the study area. A review of documentary sources for the mid-to-upper Hunter has not identified any reported incidents of Aboriginal-European conflict within or immediately surrounding the study area. Gollan (1993) has suggested that the incident known colloquially as the 'Ravensworth massacre' is likely to have occurred within the Mount Arthur area, north-west of the study area. However, other, more recent reviews of this incident (e.g., Dunn, 2015; Umwelt, 2004) cast doubt over this interpretation.

Historically documented incidents of conflict notwithstanding, RAPs involved in the current assessment have identified Mount Arthur as the location of a massacre. While no details of this incident were provided to AECOM as part of the current assessment, it is likely that the incident to which the RAPs are referring is the same incident reported by Aboriginal informants involved in Davidson and Lovell-Jones' (1993) ethnographic investigation for the then proposed Bayswater No. 3 Colliery. Davidson and Lovell-Jones (1993: 20) report several of their informants as having told them of a massacre within 'The Pocket', a prominent re-entrant to the west of Mount Arthur proper. As described in their report:

Several people told the same story, with few contradictions (related below), in the course of this study. This story relates to The Pocket or The Little Pocket on the southern side of Mount Arthur. It is believed by these people that a group of approximately 300 local Aboriginal people were either camping in, or were driven into, The Pocket by the Mounted Police (numbers of police unknown). The story goes on to relate that the Aboriginal people, who were thought to be the last survivors in the district, were subsequently all shot to death, men, women and children, by the mounted police from 'on top of the pocket'. No one could then relate what they may have been told had happened to the bodies.

All but one of the informants believed the massacre at The Pocket to be accurate, as, all informants trusted that the person who told them was a reliable and honest source (usually a parent or grandparent). They also related their fears of the area and spoke of 'horses always being spooked near The Pocket', they would also 'get this feeling that someone was watching me' and their own 'hair rising on the back of the neck' and of nearby 'windmill spinning tail first' with or without accompanying wind. (Davidson and Lovell-Jones 1993: 20)

These observations aside, Davidson and Lovell-Jones (1993: 20) noted a lack of corroborating material evidence for the massacre reported by their informants:

None the informants who worked around Mount Arthur or played in the rock shelters or 'caves' of Mount Arthur, as children, ever saw any human remains or other material culture remains of Aboriginal people. One informant indicated that in one 'cave', in Mount Arthur, there is a crack along the back where 'if you throw a rock down it you can't hear it land'. The archaeological survey in The Pocket revealed three locations with artefacts, but no other signs of past Aboriginal occupation. Moreover, James and Fife [i.e., Rosalind James and Ray Fife] were of the opinion that the slopes and their wooded nature would not have allowed the sort of attack from above being described.

In addition to 'The Pocket', Davidson and Lovell-Jones (1993: 20) report that two of the archaeologists involved in the archaeological survey component of the Bayswater No.3 Colliery, namely Rosalind James and Ray Fife, were told of "another possible site of the same, or another, massacre" while surveying in the field. This site was located in a gully behind the property of 'Belmont', itself located around 3 km southwest of Mount Arthur, on the northern side of Saddlers Creek. However, "this rumour was not corroborated by any of the other informants" (Davidson and Lovell-Jones, 1993: 20).

In offering their conclusions on the massacre reported by their informants, Davidson and Lovell-Jones (1993: 27) stressed the point that, while their inquiry failed to identify any documentary evidence of a massacre within the Mount Arthur area, the oral histories provided by their informants were to be considered equally authoritative.

8.4.4 Mt Arthur Burial

RAPs have noted that a burial site was located west of the study area on the Mount Arthur Coal Mine. The burial was uncovered as part of salvage works completed by Kuskie and Clarke (2004) for the Mount Arthur Coal Mine. It is understood that details surrounding the burial have not been publicised and remain restricted. However, AECOM understands that this burial is located on Whites Creek north of Mount Arthur, approximately five kilometres from the study area.

9.0 Impact Assessment

A description of the activities proposed by the project is provided in Section 1.3. As no Aboriginal objects or specific cultural values have been identified within the study area, no impacts to Aboriginal objects or heritage values are anticipated to occur as a result of the Project.

10.0 Management Recommendations

The following management recommendations are made regarding the identified Aboriginal heritage values of the study area, with recommendations made on the basis of:

- A review of previous archaeological investigations completed within and surrounding the study area;
- the results of the archaeological survey as described in Section 7.0.
- the significance and impact assessments detailed in Sections 8.0 and 9.0; and
- consultation with RAPs.

10.1 Statutory Requirements

As indicated in Section 1.0, this Aboriginal archaeology and cultural heritage impact assessment forms part of an EIS, which is being prepared to support a Development Application for the Project in accordance with Part 4 of the EP&A Act.

This ACHAR documents the results of AECOM's assessment and has been compiled with reference to the NSW Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

10.2 Recommendations

1. No Aboriginal heritage constraints have been identified within the study area. As such, no further heritage works or reporting are considered warranted; and
2. Should a previously unidentified Aboriginal objects be identified at any point during works associated with Project, the following standard procedure should be adopted.

Management of Previously Unrecorded Aboriginal Objects

1. All works must cease immediately in the area to prevent any further impacts to the site;
2. Notify the Manager Environment and Community;
3. Engage a suitably qualified archaeologist and RAP representative to determine the nature, extent and significance of the site and provide appropriate management advice. Management action(s) will vary according to the type of evidence identified, its significance (both scientific and cultural) and the nature of potential impacts; and
4. Prepare and submit an AHIMS site card for the site.

Human Skeletal Remains

In the event that potential human skeletal remains are identified at any point throughout the life of the proposed activity, the following standard procedure should be followed:

1. All work in the vicinity of the remains should cease immediately;
2. The location should be cordoned off - work can continue outside of this area as long as there is no risk of interference to the remains or the assessment of the remains;
3. Where it is instantly obvious from the remains that they are human, the Manager Environment and Community (or a delegate) should inform the NSW Police by telephone (prior to seeking specialist advice);
4. Where uncertainty over the origin (i.e., human or non-human) of the remains exists, a physical or forensic anthropologist should be commissioned to inspect the exposed remains in situ and to make a determination of origin, ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historic or modern):

- a. If the remains are identified as modern and human, notify NSW Police;
- b. If the remains are identified as pre-contact or historic Aboriginal, notify OEHL using their Environment Line (131 555);
- c. If the remains are identified as historic (non-Aboriginal), notify the NSW Heritage Division;
- d. If the remains are as identified as non-human but archaeological in nature, engage a suitably qualified heritage specialist to determine the nature, extent and significance of the remains and to provide appropriate management advice; and
- e. If the remains are as identified as non-human and non-archaeological, resume works.

An Aboriginal community representative must be present where it is reasonably suspected burials or human remains may be encountered. If human remains are unexpectedly encountered and they are thought to be Aboriginal, the Aboriginal community must be notified immediately.

Recording of Aboriginal ancestral remains must be undertaken by, or be conducted under the direct supervision of a specialist physical anthropologist or other suitably qualified person.

Archaeological reporting of Aboriginal ancestral remains must be undertaken by, or reviewed by, a specialist physical anthropologist or other suitably qualified person, with the intent of using respectful and appropriate language and treating the ancestral remains as the remains of Aboriginal people rather than as scientific specimens.

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Appendix A

Project SEARs

Appendix A Project SEARs

<p>Specific Issues</p>	<p>The EIS must address the following specific issues:</p> <ul style="list-style-type: none"> • Biodiversity – including: <ul style="list-style-type: none"> – an assessment of the biodiversity values and the likely biodiversity impacts of the project (including on Inland Grey Box woodland endangered ecological community) in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (NSW), the Biodiversity Assessment Method (BAM) and documented in a Biodiversity Development Assessment Report (BDAR), unless OEH and DPE determine that the proposed development is not likely to have any significant impacts on biodiversity values; – the BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; and – an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the <i>Fisheries Management Act 1994</i>, and a description of the measures to minimise and rehabilitate impacts; • Heritage – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including consultation with the local Aboriginal community in accordance with the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i>; • Land – including: <ul style="list-style-type: none"> - an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including: <ul style="list-style-type: none"> o a consideration of agricultural land, flood prone land, Crown lands, mining, mineral or petroleum rights/tenements (including the Drayton Mine (06_0202)); o a soil survey to determine the soil characteristics and consider the potential for erosion to occur; and o a cumulative impact assessment of nearby developments; - an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including: <ul style="list-style-type: none"> o consideration of existing approvals, licences, titles, tenures and rehabilitation requirements for the site, including those specified under 06_0202 (as modified) and the Mine Operations Plan;
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OEH Submission

Aboriginal cultural heritage
<p>5. The Environmental Impact Assessment (EIS) must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEH regional branch officers.</p>
<p>6. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.</p>
<p>7. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.</p>

Appendix **B**

Agency Letters

Appendix B Agency Letters

31 January 2019

Archaeologist
Aboriginal Heritage Section
Office of Environment and Heritage NSW
Locked Bag 1002
Dangar NSW 2309

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

Should you have information regarding the above or have any questions, please don't hesitate to contact:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: Geordie.Oakes@aecom.com

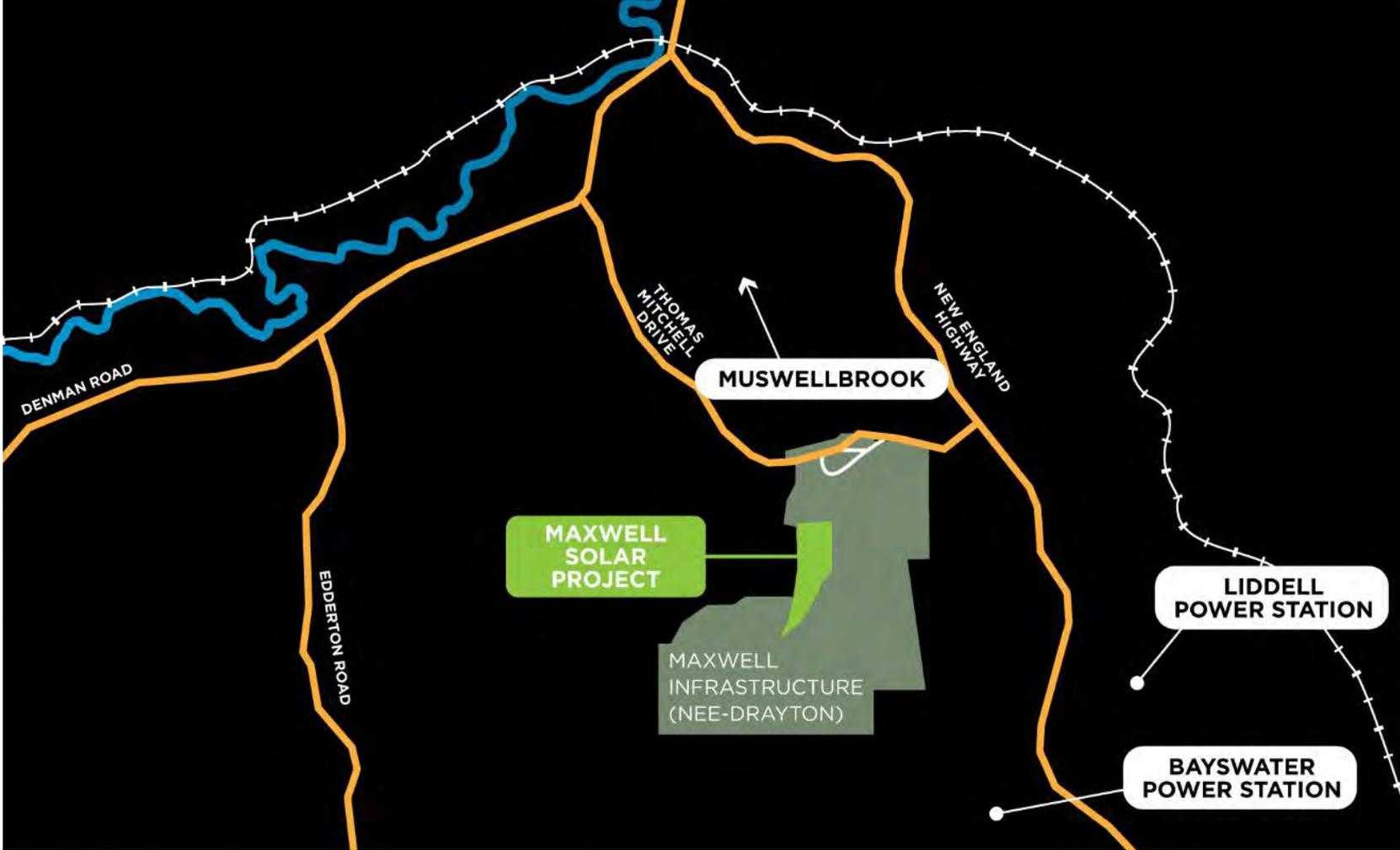
Kind regards,



Geordie Oakes
Archaeologist
Geordie Oakes
Archaeologist
Geordie.Oakes@aecom.com

Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

The Register
Office of the Registrar, Aboriginal Land Rights Act 1983
PO Box 112
Glebe NSW 2037

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

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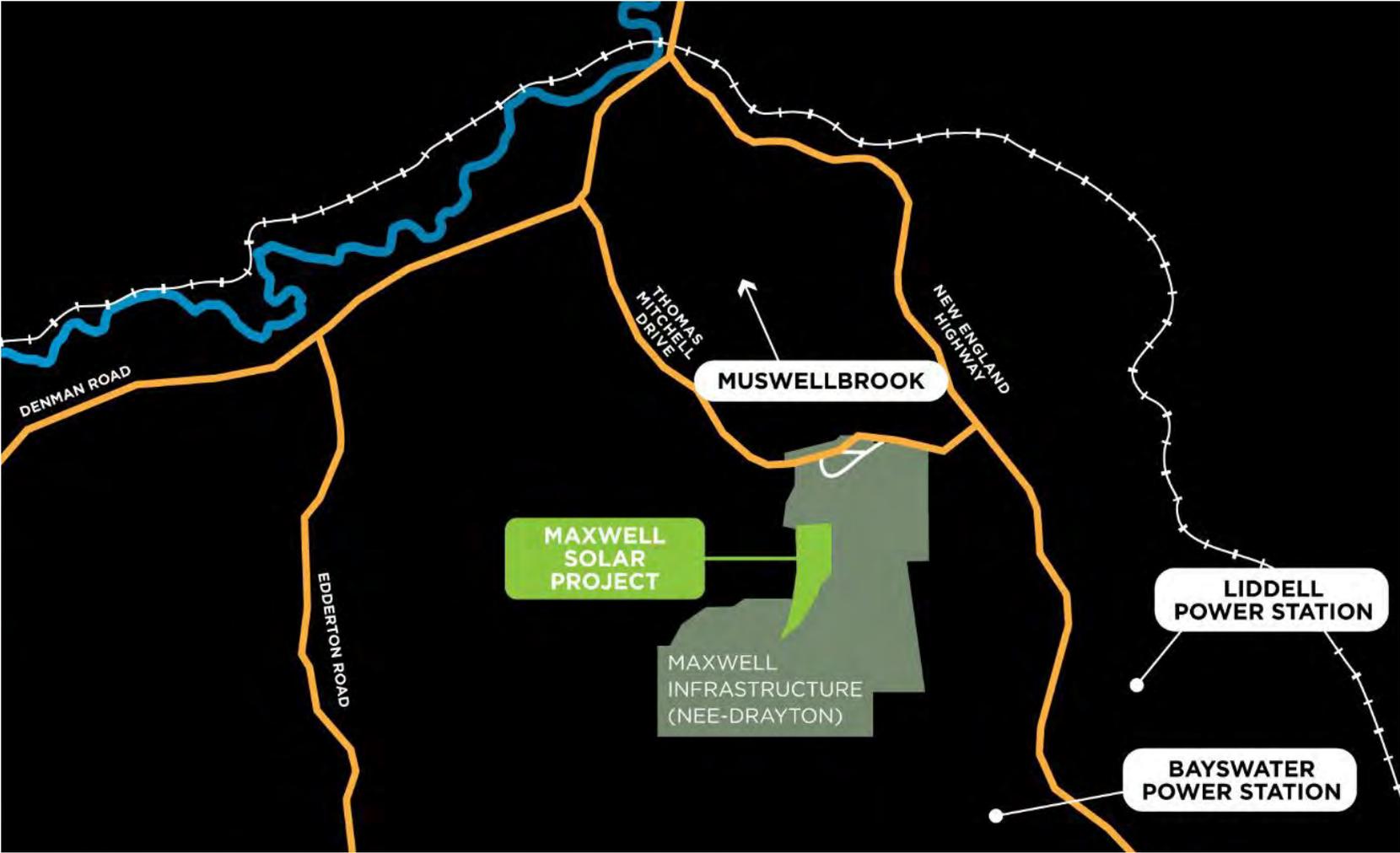
Kind regards,



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Figure 1 Area of Interest



31 January 2019

Hunter Local Land Services Office
98 John Street
Singleton NSW 2330

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

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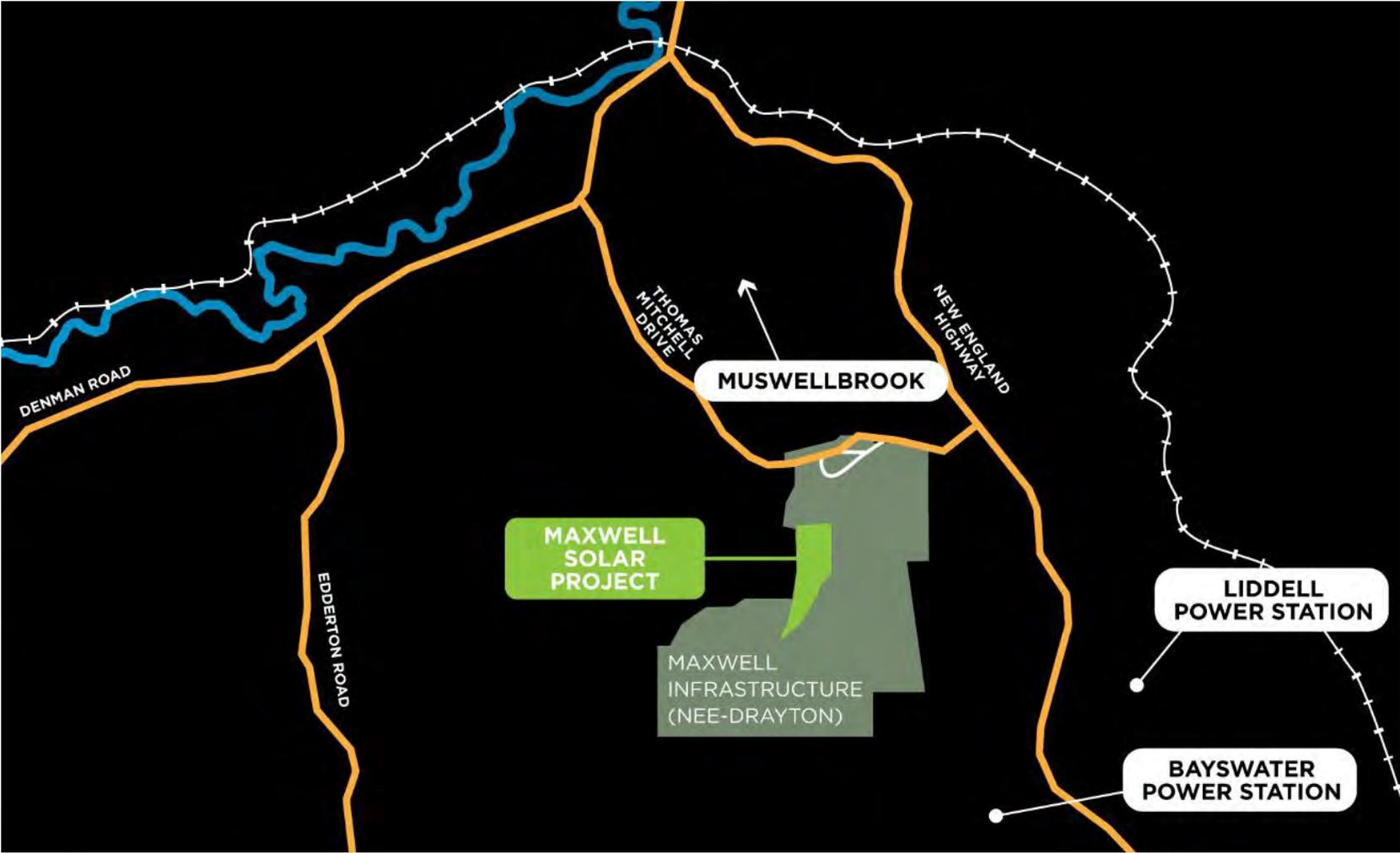
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Figure 1 Area of Interest



31 January 2019

Heritage Advisor
Muswellbrook Shire Council
PO Box 122
Muswellbrook NSW 2333

Dear Sir/Madam,

**Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in
Muswellbrook NSW**

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

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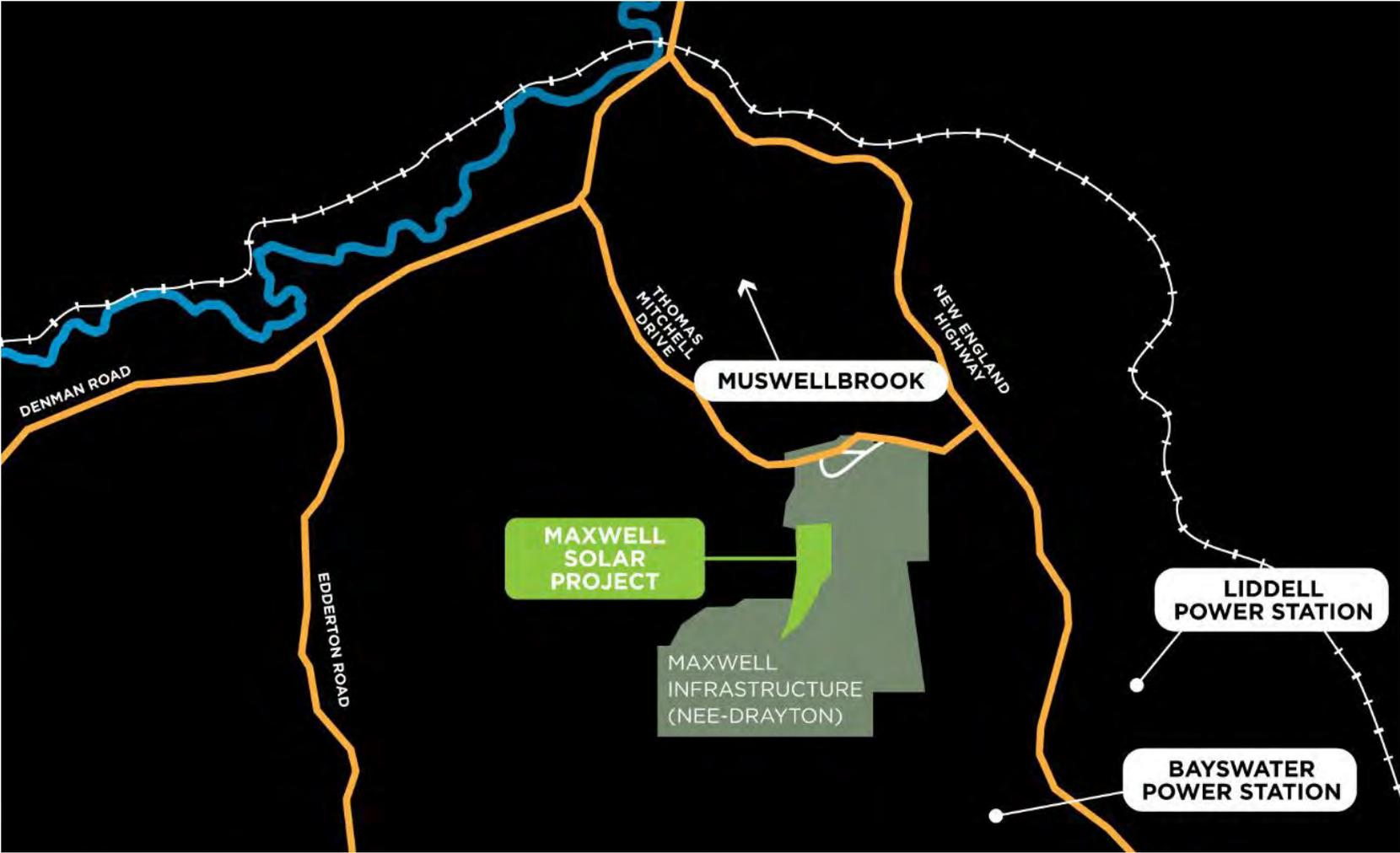
Kind regards,



Geordie Oakes
Archaeologist
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Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

Wanaruah Local Aboriginal Land Council
PO Box 127
Muswellbrook NSW 2333

Dear Sir/Madam,

**Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in
Muswellbrook NSW**

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

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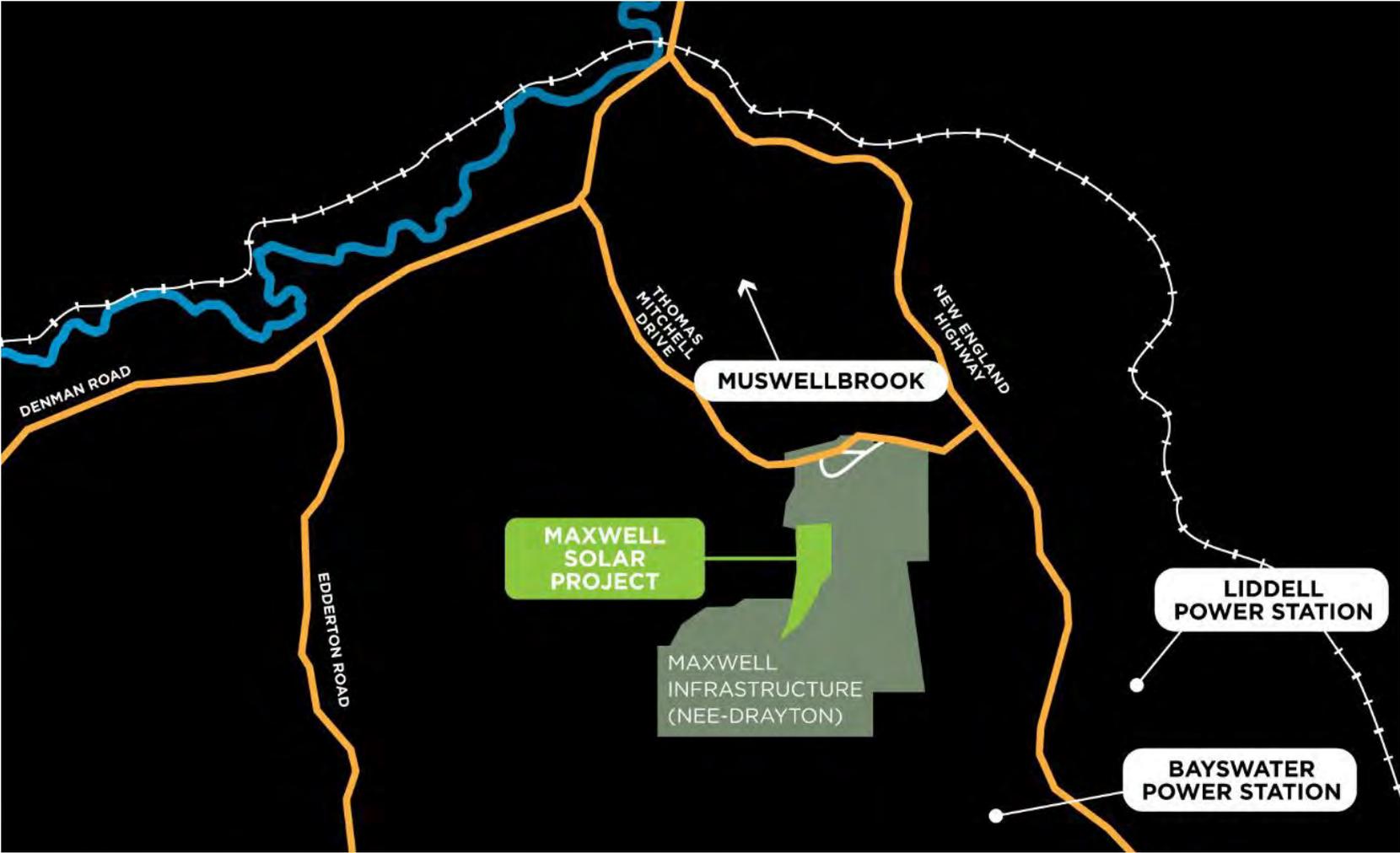
Kind regards,



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Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

Native Title Services Corporation Limited (NTSCorp Ltd)
PO Box 2105
Strawberry Hills NSW 2012

Dear Sir/Madam,

**Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in
Muswellbrook NSW**

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

Should you have information regarding the above or have any questions, please don't hesitate to contact:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: Geordie.Oakes@aecom.com

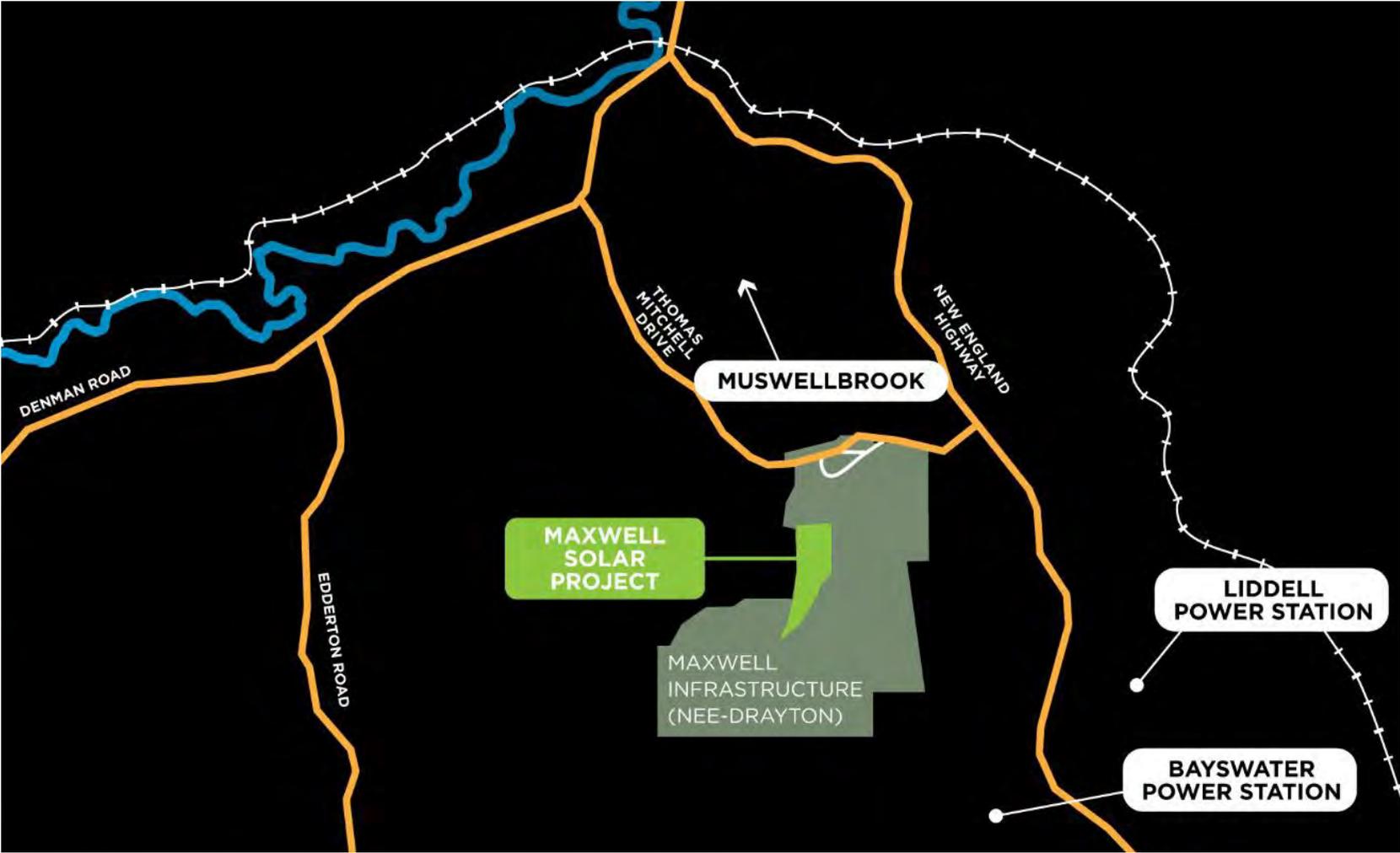
Kind regards,



Geordie Oakes
Archaeologist
Geordie Oakes
Archaeologist
Geordie.Oakes@aecom.com

Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

National Native Title Tribunal
New South Wales – Sydney Office
GPO Box 9973
Sydney NSW 2000

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

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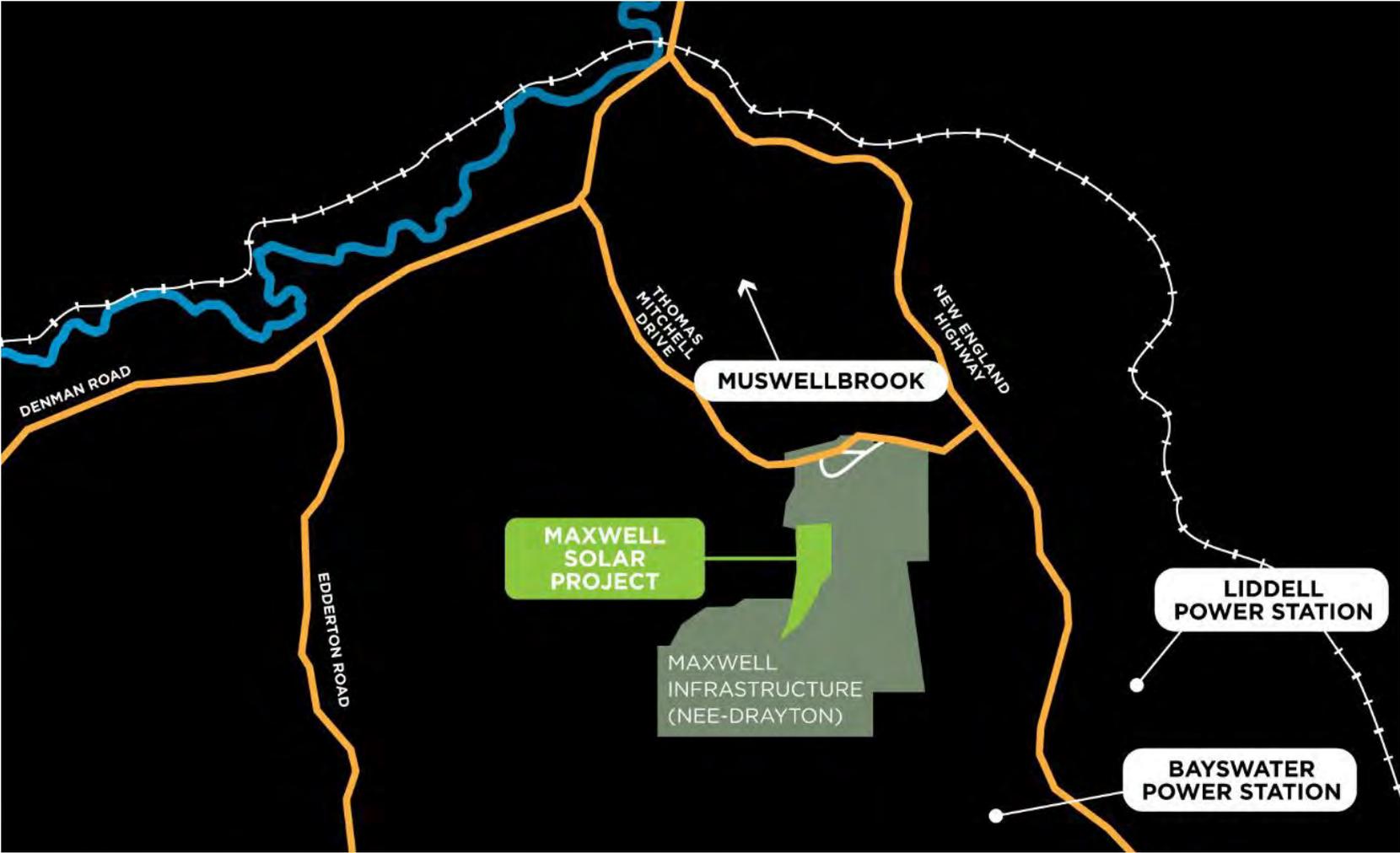
Kind regards,



Geordie Oakes
Archaeologist
Geordie Oakes
Archaeologist
Geordie.Oakes@aecom.com

Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

Heritage Advisor
Singleton Council
PO Box 314
SINGLETON 2330

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

Should you have information regarding the above or have any questions, please don't hesitate to contact:

Geordie Oakes
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Sydney, NSW 1230
Ph: +61 2 8934 0610
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Email: Geordie.Oakes@aecom.com

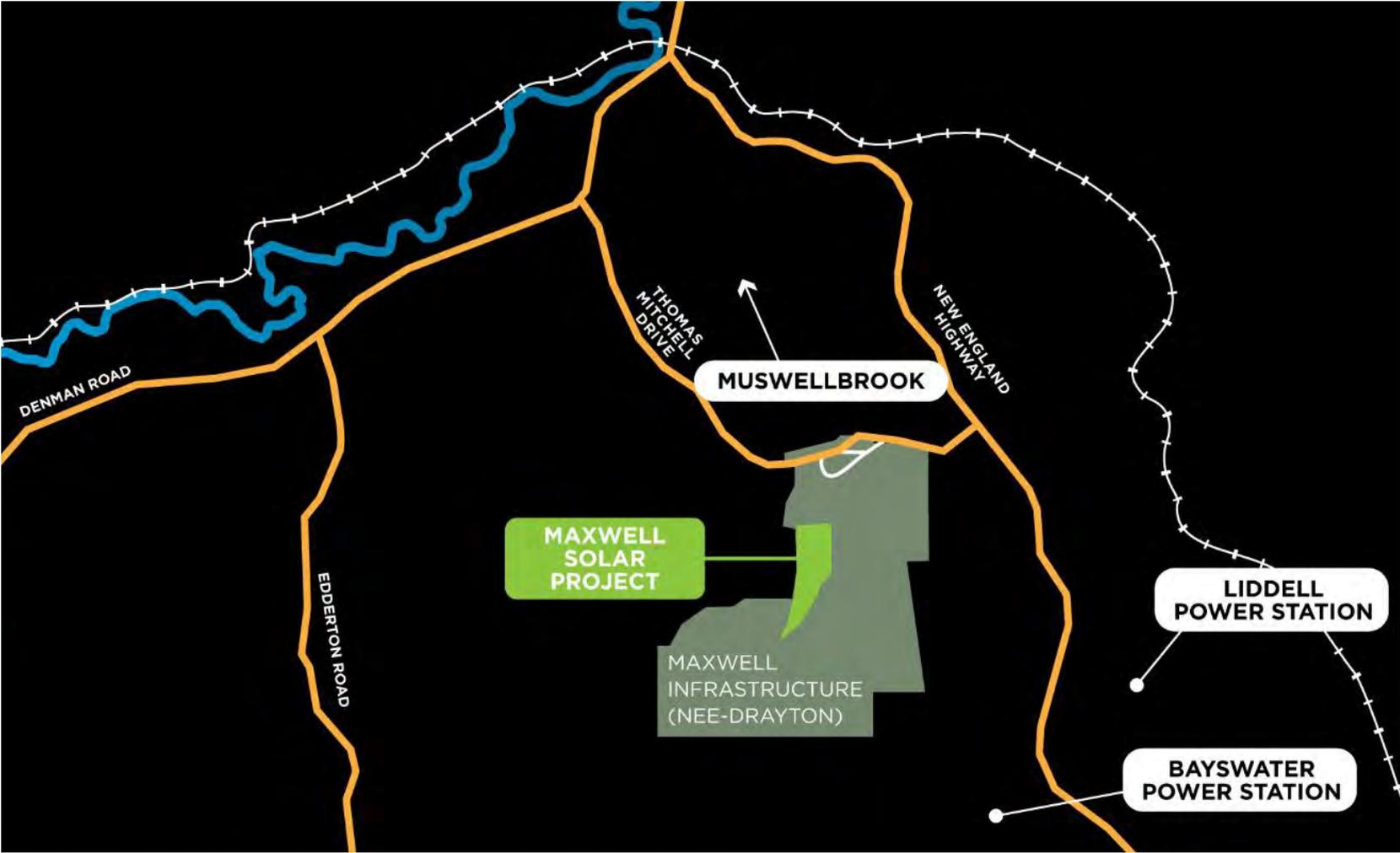
Kind regards,



Geordie Oakes
Archaeologist
Geordie Oakes
Archaeologist
Geordie.Oakes@aecom.com

Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



31 January 2019

Secretary
c/- Director Resource Assessments
Department of Planning & Environment
GPO Box 39, Sydney 2000

Dear Sir/Madam,

Request for Relevant Aboriginal Stakeholder Information for the Maxwell Solar Farm located in Muswellbrook NSW

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by Maxwell Solar Pty Ltd (Maxwell) to undertake an Aboriginal Cultural Heritage Assessment for the Maxwell Solar Farm, located approximately ten kilometres south-south east of Muswellbrook, NSW (the 'Area of Interest' is shown in Figure 1).

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the *National Parks and Wildlife Regulation 2009* and Section 4.1.2 of the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the Area of Interest, and who may be interested in being consulted. Could you please provide these details by 20 February 2019.

Should you have information regarding the above or have any questions, please don't hesitate to contact:

Geordie Oakes
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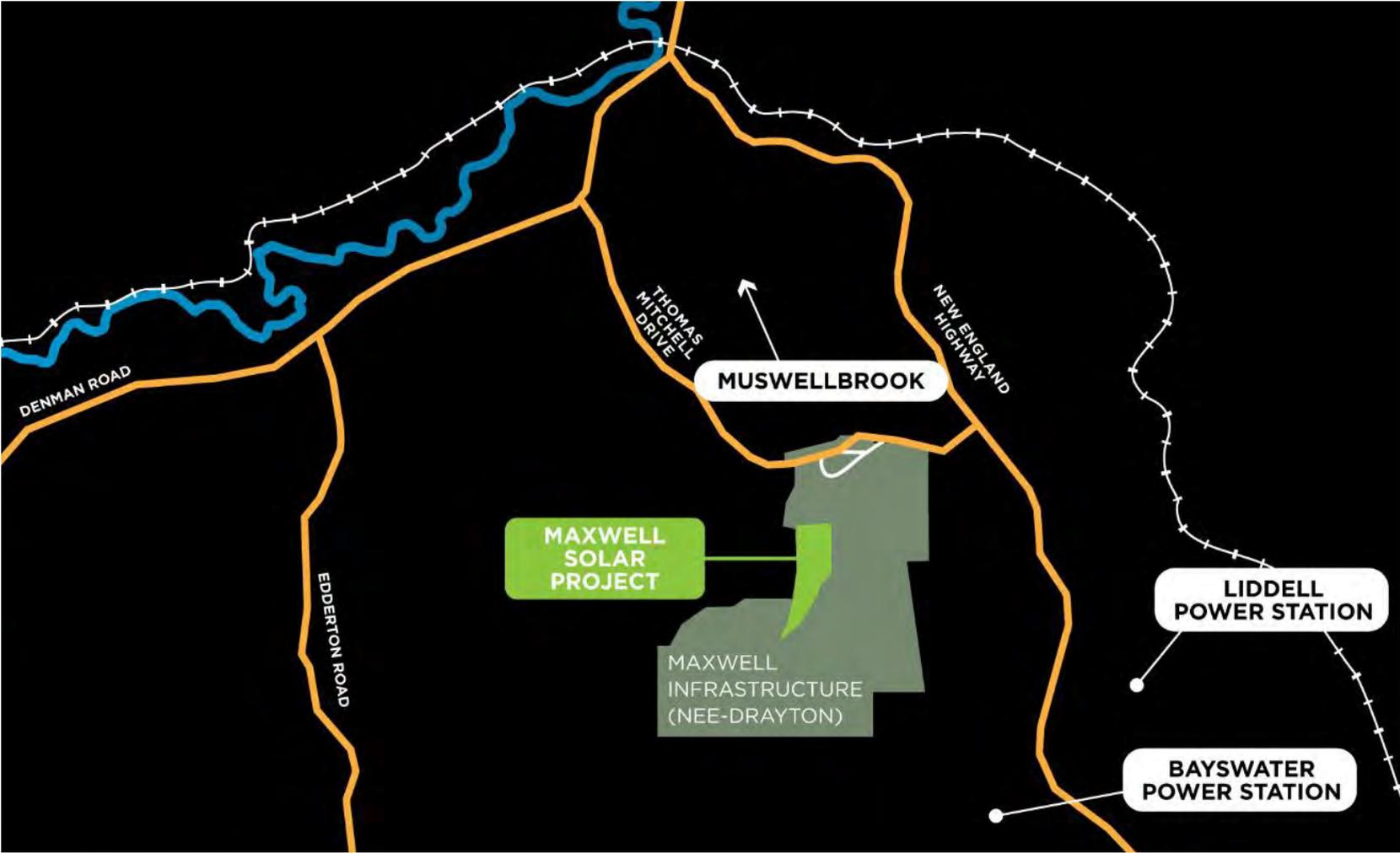
Kind regards,



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Archaeologist
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Archaeologist
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Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

Figure 1 Area of Interest



Appendix C

Agency Responses

Appendix C Agency Responses



DOC19/85519-1
Maxwell Solar Farm, Muswellbrook

Ms Donna McLaughlin
Malabar Coal
dmclaughlin@malabarcoal.com.au

Dear Donna

Maxwell Solar Farm – Muswellbrook LGA - Aboriginal Stakeholder List

In response to your request under Section 4.1.2(a) of the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010), please find attached a list of known Aboriginal parties that have self-nominated for Muswellbrook Council Local Government Area (LGA). Please note the following information with respect to Aboriginal consultation for your project.

Aboriginal stakeholder lists maintained by OEH are comprised of self-nominated individuals and organisations

Please note that the attached list is comprised only of self-nominated individuals and Aboriginal organisations who could have an interest in your project. The list is not vetted by OEH. As the list comprises only of self-nominated individuals and Aboriginal organisations, it is not necessarily an exhaustive list of all Aboriginal parties who may hold an interest in the project. Further consultation in accordance with step 4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010) is required to identify Aboriginal people who may hold either cultural or historical knowledge relevant to determining the significance of Aboriginal objects or places within your proposed project area.

Aboriginal stakeholder lists may cover multiple Local Aboriginal Land Council boundaries

Please note that the attached list may contain two or more Local Aboriginal Land Councils (LALCs) that occur in the LGA. Please review the boundary of your specific project area and ensure you consult with all LALC(s) that overlap with your project area. OEH does not require you to contact any LALCs on the attached list that you determine are wholly located outside your project area.

Ensure you document the consultation process

Please ensure all consultation undertaken in accordance with the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010) is documented within an Aboriginal Cultural Heritage Assessment Report (ACHAR). This must include copies of all correspondence sent to or received from all Registered Aboriginal Parties (RAPs) throughout the entire consultation process. Omission of these records in the final ACHAR may cause delays in the assessment of an Aboriginal Heritage Impact Permit (AHIP) application or a major project Aboriginal cultural heritage assessment and could require parts of the consultation process to be repeated if the evidence provided to OEH

does not demonstrate that the consultation process has been conducted in accordance with our consultation requirements.

Demonstrate that reasonable consultation attempts have been made

Please ensure you provide evidence to demonstrate that reasonable attempts have been made to contact the relevant parties identified through step 4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010). If this evidence is not provided, OEH may deem that the consultation process has not complied with the consultation requirements. Similarly, the proponent is required to record all feedback received from RAPs, along with the proponent's response to the feedback. Where concerns or contentious issues are raised by RAPs during the consultation process, OEH expects that reasonable attempts are made to address and resolve these matters, however OEH acknowledges that in some cases, this may not be achievable. In the case where conflict cannot be resolved, it is the responsibility of the proponent to record these differences and provide the necessary information in their ACHAR with their AHIP application or major project ACHAR.

Consultation should not be confused with employment

As outlined in Section 3.4 of the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010), the consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. OEH does not have any role with respect to commercial engagement. Where RAPs are engaged commercially to provide field services as part of an assessment process, that is a matter for the proponent to manage as they see fit. However, if a proponent is proposing to undertake consultation processes or elicit cultural information from RAPs during the course of conducting a field survey, OEH considers this to form part of the consultation process and expects that all RAPs would be afforded the opportunity to be involved in the process.

Contacting our office

To ensure we can respond to enquiries promptly, please direct future correspondence to our central mailbox: rog.hcc@environment.nsw.gov.au.

Should you require any further information, please do not hesitate to contact us.

Yours sincerely

A handwritten signature in black ink that reads "G. S. Goode". The signature is written in a cursive style and is underlined with a single horizontal line.

GILLIAN GOODE
Archaeologist
Hunter Central Coast Branch
Conservation and Regional Delivery Division

20 February 2019



Attachment A

Hunter Central Coast Branch - Aboriginal Stakeholder List for Muswellbrook Council LGA

Please note that this list is valid at the time of sending only and should not be used for subsequent projects.

Organisation	First name	Surname	Address 1	City	State	Post code	Landline	Mobile	Email
A1 Indigenous Services	Carolyn	Hickey	10 Marie Pitt Place	GLENMORE PARK	NSW	2745		0411650057	Cazadirect@live.com
Aboriginal Native Title Elders Consultants	John and Margaret	Matthews	4 Calgaroo Avenue	MUSWELLBROOK	NSW	2333		0417 725 956	
AGA Services	Ashley, Gregory & Adam	Sampson	22 Ibis Parade	WOODBERRY	NSW	2322	Donna Sampson 0403 765 018	Ashley Sampson 0401 958 050	aga.services@hotmail.com
Aliera French Trading	Aliera	French	17 Kalinda St	BLACKSMITHS	NSW	2281		0421 299 963	alierafrenchtrading@outlook.com
Bathurst Local Aboriginal Land Council	CEO		149 Russell St	BATHURST	NSW	2795	02 6332 6835		bathlalc2@bigpond.com
Cacatua Culture Consultants	Donna & George	Sampson	22 Ibis Parade	WOODBERRY	NSW	2322		0403 765 019 - 0434 877 016	cacatua4service@tpg.com.au
Crimson-Rosie	Jeffery	Matthews	6 Eucalypt Avenue	MUSWELLBROOK	NSW	2333	02 6543 4791		
Culturally Aware	Tracey	Skene	7 Crawford Place	MILFIELD	NSW	2325		0474 106 537	traceyamorrung-pa.com.au
D F T V Enterprises	Derrick	Vale Snr	5 Mountbatten Close	RUTHERFORD	NSW	2320		0438 812 197	deckavale@hotmail.com
Deslee Talbott Consultants	Deslee	Matthews	Unit 2 / 19 South Street	GUNNEDAH	NSW	2380		0431 205 336	m-desley@hotmail.com
Didge Ngunawal Clan	Paul Boyd	& Lilly Carroll	7 Siskin St	QUAKERS HILL	NSW	2763		0426823944	didgengunawalclan@yahoo.com.au
Divine Diggers Aboriginal Cultural Consultants	Deidre	Perkins	6 Ashleigh Street	HEDDON GRETA	NSW	2321	02 4937 4573	0425 654 290 (preferred)	dedemaree3@hotmail.com

Organisation	First name	Surname	Address 1	City	State	Post code	Landline	Mobile	Email
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Craig Horne	Debbie Dacey-Sullivan	76 Lang Street	KURRI KURRI	NSW	2327	02 4937 1094	Craig 0432 336 163	gidawaa.walang@hotmail.com
Gomerioi People (c/- NTSCORP Ltd)	Mishka	Holt	PO Box 2105	STRAWBERRY HILLS	NSW	2012	02 9310 3188	Fax 02 9310 4177	mholt@ntscorp.com.au
Hunter Traditional Owner	Paulette	Ryan	165 Susan Street	SCONE	NSW	2337		0431109001	hto.paulette@gmail.com
Hunter Valley Aboriginal Corporation	Rhonda	Griffiths	182 Bridge St	MUSWELLBROOK	NSW	2333	02 6543 1180	427 989 878	h973809@bigpond.net.au
Hunters & Collectors	Tania	Matthews	U211 Walowa St	NARRABRI	NSW	2390		0409 193 612	Tamatthews10@hotmail.com
Indigenous Learning	Craig	Archibald	2 Victoria Street	BELLBIRD HEIGHTS	NSW	2325	0455 550 549	0467 229 507	indiglearning@gmail.com
Jarban & Mugrebea	Les	Atkinson	11 Nelson Street	CESSNOCK	NSW	2325		0466 316 069	Les.atkinson@hotmail.com
Jumbunna Traffic Management Group Pty Ltd	Norm	Archibald	17 Flobern Ave	WAUCHOPE	NSW	2446		0413 718 149	jtmanagement@live.com.au
Kawul Cultural Services	Vicky	Slater	33 Gardner Circuit	SINGLETON	NSW	2330		0421 077 521	Vicki.slater@hotmail.com
Kawul Pty Ltd trading as Wonn1 Sites	Arthur	Fletcher	619 Main Road	GLENDALE	NSW	2285	02 4954 7751	0402 146 193	Wonn1sites@gmail.com
Lower Hunter Aboriginal Incorporated	David	Ahoy	5 Killara Drive	CARDIFF SOUTH	NSW	2285		0421 329 520	lowerhunterai@gmail.com
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball and Uncle Tommy Miller		51 Bowden Street	HEDDON GRETA	NSW	2321	02 4937 2694	0402 636 521 (Uncle)	tn.miller@southernphone.com.au
Lower Wonnaruah Tribal Consultancy Pty Ltd	Barry	Anderson	156 The Inlet Road	BULGA	NSW	2330	02 6574 5303	0417 403 153	-
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson	& Darleen Johnson-Carroll	PO Box 246	SEVEN HILLS	NSW	2147		0497 983 332	murrabidgeemullangari@yahoo.com.au
Myland Cultural & Heritage Group	Warren	Schillings	30 Taurus Street	ELERMORE VALE	NSW	2287		0431 392 554	warren@yarnteen.com.au
Roger Matthews Consultancy	Roger	Matthews	105 View Street	GUNNEDAH	NSW	2380		0455 671 288	
Ungooroo Aboriginal Corporation	Alan	Paget	PO Box 3095	SINGLETON	NSW	2330	02 6571 5111		admin@ungooroo.com.au

Organisation	First name	Surname	Address 1	City	State	Post code	Landline	Mobile	Email
Upper Hunter Wonnarua Council Inc	Rhonda & Georgina	Perry	PO Box 184	SINGLETON	NSW	2330		0412 233 239	
Wallagan Cultural Services	Maree	Waugh	PO Box 40	CESSNOCK	NSW	2325		0439 813 078	Mareewaugh30@hotmail.com
Wanaruah Local Aboriginal Land Council	CEO		17-19 Maitland Street	MUSWELLBROOK	NSW	2333	02 6543 1288		ceo.wanarua@bigpond.com
Wattaka Wonnarua CC Service	Des	Hickey	4 Kennedy Street	SINGLETON	NSW	2330	02 6573 3786	0432 977 178	deshickey@bigpond.com
Widescope Indigenous Group	Steven	Hickey	73 Russell Street	EMU PLAINS	NSW	2750		0425 230 693 0425 232 056	Widescope.group@live.com
Wonnarua Culture Heritage	Gordon	Griffiths	19 O'Donnell Crescent	METFORD	NSW	2323	02 4934 6437	0401 028 807	
Wonnarua Elders Council	Richard	Edwards	PO Box 844	CESSNOCK	NSW	2325			
Wonnarua Nation Aboriginal Corporation	Laurie	Perry	254 John St	SINGLETON	NSW	2330	02 6571 5419	0412 593 020	l.perry@optusnet.com.au
Yarrowalk (A division of Tocomwall Pty Ltd), Tocomwall Pty Ltd on behalf of Scott Franks and Anor on behalf of the Plains Clans of the Wonnaru People NSD1680/2013	Scott	Franks	PO Box 76	CARRINGBAH	NSW	1495		0404 171 544	scott@tocomwall.com.au
Yinarr Cultural Services	Kathleen	Steward Kinchela	Lot 5 Westwood Estate	MERRIWA	NSW	2329		0475 436 589	yinarrculturalservices@bigpond.com dontminemeay@gmail.com
	Kevin	Duncan	95 Moala Parade	CHARMHAVEN	NSW	2263	02 43929346	0431 224 099	kevin.duncan@bigpond.com
	Steve	Talbott	73 Kiah Road	GILLIESTON HEIGHTS	NSW	2321		0429 662 911	gomeri.namoi@outlook.com

6 February 2019

By email: Geordie.Oakes@aecom.com

Geordie Oakes
C/- AECOM Australia Pty Ltd
PO Box Q410
QVB POST OFFICE NSW 1230

Dear Geordie,

Request - Search for Registered Aboriginal Owners

We refer to your letter dated 31 January 2019 regarding an Aboriginal Cultural Heritage Assessment for the proposed development in Muswellbrook NSW, shown on the figure attached to your letter.

Under Section 170 of the *Aboriginal Land Rights Act 1983* the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO). A search of the RAO has shown that there are not currently any Registered Aboriginal Owners in the project area.

We suggest you contact Wanaruah Local Aboriginal Land Council on 02 6543 1288 as they may be able to assist you in identifying Aboriginal stakeholders who wish to participate.

Yours sincerely



Elizabeth Loane
Project Officer, Aboriginal Owners
Office of the Registrar, ALRA

Oakes, Georgie

From: Lourens, Rean <rlourens@singleton.nsw.gov.au>
Sent: Monday, 18 February 2019 12:35 PM
To: Oakes, Georgie
Subject: RE: Maxwell Solar Farm

Hi Georgie,

Council can advise that the primary contact for all consultation relating to Aboriginal Heritage is the Wanaruah Land Council.

Address: 128 George Street, Singleton NSW 2330

Phone: (02) 6571 5111

Email: admin@ungooroo.com.au

Please feel free to give me a call for any further information.

Regards,



REAN LOURENS
Senior Development Planner

T 02 6578 7331

E rlourens@singleton.nsw.gov.au

W singleton.nsw.gov.au

Uncontrolled when printed - verify current version, if printed. Please consider the environment before printing this document.

Oakes, Georgie

From: Kim Manwarring <Kim.Manwarring@muswellbrook.nsw.gov.au>
Sent: Friday, 22 February 2019 12:24 PM
To: Oakes, Georgie
Subject: Request for Relevant Aboriginal Stakeholder Information for the proposed Maxwell Solar Farm located

Good Afternoon Georgie

Please find below the relevant Aboriginal Stakeholder contacts:

- Wanaruah Local Aboriginal Land Council
Mr Noel Downs
Chief Executive Officer
ceo.wanaruah@bigpond.com
Ph: 6543 1288
- Hunter Valley Aboriginal Corporation
Secretary Ms Rhonda Griffiths
office.hvabcorp@yahoo.com
Ph: 6543 1106

Regards

Kim

Kim Manwarring
Coordinator, Community Partnerships

Direct: 02 6549 3764
Mobile: 0408 978 512

www.muswellbrook.nsw.gov.au

I respectfully acknowledge the local Aboriginal people who are the Traditional Owners and Custodians of the land on which I work.



explore www.workingwithindigenoustralians.info

Appendix D

Newspaper
Advertisement – Hunter
Valley News

Appendix D Newspaper Advertisement – Hunter Valley News

Aboriginal Cultural Heritage Assessment

Maxwell Solar Farm

Notice given under cl 80(2)(c) of the National Parks and Wildlife Regulation 2009 and Section 4.1.3 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010

Maxwell Solar Pty Ltd (Maxwell) proposes to develop a solar farm, to be known as the Maxwell Solar Farm at Maxwell Infrastructure (previously named the "Drayton Mine"), approximately ten kilometres south-south east of Muswellbrook, New South Wales (NSW).

AECOM on behalf of Maxwell is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an Aboriginal Cultural Heritage Assessment being prepared for the Maxwell Project.

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an Aboriginal Heritage Impact Permit and to assist the Director General of OEH in his or her consideration and determination of the application.

Interested Aboriginal persons or stakeholders who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the Area of Interest and wish to participate in a process of community consultation with the proponent regarding the proposed activity are requested to register their interest in writing to:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: Geordie.Oakes@aecom.com

Please be advised that if you register an interest in consultation, your details will be forwarded to the Office of Environment and Heritage and the Wanaruah Local Aboriginal Land Council, unless you specify that you do not want your details released. The closing date for registration is 20/03/19



Appendix E

OEH & LALC RAP
Notification

Appendix E OEH & LALC RAP Notification



AECOM Australia Pty Ltd +61 2 8934 0000 tel
Level 21, 420 George Street +61 2 8934 0001 fax
Sydney NSW 2000 ABN 20 093 846 925
PO Box Q410
QVB Post Office NSW 1230
Australia
www.aecom.com

9 April 2019

Archaeologist
Aboriginal Heritage Section
Office of Environment and Heritage
Locked Bag 1002
Dangar NSW 2309

To Whom it May Concern,

Notification of Registered Aboriginal Parties (RAPs) for the Maxwell Solar Farm Project located in Muswellbrook LGA, NSW

In accordance with Section 4.1.6 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, please find enclosed for your records a list of the Aboriginal organisations and individuals who have registered an interest in being consulted for an Aboriginal Cultural Heritage Assessment being undertaken by AECOM Australia Pty Ltd (AECOM) for the Maxwell Solar Farm project, located in Muswellbrook LGA, NSW.

As was stated in the letters of invitation issued to Aboriginal organisations and individuals requesting registrations of interest, the official registration period for this project closed on 9 March 2019. A copy of the invitation is attached to this letter as well as the newspaper advertisement.

A total of 30 registrations of interest have been received regarding consultation for this project (Table 1). Please note that in accordance with Section 4.1.5 of the Consultation Requirements, AECOM provided the opportunity for Registered Aboriginal Parties (RAPs) to withhold their details from being forwarded on to the Local Aboriginal Land Council and/or OEH. No RAPs requested that their details be withheld in regard to this project.

Table 1 List of Registered Aboriginal Parties

Organisation	Date of registration	Method	Contact Person
Tocomwall (on behalf of the PCWP)	11-Feb-19	Email	Danny Franks
HVAC	12-Feb-19	Phone	Rhonda Griffiths
Dave Horton	12-Feb-19	Phone	Dave Horton
WLALC	20-Feb-19	Email	Noel Downs
Gay Horton	20-Feb-19	Email	Gay Horton
Andrew Horton	20-Feb-19	Email	Andrew Horton
Michael Stair	20-Feb-19	Email	Michael Stair
Yinnar Cultural Services	22-Feb-19	Email	Kathie Kinchela
DNC	26-Feb-19	Email	Paul Boyd
Upper Hunter Wonnarua Council Inc.	27-Feb-19	Phone	Rhoda Perry
Murrabidgee	27-Feb-19	Email	Ryan Johnson
Widescope	27-Feb-19	Email	Steven Hickey
Merrigarr	27-Feb-19	Email	Shaun Carroll
Muragadi	27-Feb-19	Email	Anthony
John and Margaret Mathews	27-Feb-19	Phone	Margaret Mathews
Divine Diggers	27-Feb-19	Email	Deidre Perkins



Organisation	Date of registration	Method	Contact Person
Ungooroo Aboriginal Corporation	27-Feb-19	Email	Allen Paget
Gidawqaa Walang Cultural Heritage Consultancy	01-Mar-19	Email	Craig Horne
Wonnarua Elder LHWCS	04-Mar-19	Email	Tom Miller
Kawul Cultural Services	04-Mar-19	Email	Vicki Slater
Wurrumay Consultants	04-Mar-19	Email	Kerry Slater
Wattaka WCCS LH	04-Mar-19	Email	Des Hickey
Valley ELM Corp	04-Mar-19	Email	Irene
A1 Indigenous	04-Mar-19	Email	Carolyn Hickey
Wallagan	06-Mar-19	Email	Maree Waugh
Culturally Aware	06-Mar-19	Email	Tracey Skene
AHCS	06-Mar-19	Email	Amanda Hickey
The Men's Shack Indigenous Corporation	06-Mar-19	Email	Rod Hickey
Norman Archibald	07-Mar-19	Email	Norman Archibald
Crimson-Rosie	06-Mar-19	Mail	Jeff Mathews

P

Yours faithfully,

Geordie Oakes
Principal Heritage Specialist
geordie.oakes@aecom.com

Direct Dial: +64 2 89340610
Direct Fax: +64 2 89340001



Figure 1: Newspaper Advertisement

Aboriginal Cultural Heritage Assessment
Maxwell Solar Farm

Notice given under cl 90(2)(c) of the National Parks and Wildlife Regulation 2009 and Section 4.1.3 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010

Maxwell Solar Pty Ltd (Maxwell) proposes to develop a solar farm, to be known as the Maxwell Solar Farm at Maxwell infrastructure (previously named the "Drayton Mine"), approximately ten kilometres south-south east of Muswellbrook, New South Wales (NSW).

AECOM on behalf of Maxwell is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an Aboriginal Cultural Heritage Assessment being prepared for the Maxwell Project.

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an Aboriginal Heritage Impact Permit and to assist the Director General of OEH in his or her consideration and determination of the application.

Interested Aboriginal persons or stakeholders who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the Area of Interest and wish to participate in a process of community consultation with the proponent regarding the proposed activity are requested to register their interest in writing to:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box 9410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0003
Email: Geordie.Oakes@aecom.com

Please be advised that if you register an interest in consultation, your details will be forwarded to the Office of Environment and Heritage and the Wamanah Local Aboriginal Land Council, unless you specify that you do not want your details released. The closing date for registration is 20/03/19.

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AECOM Australia Pty Ltd +61 2 8934 0000 tel
Level 21, 430 George Street +61 2 8934 6001 fax
Sydney NSW 2000 ABN 20 093 876 307
PO Box Q410
QVB Post Office NSW 1230
Australia
www.aecom.com

22 February 2019

Aboriginal Native Title Elders Consultants
John and Margaret Matthews
4 Calgaroo Avenue
MUSWELLBROOK NSW 2333.0

Dear Sir/Madam,

RE: Aboriginal Community Consultation for the Maxwell Solar Farm Project

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) is commissioned by Maxwell Solar Pty Ltd (Maxwell) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the Maxwell Solar Farm project (the Project, Figure 1) located approximately ten kilometres south-south east of Muswellbrook, NSW.

The Maxwell Solar Farm is proposed to be located at the Maxwell infrastructure site (formally known as the Drayton Mine). Maxwell Ventures (Management) Pty Ltd, the proponent for the Project (Level 26, 259 George Street, Sydney NSW 2000), a wholly owned subsidiary of Malabar Coal Ltd (Malabar) owns and operates the Maxwell Infrastructure site located on Thomas Mitchell Drive, Muswellbrook.

The Maxwell Infrastructure site includes the old open cut workings, rehabilitation, coal handling and preparation facilities and the Antlene rail spur and loop. Open cut coal extraction and mining activities commenced at the Maxwell Infrastructure site in 1963 and ceased in October 2016. Progressive rehabilitation is currently being undertaken at the site in accordance with the Landscape Management Plan and the Mine Operations Plan (MOP), approved by the Department of Planning and Environment (DPE).

The proposed Maxwell Solar Farm would be sited on a rehabilitated overburden emplacement area at the Maxwell infrastructure site, an area of approximately 105 ha. Whilst it is recognised that the proposed Maxwell Solar Farm would be located on land currently subject to Coal Lease No. 229 (CL 229), it is anticipated that the land for the Maxwell Solar Farm would be excised or removed from CL 229 post approval. The land is also subject to an existing approval for the Drayton Mine Extension Project, granted by the Minister of Planning under Part 3A of the EP&A Act and Environment Protection Licence No. 1323 (EPL 1323), issued under the Protection of the Environment Operations Act 1997 (PEEO Act).

You have been identified by the Office of Environment and Heritage (OEH) as an Aboriginal person or organisation with the potential to hold cultural knowledge relevant to determining the significance of Aboriginal objects and places within the study area. Accordingly, AECOM is inviting you to participate in community consultation for this project.

To register your interest to be consulted about this project, please contact the following:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: geordie.oakes@aecom.com

To be involved in the consultation process, registrations must be received by 9 March 2019.

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This notification is given in accordance with cl 80C (2)(b) of the *National Parks and Wildlife Regulation 2009* and section 4.1.3 of the Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW_2010). The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an Aboriginal Heritage Impact Permit and to assist the Director General of OEH in his or her consideration and determination of the application.

Please be advised that if you register an interest in consultation, your details will be forwarded to the Office of Environment and Heritage and the Wanarush Local Aboriginal Land Council, unless you specify that you do not want your details released.

Kind regards,



Geordie Oakes
Archaeologist
Geordie.Oakes@aecom.com
Direct Dial: +61 2 8934 0610
Direct Fax: +61 2 8934 0001

SAMPLE

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5 of 6



AECOM Australia Pty Ltd
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+61 2 8934 0000 tel
+61 2 8934 0001 fax
ABN 20 093 846 925

9 April 2019

Wanaruah Local Aboriginal Land Council
PO Box 127
Muswellbrook NSW 2333

To Whom it May Concern,

Notification of Registered Aboriginal Parties (RAPs) for the Maxwell Solar Farm Project located in Muswellbrook LGA, NSW

In accordance with Section 4.1.6 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, please find enclosed for your records a list of the Aboriginal organisations and individuals who have registered an interest in being consulted for an Aboriginal Cultural Heritage Assessment being undertaken by AECOM Australia Pty Ltd (AECOM) for the Maxwell Solar Farm project, located in Muswellbrook LGA, NSW.

As was stated in the letters of invitation issued to Aboriginal organisations and individuals requesting registrations of interest, the official registration period for this project closed on 9 March 2019. A copy of the invitation is attached to this letter as well as the newspaper advertisement.

A total of 30 registrations of interest have been received regarding consultation for this project (Table 1). Please note that in accordance with Section 4.1.5 of the Consultation Requirements, AECOM provided the opportunity for Registered Aboriginal Parties (RAPs) to withhold their details from being forwarded on to the Local Aboriginal Land Council and/or OEH. No RAPs requested that their details be withheld in regard to this project.

Table 1 List of Registered Aboriginal Parties

Organisation	Date of registration	Method	Contact Person
Tocomwall (on behalf of the PCWP)	11-Feb-19	Email	Danny Franks
HVAC	12-Feb-19	Phone	Rhonda Griffiths
Dave Horton	12-Feb-19	Phone	Dave Horton
WLALC	20-Feb-19	Email	Noel Downs
Gay Horton	20-Feb-19	Email	Gay Horton
Andrew Horton	20-Feb-19	Email	Andrew Horton
Michael Stair	20-Feb-19	Email	Michael Stair
Yinnar Cultural Services	22-Feb-19	Email	Kathie Kinchela
DNC	26-Feb-19	Email	Paul Boyd
Upper Hunter Wonnarua Council Inc.	27-Feb-19	Phone	Rhoda Perry
Murrabidgee	27-Feb-19	Email	Ryan Johnson
Widescope	27-Feb-19	Email	Steven Hickey
Merrigam	27-Feb-19	Email	Shaun Carroll
Muragadi	27-Feb-19	Email	Anthony
John and Margaret Mathews	27-Feb-19	Phone	Margaret Mathews
Divine Diggers	27-Feb-19	Email	Deidre Perkins



Organisation	Date of registration	Method	Contact Person
Ungooroo Aboriginal Corporation	27-Feb-19	Email	Allen Paget
Gidawqaa Walang Cultural Heritage Consultancy	01-Mar-19	Email	Craig Horne
Wonnarua Elder LHWCS	04-Mar-19	Email	Tom Miller
Kawul Cultural Services	04-Mar-19	Email	Vicki Slater
Wurumay Consultants	04-Mar-19	Email	Kerry Slater
Wattaka WCCS LH	04-Mar-19	Email	Des Hickey
Valley ELM Corp	04-Mar-19	Email	Irene
A1 Indigenous	04-Mar-19	Email	Carolyn Hickey
Wallagan	06-Mar-19	Email	Maree Waugh
Culturally Aware	06-Mar-19	Email	Tracey Skene
AHCS	06-Mar-19	Email	Amanda Hickey
The Men's Shack Indigenous Corporation	06-Mar-19	Email	Rod Hickey
Norman Archibald	07-Mar-19	Email	Norman Archibald
Crimson-Rosie	06-Mar-19	Mail	Jeff Mathews

Yours faithfully,

Geordie Oakes
Principal Heritage Specialist
geordie.oakes@aecom.com

Direct Dial: +64 2 89340610
Direct Fax: +64 2 89340001



Figure 1: Newspaper Advertisement

Aboriginal Cultural Heritage Assessment
Maxwell Solar Farm

Notice given under cl 80(2)(c) of the National Parks and Wildlife Regulation 2009 and Section 4.1.3 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010

Maxwell Solar Pty Ltd (Maxwell) proposes to develop a solar farm, to be known as the Maxwell Solar Farm at Maxwell infrastructure (previously named the "Drayton Mine"), approximately ten kilometres south-south east of Muswellbrook, New South Wales (NSW).

AECOM on behalf of Maxwell is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an Aboriginal Cultural Heritage Assessment being prepared for the Maxwell Project.

The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an Aboriginal Heritage Impact Permit and to assist the Director General of OEH in his or her consideration and determination of the application.

Interested Aboriginal persons or stakeholders who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the Area of Interest and wish to participate in a process of community consultation with the proponent regarding the proposed activity are requested to register their interest in writing to:

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 PO Box 0410, OVB Post Office,
 Sydney, NSW 1230
 Ph: +61 2 8934 0610
 Fax: +61 2 8934 0001
 Email: Geordie.Oakes@aecom.com

Please be advised that if you register an interest in consultation, your details will be forwarded to the Office of Environment and Heritage and the Wanganui Local Aboriginal Land Council, unless you specify that you do not want your details released. The closing date for registration is 20/09/19

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22 February 2019

Aboriginal Native Title Elders Consultants
John and Margaret Matthews
4 Calgaroo Avenue
MUSWELLBROOK NSW 2333.0

Dear Sir/Madam,

RE: Aboriginal Community Consultation for the Maxwell Solar Farm Project

I am writing to inform you that AECOM Australia Pty Ltd (AECOM) is commissioned by Maxwell Solar Pty Ltd (Maxwell) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the Maxwell Solar Farm project (the Project, Figure 1) located approximately ten kilometres south-south east of Muswellbrook, NSW.

The Maxwell Solar Farm is proposed to be located at the Maxwell infrastructure site (formally known as the Drayton Mine). Maxwell Ventures (Management) Pty Ltd, the proponent for the Project (Level 26, 259 George Street, Sydney NSW 2000), a wholly owned subsidiary of Malabar Coal Ltd (Malabar) owns and operates the Maxwell infrastructure site located on Thomas Mitchell Drive, Muswellbrook.

The Maxwell Infrastructure site includes the old open cut workings, rehabilitation, coal handling and preparation facilities and the Antlene rail spur and loop. Open cut coal extraction and mining activities commenced at the Maxwell infrastructure site in 1963 and ceased in October 2016. Progressive rehabilitation is currently being undertaken at the site in accordance with the Landscape Management Plan and the Mine Operations Plan (MOP), approved by the Department of Planning and Environment (DPE).

The proposed Maxwell Solar Farm would be sited on a rehabilitated overburden emplacement area at the Maxwell infrastructure site, an area of approximately 105 ha. Whilst it is recognised that the proposed Maxwell Solar Farm would be located on land currently subject to Coal Lease No. 229 (CL 229), it is anticipated that the land for the Maxwell Solar Farm would be excised or removed from CL 229 post approval. The land is also subject to an existing approval for the Drayton Mine Extension Project, granted by the Minister of Planning under Part 3A of the EP&A Act and Environment Protection Licence No. 1323 (EPL 1323), issued under the Protection of the Environment Operations Act 1997 (POEO Act).

You have been identified by the Office of Environment and Heritage (OEH) as an Aboriginal person or organisation with the potential to hold cultural knowledge relevant to determining the significance of Aboriginal objects and places within the study area. Accordingly, AECOM is inviting you to participate in community consultation for this project.

To register your interest to be consulted about this project, please contact the following:

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: geordie.oakes@aecom.com

To be involved in the consultation process, registrations must be received by 9 March 2019.



Appendix F

**Draft Assessment
Methodology**

Appendix F Draft Assessment Methodology

10 March 2019

Dear RAP,

RE: Proposed Aboriginal Cultural Heritage Assessment Methodology for the Maxwell Solar Farm Project

AECOM Australia Pty Ltd (AECOM) is commissioned by Maxwell Solar Pty Ltd (Maxwell) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the Maxwell Solar Farm project ('the Project') located approximately ten kilometres south-south east of Muswellbrook, NSW.

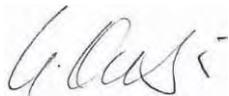
Please find enclosed for your review the proposed assessment methodology for the ACHA being completed for the project. This draft assessment methodology details the proposed approach to the assessment and is being provided to all Registered Aboriginal Parties (RAPs) in accordance with Sections 4.3.1 and 4.3.2 of the NSW Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010). A brief review of existing environmental and archaeological data for the study area is also provided to give context for the proposed assessment methodology.

All comments on the proposed methodology must be received by 9 April 2019. Comments can be provided in writing or by phone. Comments on the cultural values of the study area can be provided along with your comments on the proposed methodology or at any stage up until the end of the draft ACHA review period.

Geordie Oakes
c/- AECOM Australia Pty Ltd
PO Box Q410, QVB Post Office,
Sydney, NSW 1230
Ph: +61 2 8934 0610
Fax: +61 2 8934 0001
Email: geordie.oakes@aecom.com

We look forward to your participation in the assessment of this project.

Yours faithfully



Geordie Oakes
Archaeologist
geordie.oakes@aecom.com

Direct Dial: +64 2 89340610
Direct Fax: +64 2 89340001

Maxwell Solar Farm: Aboriginal Cultural Heritage Assessment Proposed Methodology

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) is commissioned by Maxwell Solar Pty Ltd (Maxwell) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the Maxwell Solar Farm project ('the Project') located approximately ten kilometres south-south east of Muswellbrook, NSW.

The objectives of the ACHA are to identify the Aboriginal heritage values, both archaeological and cultural, of the study area and to determine appropriate mitigation and/or management measures. The assessment will involve background research, Aboriginal community consultation, archaeological field survey and the production of an ACHA report.

In accordance with the Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a), AECOM is providing for your review a proposed (draft) assessment methodology for the Project. Aboriginal stakeholders are invited to comment on this draft methodology and to provide comments regarding the Aboriginal heritage cultural values of the study area.

2.0 Background

The Maxwell Solar Farm is proposed to be located at the Maxwell Infrastructure site (formally known as the Drayton Mine). Maxwell Ventures (Management) Pty Ltd, a wholly owned subsidiary of Malabar Coal Ltd (Malabar) owns and operates the Maxwell Infrastructure site located on Thomas Mitchell Drive, Muswellbrook.

The Maxwell Infrastructure site includes the old open cut workings, rehabilitation, coal handling and preparation facilities and the Antiene rail spur and loop. Open cut coal extraction and mining activities commenced at the Maxwell Infrastructure site in 1983 and ceased in October 2016. Progressive rehabilitation is currently being undertaken at the site in accordance with the Landscape Management Plan and the Mine Operations Plan (MOP), approved by the Department of Planning and Environment (DPE).

The proposed Maxwell Solar Farm would be sited on a rehabilitated overburden emplacement area at the Maxwell Infrastructure site, an area of approximately 105 ha. Whilst it is recognised that the proposed Maxwell Solar Farm would be located on land currently subject to Coal Lease No. 229 (CL 229), it is anticipated that the land for the Maxwell Solar Farm would be excised or removed from CL 229 post approval. The land is also subject to an existing approval for the Drayton Mine Extension Project, granted by the Minister of Planning under Part 3A of the EP&A Act and Environment Protection Licence No. 1323 (EPL 1323), issued under the Protection of the Environment Operations Act 1997 (POEO Act).

3.0 Project Overview

The Maxwell Solar Farm would include the installation of a solar plant with a capacity of approximately 25 megawatts (MW) that would supply electricity to the Maxwell Infrastructure site and/or the Maxwell Underground site and/or the National Energy Market (NEM). The proposal would include flat plate photovoltaic (PV) modules in a fixed or tracking arrangement, potential battery storage and associated overhead and underground lines.

4.0 The Study Area

The study area for this assessment encompasses land required for the solar arrays, battery storage, 33kV and 66kV transmission lines, as well as the proposed switching station (see Figure 1). Combined, these areas produce a study area of approximately 105 ha centred on a rehabilitated overburden emplacement area at the Maxwell Infrastructure site. Land within the study area has been significantly modified/disturbed through open-cut mining related activities and subsequent rehabilitation with no undisturbed land remaining.

5.0 Archaeological Context

AHIMS Database

Searches of the AHIMS database were undertaken on 11 May 2018 for a 20 x 20 km area roughly centred on the study area resulting in the identification of 1,620 Aboriginal sites, comprising 1,593 open artefact sites (i.e., isolated artefacts and artefact scatters) (18 of which have associated areas of Potential Archaeological Deposit [PAD]), 15 modified trees (two with associated artefacts), five grinding groove sites, four stone quarries, one area of PAD, one midden and one burial (Table 1).

Consideration of the location of previously recorded Aboriginal sites indicates that **none** are located within the study area with the closest site – open artefact and PAD site ‘Ramrod R10’ (AHIMS ID#37-2-2347 located 110 m from the existing road access.

Table 1 Site search results (20 x 20 km area)

Site Type	Count	%
Open artefact site (i.e., isolated artefacts and artefact scatters)	1575	97.2
Open artefact site with PAD	18	1.1
Modified tree	13	0.8
Modified trees + artefact	2	0.1
Grinding groove	5	0.3
Stone quarries	4	0.2
PAD	1	0.1
Midden	1	0.1
Burial	1	0.1
Total	1620	100

Previous Aboriginal Heritage Assessments

Table 2 provides a summary of previous Aboriginal archaeological assessments that have been carried out within the study area.

Table 2 Previous Aboriginal Heritage Assessments

Consultant	Year	Project / Location	Assessment type	Summary of results
Kammainga	1978	Drayton Coal Lease	Survey	Kammainga (1978) undertook a targeted survey of land within the Drayton Coal Lease as part of the preparation of the EIS for the coal mine. No Aboriginal sites were identified during the survey.
L.K. Dyll	1980	Drayton Coal Lease	Survey	Dyll (1980) undertook a survey of an area immediately south of the Bayswater Colliery and north of the study area within the Maxwell Infrastructure area. Three sites, all artefact scatters, were recorded on the banks of Saddlers Creek. The sites contained flakes, cores and backed blades of chert, rhyolite (tuff) and quartz.
HLA Envirosciences	2002	Drayton Mine Extension	Survey	HLA Envirosciences (2002) completed an archaeological survey for the Drayton Mine extension. A total of 14 artefact scatters were located during survey. Indurated mudstone/tuff was the dominant material (51%), followed by silcrete (39%), quartz (5%) and porcellanite (5%). Artefacts comprised flakes (49%), flaked pieces (41%), cores (9%), and backed blades (1%). All sites were located along creeklines, ridgelines or crests.

Consultant	Year	Project / Location	Assessment type	Summary of results
Archaeological Risk Assessment Services	2006	Drayton Mine Extension	Survey	ARAS (2006) undertook an assessment for the Drayton Mine extension. A total of 480 stone artefacts were recorded from 39 sites that were identified, comprising of 22 artefact scatters and 17 isolated finds. A large proportion of the sites contained less than 10 artefacts, though five sites had over 50 artefacts and were associated with drainage lines or gullies. Of the 480 artefacts identified, 38% were complete flakes, 31% broken flakes, 26% flaked pieces and 5% cores. A majority of artefacts were of indurated mudstone/tuff (55%), followed by silcrete (25%), porcellanite (14%) and quartz (4.6%).
Archaeological Risk Assessment Services	2010	Drayton Mine Extension	Survey and salvage	ARAS (2010) undertook a program of salvage excavation for 26 Aboriginal sites for the Drayton Mine Extension Project. The salvage included surface collection of artefacts at 22 sites, mechanical grader scrapes at 11 locations and hand excavation at three locations. A total of 8505 artefacts were recovered as part of the works. Of these, 7500 artefacts were recovered from three distinct knapping locations at Ramrod Creek, identifying the creek as archaeologically sensitive. OSL (optically stimulated luminescence) dating of deposits at Ramrod Creek and Delpah returned dates of 3-1.4 ka years ago placing them in the Late Holocene. Raw materials utilised included porcellanite, silcrete, tuff and chert. At Ramrod Creek, porcellanite was the dominant raw material, while at Delpah, silcrete and tuff were dominant. ARAS (2010) proposed two main site types, reflecting two differing site functions, were present within the study area: fringe sites representing short-term occupation, and sites principally focused on the manufacture of backed artefacts. On the basis of site size (i.e. number of artefacts) and the ratio of discarded tools to waste material, ARAS (2010) proposed that sites adjacent to ridgelines and overlooking ephemeral water systems were the result of 'short term settlement'. Conversely, ARAS (2010) found sites associated with Ramrod Creek were specific to stone tool manufacturing activities, with particular emphasis on producing Bondi points from porcellanite.

Figure 1 Study area and AHIMS sites



6.0 Methodology

The approach that AECOM intends to adopt for undertaking the assessment includes the following key components:

1. Background research;
2. Archaeological survey of the rehabilitated overburden emplacement area, representing the only location where Aboriginal objects may be present in the topsoil that was used during rehabilitation;
3. Consultation with RAPs in order to identify the Aboriginal cultural heritage values of the study area; and
4. Preparation of an ACHA for the study area detailing the results of the above. Appropriate management/mitigation measures for the identified Aboriginal heritage values of the study area will be provided in this report.

The proposed methodologies for each of these components are detailed in the sections below.

The roles, responsibilities and functions of the RAPs, AECOM (Proponent's representative) and Maxwell (the Proponent) are outlined in Attachment 1.

A. Background Research

The following tasks will be undertaken for the background research component of the assessment:

- Updated search of OEH's AHIMS database;
- A review associated site cards and reports to clarify site contents, extents and statuses;
- A review of the landscape context of the study area, with a particular emphasis on its implications for the nature and distribution of Aboriginal archaeological materials;
- A review of relevant archaeological and ethnohistoric information for the study area and environs; and
- Preparation of a predictive model for the Aboriginal archaeological record of the study area.

B. Archaeological Survey

Archaeological survey will be undertaken across the Maxwell Infrastructure rehabilitated overburden emplacement area, representing the only location where Aboriginal objects may be present. The remainder of the study area is considered to have negligible likelihood to contain Aboriginal objects due to past disturbances.

Survey will be undertaken by a combined field team of two AECOM archaeologists and appropriate number of RAP field representatives, as determined by AECOM and Maxwell prior to survey. While vehicles may be used to transport the survey team between survey localities, all survey will be completed on foot. Linear transects of variable length and width, depending on ground conditions and occupational health and safety (OH&S) considerations are proposed. The location of all transects completed during survey, including their start and end points, will be recorded using one of two handheld differential GPS units, with associated transect data (e.g., levels of visibility and exposure, disturbance factors) entered directly into the same unit upon the completion of each transect.

All Aboriginal archaeological sites identified during the survey will be recorded to the standard required by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). For each site located individual artefact locations will be captured by differential GPS. As with that recorded for individual survey transects, attribute data for all identified flaked stone artefacts will be entered directly into a GPS unit using AECOM's standard digital open site recording form. All sites will be comprehensively photographed following artefact recording and registered on OEH's AHIMS database.

Modifications to the study area may occur during the preparation of the ACHA as detailed planning progresses. In addition, modifications to the proposed methodology may occur in response to survey results, feedback from RAPs or other unanticipated events.

C. Cultural Values

RAP representatives are in the best position to provide information on the Aboriginal social/cultural heritage values of a given area. During the assessment process, AECOM archaeologists will consult with RAPs regarding the cultural heritage values of objects and places in the study area. This will include:

- A request (with this draft methodology) for any initial comments regarding the Aboriginal cultural heritage values of the study area;
- The provision of this information package, including draft assessment methodology to all RAPs for comment prior to fieldwork;
- RAP participation in field survey;
- Discussion of cultural heritage values with RAPs during field survey and generally throughout the process until the end of the draft ACHA review period; and
- Provision of draft ACHA to all RAPs for comment prior to finalisation.

The identification of cultural values will include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

As noted in OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a), some information obtained from registered Aboriginal parties may be sensitive or have restricted public access. AECOM, in consultation with relevant RAPs, will develop appropriate protocols for sensitive or restricted information, including:

1. Cultural restrictions on access to the material.
2. Cultural restrictions on communication of the material.
3. Cultural restrictions on the location of the material.
4. Cultural recommendations on handling the material.
5. Any other contextual information.
6. The names and contact details of persons authorised within the relevant Aboriginal group to make decisions concerning the Aboriginal material and the degree of authorisation.
7. Details of any consent given in accordance with customary law.
8. Level of confidentiality to be accorded to the material.
9. Access and use, by the registered Aboriginal parties, of the cultural information in the material.

It is also noted that the purpose of community consultation with Aboriginal people is to assist AECOM and Maxwell in the preparation of an application for an Aboriginal Heritage Impact Permit (although such a permit is not expected to be necessary given the Project will be assessed as an State Significant Development), and to assist the "*Director-General*" (DECCW, 2010) in his or her consideration and determination of the application.

D. Preparation of an ACHA

AECOM will prepare an ACHA for the Project detailing the results of the above archaeological survey and consultation with RAPs. The ACHA will provide appropriate management and mitigation measures for the study area's Aboriginal heritage values. RAPs will have the opportunity to comment on management and mitigation options proposed in the ACHA prior to finalisation.

7.0 Project Timeline

Current proposed timelines for the ACHA are:

- Collation of culturally significant information – ongoing throughout process until the end of the draft ACHA review period.
- Provision of comment on this draft methodology – anticipated to occur in February 2019.
- Field survey – anticipated to occur in April 2019.
- Provision of a draft ACHA report to each RAP for review and comment – anticipated to occur in April 2019.

- Period for comment on the draft ACHA report – a minimum of 28 days following provision of the draft report.
- Preparation of a final ACHA report in consideration of comments received – anticipated to occur in May 2019.

The above timelines are preliminary only and are subject to change. RAPs will be notified of dates for field surveys and the due date for provision of comments on the draft ACHA report once available.

8.0 References

NSW Department of Environment Climate Change & Water. (2010a). *Aboriginal Cultural Heritage Consultation Requirements for Proponents. National Parks*. Department of Environment, Climate Change and Water.

NSW Department of Environment Climate Change & Water. (2010b). *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. Department of Environment, Climate Change and Water.

Oakes, Georgie

From: Shaun Carroll <Merrigarn@hotmail.com>
Sent: Wednesday, 27 March 2019 3:10 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Project Methodology

Hi Georgie

I have read the Proposed assessment methodology for the above project, I agree with the recommendations made by AECOM if you require further details please feel free to email me.

Kind regards

Shaun Carroll

Sent from my iPad

On 10 Mar 2019, at 4:05 pm, Oakes, Georgie <Geordie.Oakes@aecom.com> wrote:

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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Please consider the environment before printing this email.

<AECOM Maxwell Solar Coverletter +Methodology_2019_03_10.pdf>

Oakes, Geordie

From: Muragadi <muragadi@yahoo.com.au>
Sent: Monday, 11 March 2019 1:42 PM
To: Oakes, Geordie
Subject: RE: Maxwell Solar Farm - Project Methodology

Hi Geordie,
I have read the methodology for the above project, I endorse the recommendations made.
Kind regards
Anthony
0418970389

From: Oakes, Geordie [<mailto:Geordie.Oakes@aecom.com>]
Sent: Sunday, 10 March 2019 4:05 PM
To: Oakes, Geordie <Geordie.Oakes@aecom.com>
Subject: Maxwell Solar Farm - Project Methodology

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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T +61 2 8934 0000 F +61 2 8934 0001
www.aecom.com

Please consider the environment before printing this email.

Oakes, Georgie

From: Ryan Johnson <murrabidgeemullangari@yahoo.com.au>
Sent: Monday, 11 March 2019 11:14 AM
To: Oakes, Georgie
Subject: RE: Maxwell Solar Farm - Project Methodology

Hi Georgie,
I have read the project information and methodology for the Maxwell Solar Farm project, I endorse the recommendations made by Aecom.
Kind regards

Ryan Johnson | **Murra Bidgee Mullangari**



Aboriginal Corporation Cultural Heritage

A: PO Box 246, Seven Hills, NSW, 2147
E: murrabidgeemullangari@yahoo.com.au
ICN: 8112

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From: Oakes, Georgie [<mailto:Geordie.Oakes@aecom.com>]
Sent: Sunday, 10 March 2019 4:05 PM
To: Oakes, Georgie <Geordie.Oakes@aecom.com>
Subject: Maxwell Solar Farm - Project Methodology

Dear RAP,

Oakes, Georgie

From: WIDESCOPE . <widescope.group@live.com>
Sent: Tuesday, 12 March 2019 12:52 PM
To: Oakes, Georgie
Subject: RE: Maxwell Solar Farm - Project Methodology

Hi Georgie,

I have viewed and support the daft assessment methodology for the Maxwell Solar Farm Project

Regards
Steven Hickey

From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Sunday, March 10, 2019 4:05:19 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Project Methodology

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,
Geordie

Geordie Oakes
Principal Heritage Specialist
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Geordie.Oakes@aecom.com

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www.aecom.com

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Oakes, Georgie

From: kerrie slater <wurrumay@hotmail.com>
Sent: Thursday, 11 April 2019 8:30 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Project - Proposed Assessment Methodology

Hi Georgie

Wurrumay Consultants have read the project Proposed Assessment & the Methodology and have agreed at this stage.

Cheers

Kerry Slater

Manager
33 Gardner Cct Singleton NSW
2330

On 10 Mar. 2019 4:05 pm, "Oakes, Georgie" <Geordie.Oakes@aecom.com> wrote:

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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www.aecom.com

Please consider the environment before printing this email.

Oakes, Georgie

From: Deidre Perkins <dedemaree3@hotmail.com>
Sent: Tuesday, 12 March 2019 9:04 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Project Methodology

Hi Geord,
All good to go with me

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From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Sunday, March 10, 2019 4:05:19 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Project Methodology

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,
Geordie

Geordie Oakes

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Geordie.Oakes@aecom.com

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Please consider the environment before printing this email.

Oakes, Georgie

From: lilly carroll <didgengunawalclan@yahoo.com.au>
Sent: Tuesday, 16 April 2019 7:55 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Project Methodology

Sorry Georgie,

Msg was in spam!
DNC is happy anyhow if it's too late for you to put through

Kind regards
Paul Boyd & Lilly Carroll
Directors DNC

[Sent from Yahoo Mail for iPhone](#)

On Sunday, March 10, 2019, 4:05 pm, Oakes, Georgie <Geordie.Oakes@aecom.com> wrote:

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D [+61 2 8934 0610](tel:+61289340610)
Geordie.Oakes@aecom.com

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Please consider the environment before printing this email.

Oakes, Georgie

From: Gidawaa Walang Cultural Heritage Consultancy <gidawaa.walang@hotmail.com>
Sent: Thursday, 14 March 2019 7:36 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Project Methodology

Hi Georgie,

I have no comments to add to the proposed assessment methodology.
Thanks.

Regards,
Craig

Gidawaa Walang Cultural Heritage Consultancy
trading name of Barkuma Neighbourhood Centre Inc.
76 Lang Street, Kurri Kurri 2327 | Phone: 02 4937 1094
www.barkuma.org | Fax: 02 4936 4449

From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Sunday, 10 March 2019 4:05 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Project Methodology

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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Please consider the environment before printing this email.

Oakes, Georgie

From: Vicki Slater <vicki.slater@hotmail.com>
Sent: Thursday, 11 April 2019 8:26 PM
To: Oakes, Georgie
Subject: Re: - Maxwell Solar Farm Project Assessment Methodology

Dear Georgie.

Kawul Cultural Services have read the Project Assessment Methodology and have agreed .

Regards

Vicki Slater
Manager

On 6 Mar. 2019 2:08 pm, Vicki Slater <vicki.slater@hotmail.com> wrote:
Hi Georgie

Kawul Cultural Services would like to register an interest for the project.

Gomeroi traditional owner & Experienced Site Officer.
Current Insurances

Cheers

Vicky Slater
33 Gardner Cct singleton

Oakes, Geordie

From: Rod Hickey <menshack@outlook.com>
Sent: Thursday, 11 April 2019 8:23 PM
To: Oakes, Geordie
Subject: Re: Maxwell Solar Farm - Project Methodology

Hi Geordie.

We have read and agreed with the Proposed Assessment Methodology at this stage.

Regards

Rod Hickey - Traditional Owners
Manager:
The Men's Shack indigenous Corporation.

On 10 Mar. 2019 4:05 pm, "Oakes, Geordie" <Geordie.Oakes@aecom.com> wrote:

Dear RAP,

Please find attached the proposed assessment methodology for the Maxwell Solar Farm Project. If you have any comments or questions, please provide these by 9 April 2019.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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Appendix G

RAP Responses to Draft
Report

Appendix G RAP Responses to Draft Report

Oakes, Georgie

From: Amanda Hickey <Amandahickey@live.com.au>
Sent: Monday, 22 April 2019 9:06 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Good morning Georgie
Thank you for the email
AHCS is happy with the Aboriginal Cultural Heritage Assessment Report (ACHAR) for Maxwell Solar Farm Project,.
If there is anything else you need please contact me
Have a great day
Amanda AHCS

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From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Wednesday, April 17, 2019 2:23:16 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Georgie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Georgie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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www.aecom.com

Please consider the environment before printing this email.

Oakes, Georgie

From: Caza X <cazadirect@live.com>
Sent: Sunday, 5 May 2019 11:42 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

A1

Indigenous Services
Contact: Carolyn
M: 0411650057
E: Cazadirect@live.com
A: 10 Marie Pitt Place, Glenmore Park, NSW 2745
ABN: 20 616 970 327

Hi,
A1 Supports the ACHAR.
Thank you
Carolyn Hickey

From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Georgie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Georgie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

AECOM

Oakes, Georgie

From: Tracey Skene <tracey@marrung-pa.com.au>
Sent: Wednesday, 24 April 2019 11:00 AM
To: Oakes, Georgie
Subject: Re: FW: Maxwell Solar Farm - Draft ACHAR Review

Good morning Georgie,
Hope you and staff had a great Easter break catching up with family and Friends.

I have read this Report and have no concerns in regards to the Draft Report at this point of time..
just wondering in regards to economic issues in Community , is this project going to benefit the Aboriginal
Community with Employment or Training or even supporting wellbeing programs in the Community etc and
not only in the upper Hunter but for Wonnarua people living in bot areas of their Traditional Lands
Lower/Upper Hunter valley.

Looking forward to a response
Thanks
Tracey

On Tue, 23 Apr 2019, 9:08 AM Oakes, Georgie <Geordie.Oakes@aecom.com> wrote:

Hi Tracey,

-

Hope you had a relaxing Easter break. I just wanted to confirm that you received my email with the copy of the ACHAR
for Maxwell Solar Farm and see whether you had any comments?

-

Thanks,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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www.aecom.com

Please consider the environment before printing this email.

From: Oakes, Georgie
Sent: Wednesday, 17 April 2019 2:23 PM

Oakes, Geordie

From: Oakes, Geordie
Sent: Friday, 3 May 2019 2:36 PM
To: 'tracey@marrung-pa.com.au'
Subject: RE: Maxwell Solar Farm - Draft ACHAR Review

Hi Tracey,

Donna from Malabar responded with the following in relation to your questions. If you need anything else let me know.

"With regards to employment and training, the project would generate 50 jobs during construction. Construction of the development is expected to take 18 months and will require some specialised solar service providers. Once in operation, it is estimated that only two jobs would be required on an ongoing basis.

Due to the limitations noted above, there are no specific commitments to indigenous employment however, similar to our current approach to employment and supporting local service providers, Malabar Coal will definitely give consideration to companies who support the local (both upper and lower Hunter) indigenous community and have indigenous employees.

We currently use Blackrock Industries as a service provider on site for general labour and land management works. Blackrock which is based in Muswellbrook, is 100 percent indigenous owned and operated and provides workforce services to the mining and construction industries. In addition, we have also supported their 'Second chance for change program', where inmates from St Heliers Correctional Centre work for Blackrock Industries on release. We are hoping to continue these existing relationships as we progress with projects such as the solar farm and Maxwell UG".

All the best,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

AECOM
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www.aecom.com

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From: tracey@marrung-pa.com.au [mailto:tracey@marrung-pa.com.au]
Sent: Monday, 29 April 2019 9:40 AM
To: Oakes, Geordie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Thanks Geordie.
Trace

Sent from my iPhone

On 29 Apr 2019, at 6:57 am, Oakes, Geordie <Geordie.Oakes@aecom.com> wrote:

Oakes, Georgie

From: Deidre Perkins <dedemaree3@hotmail.com>
Sent: Tuesday, 23 April 2019 11:58 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

All good with project Georgie.
Had a great Easter hope you and the family enjoyed the break 🍷
Deid

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From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Tuesday, April 23, 2019 9:09:22 AM
To: Deidre Perkins (dedemaree3@hotmail.com)
Subject: FW: Maxwell Solar Farm - Draft ACHAR Review

Hi Deidre,

Hope you had a relaxing Easter break. I just wanted to confirm that you received my email with the copy of the ACHAR for Maxwell Solar Farm and see whether you had any comments?

Thanks,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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PO Box Q410, QVB PO, Sydney, NSW, 1230
T +61 2 8934 0000 F +61 2 8934 0001
www.aecom.com

Please consider the environment before printing this email.

From: Oakes, Georgie
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Oakes, Georgie

From: Gidawaa Walang Cultural Heritage Consultancy <gidawaa.walang@hotmail.com>
Sent: Thursday, 2 May 2019 3:28 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Hi Georgie,

I had a couple of weeks off over Easter but I did receive your email with the copy of the ACHAR and I have no further comments.

Thankyou.

Regards,
Craig

Gidawaa Walang Cultural Heritage Consultancy
trading name of Barkuma Neighbourhood Centre Inc.
76 Lang Street, Kurri Kurri 2327 | Phone: 02 4937 1094
www.barkuma.org | Fax: 02 4936 4449

From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Tuesday, 23 April 2019 9:10 AM
To: Gidawaa Walang Cultural Heritage Consultancy (gidawaa.walang@hotmail.com)
Subject: FW: Maxwell Solar Farm - Draft ACHAR Review

Hi Craig,

Hope you had a relaxing Easter break. I just wanted to confirm that you received my email with the copy of the ACHAR for Maxwell Solar Farm and see whether you had any comments?

Thanks,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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T +61 2 8934 0000 F +61 2 8934 0001
www.aecom.com

Please consider the environment before printing this email.

From: Oakes, Georgie
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Draft ACHAR Review



Tocomwall Pty Ltd

PO Box 76 Caringbah NSW 1495

Tel: 02 9542 7714 Fax: 02 9524 4146

Email: info@tocomwall.com.au www.tocomwall.com.au

ABN: 13 137 694 618

22 April 2019

Dear Geordie,

RE: Aboriginal Cultural Heritage Assessment (Maxwell Solar Farm)

Dear Geordie,

Thank you for sending out the Draft ACHAR.

I would like to point out some inconsistencies with the report.

The assessment for this project has at no time attempted to meet with the Registered Native Title Party (PCWP) for the area. Scott Franks and Anor on the behalf of the Wonnarua people. The report is written in such a way that it attempts to display an assessment with no real understanding or reporting on the cultural values of the Wonnarua people, but instead uses the normal old consultation methods with any Registered Aboriginal Party in hope that the assessment process can devaluate cultural significance and sneak it threw planning and OEH.

If we consider point 2.1.2. Firstly this statement doesn't take into account the immense amount of cultural knowledge provided to meet requirements in a prima facia for a mere " acknowledgement" as Archaeologists would have this perceived. We are playing with Federal legislation while your understanding is of a state significance at its best. I request that you update this section to point out that a group of people having a Native Title claim registered is more complex and more difficult to prove. To get the claim registered you have to be able to demonstrate a continued connection to a specific area post European settlement and if you have registered as an Aboriginal Party, or person you simply respond to an advertisement in the local paper and you do not even have to prove you are Aboriginal. We are both aware of the acute differences especially given the importance of your Due Diligence process as an Archaeologist. Surely you want the most accurate data for your hypothesis testing, you know this and I know this. Enough of the blanket approaches. Our process as a NT claimant group has put our members in a far better stead than most, and we are aware of all the trickery and word play that goes on during these assessment processes.

Second Point 3.4 at no stage did Tocomwall field staff make any statements about the cultural importance on that area whilst out in the field conducting a very standard field survey. To convey in the report that this is our position is not true and I find it misleading and devaluating in our overall view because as you and OEH would Know the PCWP do retain cultural knowledge Specific of that area.

Ultimately this draft does not demonstrate any attempt to work with the registered Native Title Party and allow our collective concerns and values be voiced during this process. The "study Area" regardless of the impacts of open cut still retains cultural value for our people the PCWP. The area in question will be the subject of a section 9 and section 10 application to protect a well-known massacre site, this information has not been reported to you or your client by the Raps as these people do not speak on the behalf of the registered Native Title Party known as the PCWP. Tocomwall does not, and will continue to not stand idly by to have our values and opinions ignored due to a failure in the required definition of simple terminology and its meaning attached to it. I feel as though my response



Tocomwall Pty Ltd

PO Box 76 Caringbah NSW 1495

Tel: 02 9542 7714 Fax: 02 9524 4146

Email: info@tocomwall.com.au www.tocomwall.com.au

ABN: 13 137 694 618

merits a glossary of terms just so AECOM's heritage team and your Client understands a simple definition and the protocols married to it such as "registered NT Claimant Group" a simple due diligence other than a copy and paste response from the Native Title Tribunal would be enough to thoroughly understand what this means. Make no mistake this failure in a simple understanding will catch up to your consultancy. It should be noted that Tocomwall is the only **REGISTERED** authority able to make a response on behalf of the PCWP within our Claimed Area.

Witch brings my attention to my last point, in regard to the proposal to establish a Solar Farm the PCWP reject this proposal as this is an attempt for a new mine owner to avoid commitments and guarantee's given by the previous owners of the mine that were legally built into the original approval granted to that specific mine some time ago. The original approval was in support with the condition that once the open cut mine was completed all the land in question " study area" would be rehabilitated and returned to the way it was. Putting it this simply, and to re-iterate what I've said twice above. The rehabilitation work was and still is an original condition to have the mining operational license approved. There is no going around this legal obligation.

This new solar farm add-on falls outside of that commitment for support that underpinned the original approval. All mining approvals in the hunter valley have a legal obligation to return the land as close to a sustainable landform as possible with a commitment to rehabilitate those lands. Maxwell mining are attempting to avoid an expensive mining rehab obligation that is apart of its approval license in a very bras attempt to walk away from the rehab commitment. This fails in the overall approvals commitments to get licensed. If every mining operation in the Hunter Valley was to be allowed to do this we would never see any attempt to deal with rehab (a condition of the consent) the consent requires this operation regardless of who owns it or who supports it to rehabilitate the land not redevelop it into a another industry.

This is a shocking over reach of the approval that this registered Native Title Party will not support and as a result of the Draft solar farm ACHAR we will be seeking advice of the direction we need to go to oppose this project.

Regards,

Danny Franks

Cultural Heritage Manager

Scott Franks

Native Title & Environmental Services consultant

30 April 2019

Mr Scott Franks
Native Title & Environmental Services Consultant
Tocomwall Pty Ltd
Caringbah NSW 2495

BY EMAIL: scott@tocomwall.com.au

Dear Mr Franks,

Maxwell Solar Farm Project – Comments from Tocomwall in Relation to Draft Aboriginal Cultural Heritage Assessment Report

Thank you for your email of 23 April 2019, to which I refer. Each of the main points raised in your email have been addressed below.

In relation to the concern that during the assessment process no attempt has been made to meet with the Plains Clans of the Wonnarua People (PCWP), it is noted that an invitation for private meetings to discuss the cultural values of the study area was forwarded as part of the provision of the draft Aboriginal Cultural Heritage Assessment Report (ACHAR) dated 17/04/2019. In addition, Mary Franks, representing Tocomwall, attended the site survey. As part of ongoing consultation for the project, and the gathering of Aboriginal cultural values we would like to extend an additional invitation to you to provide information regarding the cultural values of the study area. Information can be provided by mail, email, verbally or private meeting at your request.

The ACHAR has been provided in draft format and it is noted that consultation for the project is not complete and is ongoing. A final version of the report, inclusive of all identified cultural values will be provided to you on completion.

In relation to the request that wording within Section 2.1.2 of the ACHAR be updated to include the process of registering a claim, the following text has now been included:

An application for a determination of native title claim is a legal action in the Federal Court of Australia. In order to have a claim registered you must pass the registration test. The registration test is a set of 12 conditions found in the Native Title Act 1993 that must be applied to all new claimant applications and to most amended claimant applications. To have the claim successfully registered you need to make the following three assertions and provide a factual basis to support each of them: (1) that your native title claim group has an association with the application area and that the predecessors of your claim group had an association with the application area (2) that there are traditional laws and customs acknowledged by and observed by your claim group that give rise to the native title rights and interests you claim (3) that your claim group has continued to hold native title in accordance with those traditional laws and customs.

Searches of the Schedule of Applications (unregistered claimant applications), Register of Native Title Claims, National Native Title Register, Register of Indigenous Land Use Agreements and Notified Indigenous Land Use Agreements were undertaken in February 2019, with one Native Title Registration Claim (not determined) identified for the study area - Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People (PCWP) (Claim ID number NC2013/006).

In relation to Section 3.4 and the statement made in the ACHAR that Registered Aboriginal Parties (RAPs) indicated that there were 'no Aboriginal cultural values within the study area', this text has been modified to 'RAPs did not identify any Aboriginal cultural values within the study area'. Furthermore, it will be explicitly noted in the ACHAR that Mary Franks, representing Tocomwall, made no statements regarding the Aboriginal cultural values of the study area. It will also be noted in the

report that Tocomwall, on behalf of the PCWP, has stated that the study area still retains cultural values despite the impacts from open cut mining.

Finally, in relation to your last point regarding the relinquishment of the rehabilitation, it is noted that the study area for the proposed Maxwell Solar Farm was previously mined by open cut mining operations and rehabilitated from 2000 to 2010. The proposed Maxwell Solar Farm provides an opportunity to beneficially use mine rehabilitated land to support renewable energy whilst diversifying industry in the Muswellbrook area.

The proposed Maxwell Solar Farm is not an attempt to avoid rehabilitation obligations. Rehabilitation at the wider Maxwell Infrastructure site is currently being undertaken in accordance with the Mining Operations Plan and Rehabilitation and Offset Management Plan of which both documents have been approved by the Department Planning and Environment. Malabar has made demonstrated progress with rehabilitation since taking control of the site in February 2018, this includes completing 92.8 hectares of rehabilitation across six areas of the site. The proposed Maxwell Solar Farm does not confuse Malabar's existing rehabilitation commitments for the final voids or other rehabilitation areas at the Maxwell Infrastructure site.

Yours faithfully



Geordie Oakes
Principal Heritage Specialist
geordie.oakes@aecom.com
Direct Dial: +64 2 89340610
Direct Fax: +64 2 89340001



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From: Oakes, Geordie <Geordie.Oakes@aecom.com>
Sent: Friday, 3 May 2019 2:09:33 PM
To: Danny Franks
Cc: Scott Franks
Subject: RE: Maxwell Solar farm

Hi Danny,

Scott asked me to contact you about rates for meeting. Can you please let me know.

Thanks,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

AECOM
Level 21, 420 George Street, Sydney, NSW 2000
PO Box Q410, QVB PO, Sydney, NSW, 1230
T +61 2 8934 0000 F +61 2 8934 0001
www.aecom.com

Please consider the environment before printing this email.

From: Scott Franks [mailto:scott@tocomwall.com.au]
Sent: Tuesday, 30 April 2019 4:08 PM
To: Oakes, Geordie
Cc: Danny Franks
Subject: Re: Maxwell Solar farm

Geordie,

Thank you for the response, I will review this over the week. With regard to meeting this would need to be in person and at your clients expense. We have a set rate for meeting which I can make available one a date is set for the meeting.

Oakes, Geordie

From: Oakes, Geordie
Sent: Wednesday, 15 May 2019 9:36 AM
To: Danny Franks
Subject: RE: Maxwell Solar farm

Hi Danny,

Scott and I haven't arranged a meeting time/place as we've been waiting to hear back from you regarding meeting rates (as per Scott's email). The rates would need to be approved by the client prior to meeting.

We're closing out formal consultation on the project's ACHA report today but would still be happy to consider a meeting to discuss the project and any associated Aboriginal cultural values for the project area.

Can you please let me know what your rates are and I'll confirm with the client.

Thanks,
Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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www.aecom.com

Please consider the environment before printing this email.

From: Danny Franks [mailto:danny@tocomwall.com.au]
Sent: Tuesday, 14 May 2019 6:09 PM
To: Oakes, Geordie
Cc: Scott Franks
Subject: Re: Maxwell Solar farm

Hi Geordie,

Did you and Scott schedule in a meeting Date/Time/Place.

regards,

Danny Franks

Cultural Heritage Manager
Tocomwall Pty Ltd
M: 0415226725

Oakes, Georgie

From: Shaun Carroll <Merrigarn@hotmail.com>
Sent: Thursday, 18 April 2019 7:43 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Hi Georgie

I have read the project information and draft ACHAR for the Maxwell Solar Farm. I agree with the recommendations made.

Kind regards
Shaun Carroll

From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Georgie
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Georgie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Georgie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

All the best,

Geordie

Geordie Oakes
Principal Heritage Specialist
D +61 2 8934 0610
Geordie.Oakes@aecom.com

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www.aecom.com

Please consider the environment before printing this email.

Oakes, Georgie

From: Muragadi <muragadi@yahoo.com.au>
Sent: Wednesday, 1 May 2019 11:43 AM
To: Oakes, Georgie
Subject: RE: Maxwell Solar Farm - Draft ACHAR Review

Hi Georgie,
I have read the project information and draft ACHAR for the Maxwell Solar Farm Project. I agree with the recommendations made by Aecom.

Kind regards

Anthony

0418970389

From: Oakes, Georgie [<mailto:Geordie.Oakes@aecom.com>]
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Georgie <Geordie.Oakes@aecom.com>
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Georgie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Georgie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

All the best,

Geordie

Geordie Oakes

Principal Heritage Specialist

D +61 2 8934 0610

Geordie.Oakes@aecom.com

AECOM

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www.aecom.com

Please consider the environment before printing this email.

Oakes, Geordie

From: Ryan Johnson <murrabidgeemullangari@yahoo.com.au>
Sent: Monday, 22 April 2019 4:04 PM
To: Oakes, Geordie
Subject: RE: Maxwell Solar Farm - Draft ACHAR Review

Hi Geordie,
I have read the project information and draft ACHAR for the Maxwell Solar Farm project, I endorse the recommendations made by Aecom, please feel free to contact me if you require further details.
Kind regards
Ryan Johnson | **Murra Bidgee Mullangari**



Aboriginal Corporation Cultural Heritage

A: PO Box 246, Seven Hills, NSW, 2147
E: murrabidgeemullangari@yahoo.com.au
ICN: 8112

Note: Privileged/Confidential information may be contained in this message and may be subject to legal privilege. Access to this e-mail by anyone other than the intended is unauthorised. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should destroy this message, and notify us immediately. If you have received this email in error, please notify us immediately by e-mail or telephone and delete the e-mail from any computer. If you or your employer does not consent to internet e-mail messages of this kind, please notify us immediately. All reasonable precautions have been taken to ensure no viruses are present in this e-mail. As our company cannot accept responsibility for any loss or damage arising from the use of this e-mail or attachments we recommend that you subject these to your virus checking procedures prior to use. The views, opinions, conclusions and other informations expressed in this electronic mail are not given or endorsed by the company unless otherwise indicated by an authorized representative independent of this message.

From: Oakes, Geordie [<mailto:Geordie.Oakes@aecom.com>]
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Geordie <Geordie.Oakes@aecom.com>
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report

Oakes, Georgie

From: tn.miller@southernphone.com.au
Sent: Wednesday, 17 April 2019 4:06 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Geordie

I would rather have a hard copy please (paper version).

Thanks

Tom Miller

WONNARUA ELDER LHWCS

----- Original Message -----

From:
"Oakes Georgie" <Geordie.Oakes@aecom.com>

To:
"Oakes Georgie" <Geordie.Oakes@aecom.com>

Cc:

Sent:
Wed, 17 Apr 2019 04:23:16 +0000
Subject:
Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Georgie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Georgie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

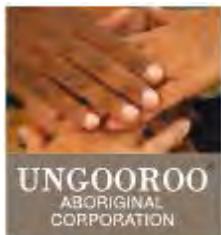
Oakes, Georgie

From: Admin <admin@ungooroo.com.au>
Sent: Monday, 29 April 2019 11:19 AM
To: Oakes, Georgie
Subject: RE: Maxwell Solar Farm - Draft ACHAR Review

Good Morning Georgie,

Sorry for the delay in reply.

I will forward this on to Mr Allen Paget in hope he will add some comments.



Kind Regards

Melanie Schulz | MEDICAL ADMINISTRATION OFFICER

PHONE 02 6571 5111 | FAX 02 6571 5777

LOCATION 128 George Street, Singleton NSW 2330

POST PO Box 3095, Singleton NSW 2330

EMAIL admin@ungooroo.com.au | WEB www.ungooroo.com.au

WUPA www.wupaatwanaruah.com.au | DOOKAL www.dookalclothing.com.au



Ungooroo Aboriginal Corporation acknowledges Aboriginal and Torres Strait Islander people as the Traditional Owners. We would like to acknowledge the Traditional Owners of our area, the Wanaruah People.

We pay our respect to the elders past, present and future for they hold the memories, traditions, culture and hope of Indigenous peoples in Australia.

From: Oakes, Georgie [mailto:Geordie.Oakes@aecom.com]
Sent: Tuesday, 23 April 2019 9:12 AM
To: Admin <admin@ungooroo.com.au>
Subject: FW: Maxwell Solar Farm - Draft ACHAR Review

Hi Alan,

Hope you had a relaxing Easter break. I just wanted to confirm that you received my email with the copy of the ACHAR for Maxwell Solar Farm and see whether you had any comments?

Thanks,
Geordie

Geordie Oakes
Principal Heritage Specialist

Oakes, Georgie

From: Maree Waugh <wallangan@outlook.com>
Sent: Tuesday, 23 April 2019 4:30 PM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Hi Georgie,

I have read the report and I'm happy with it.

Thank's
Maree

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From: Maree Waugh
Sent: Tuesday, April 23, 2019 9:22:57 AM
To: Oakes, Georgie
Subject: Re: Maxwell Solar Farm - Draft ACHAR Review

Hi Georgie

Yes i received it thanks

Maree

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From: Oakes, Georgie <Geordie.Oakes@aecom.com>
Sent: Tuesday, April 23, 2019 9:13:28 AM
To: Maree Waugh (wallangan@outlook.com)
Subject: FW: Maxwell Solar Farm - Draft ACHAR Review

Hi Maree,

Hope you had a relaxing Easter break. I just wanted to confirm that you received my email with the copy of the ACHAR for Maxwell Solar Farm and see whether you had any comments?

Thanks,
Geordie

Geordie Oakes

Principal Heritage Specialist

D +61 2 8934 0610

Geordie.Oakes@aecom.com

AECOM

Level 21, 420 George Street, Sydney, NSW 2000

PO Box Q410, QVB PO, Sydney, NSW, 1230

T +61 2 8934 0000 F +61 2 8934 0001

Oakes, Geordie

From: Noel Downs <ceo.wanaruah@bigpond.com>
Sent: Wednesday, 15 May 2019 5:11 PM
To: Oakes, Geordie
Cc: 'Suzie Worth'; rhonda.griffiths49@gmail.com
Subject: RE: Maxwell Solar Farm - Draft ACHAR Review

Wanaruah LALC has nothing to add.

From: Oakes, Geordie [<mailto:Geordie.Oakes@aecom.com>]
Sent: Wednesday, 17 April 2019 2:23 PM
To: Oakes, Geordie <Geordie.Oakes@aecom.com>
Subject: Maxwell Solar Farm - Draft ACHAR Review

Dear RAP,

In accordance with Section 4.4.2 of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), please find attached for your review a draft of AECOM's Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Maxwell Solar Farm Project, a proposed solar farm, located south of Muswellbrook, within the local government area of Muswellbrook, NSW.

Should you have any cultural values or comments you would like included in the ACHAR, please provide those by mail, fax, e-mail or phone to Geordie Oakes via the contact details below. If you wish a private interview to discuss cultural values, please contact Geordie.

Please note that the closing date for comments is Wednesday 16 May 2019.

If you would like a hard copy (paper version) of the assessment report, please let me know.

All the best,

Geordie

Geordie Oakes

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Record of conversation

Project	MAYWELL PROJECT (SOLAR FARM)	Date	15/05/19
Subject	REVIEW OF THE DRAFT ACHAR	Time	1:15 PM
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	JOHN MATHEWS	Page	of
Distribution			

John indicated that artefacts were discovered near the dam in the vicinity of the mine and that he hoped to be able to survey that area. Julia explained that the dam was not part of the study area and John stated that he and Margaret were happy with the findings of the report.

Record of conversation

Project	MAXWELL PROJECT (SOLAR FARM)	Date	15/05/9
Subject	REVIEW OF DRAFT ACHAR	Time	11:44 AM
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	DAVE HORTON	Page	of
Distribution			

Dave confirmed that he had already spoken to George and that he was "line" with the report.

Record of conversation

Project	MAXWELL PROJECT (SOLAR FARM)	Date	15/05/19
Subject	REVIEW OF DRAFT ACHAR	Time	11.50 am
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	NOEL DOWNS	Page	of
Distribution			

Noel indicated that he was in a meeting and would contact Julia or Geordie that afternoon for comments.

Record of conversation

Project	MAXWELL PROJECT (SOLAR FARM)	Date	15/05/19
Subject	REVIEW OF DRAFT ACHAR	Time	12:05 PM
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	VICKI SLATER	Page	of
Distribution			

Vicki indicated, "we're fine with it" (the draft report) and that it was necessary to comply with OEH.

Record of conversation

Project	MAXWELL PROJECT (SOLAR FARM)	Date	15/05/15
Subject	REVIEW OF DRAFT ACHAR	Time	12:21 pm
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	DES HICKEY	Page	of
Distribution			

Des indicated that he would be "fine with that" (indicating the recommendations) providing that the decision of 'no cultural values' was from the Registered Aboriginal Parties and not solely from the AECOM archaeologists.

Record of conversation

Project	MAXWELL PROJECT (SOLAR FARM)	Date	15/05/19
Subject	REVIEW OF DRAFT ACHAR	Time	12.14PM
Participants (AECOM)	JULIA ATKINSON	File/ref no	
Participants (client/other)	NORMAN ARCHIBALD	Page	of
Distribution			

Norman stated that he had received the report but wanted confirmation on the details. Julia described the project and the findings of the survey - being no sites or areas of cultural values. Norman asked if survey took place along the creekline and Julia stated that she would speak with Geordie and get back to Norman.

- Julia left a message on Norman's 12:40PM answering machine confirming that the creekline was surveyed.

Appendix H

Consultation Log

Appendix H Consultation Log

Date	RAP	RAP Representative	Contact	Correspondence/Comments
6/02/2019	Newspaper Advertisement Published			
11/02/2019	Tocomwall	Danny Franks	Email	Emailed to register interest in the project
12/02/2019	HVAC	Rhonda Griffiths	Phone	Called to register interest and provided email office@HVAC
12/02/2019	Dave Horton	Dave Horton	Phone	Called to register interest in the project
20/02/2019	DLALC	Noel Downs	Email	Emailed to register interest in the project. Also requested Gay Horton, Andrew Horton, and Michael Stair are registered.
22/02/2019	Yinnar Cultural Services	Kathie Kinchela	Email	Emailed to register interest in the project
22/02/2019	ROI request sent to stakeholders			
26/02/2019	DNC	Paul Boyd	Email	Emailed to register interest in the project
27/02/2019	Murrabidgeemullangari	Ryan Johnson	Email	Emailed to register interest in the project
27/02/2019	Upper Hunter Wonnarua Council Inc.	Rhoda	Phone	Called to register interest in the project. Also was interested in work for Aboriginal people as part of the broader solar project. Was directed to Donna to discuss this further.
27/02/2019	Widescope	Steven Hickey	Email	Emailed to register interest in the project
27/02/2019	Merrigarn	Shaun Carroll	Email	Emailed to register interest in the project
27/02/2019	Muragadi	Anthony	Email	Emailed to register interest in the project
27/02/2019	Margaret Mathews	Margaret Mathews	Phone	Called to register interest in the project
27/02/2019	Divine Diggers	Deidre Perkins	Email	Emailed to register interest in the project
27/02/2019	Ungooroo Aboriginal Corporation	Allen Paget	Email	Emailed to register interest in the project
1/03/2019	Gidawaa Walang Cultural Heritage Consultancy	Craig Horne	Email	Emailed to register interest in the project
4/03/2019	Wonnarua Elder LHWCS	Tom Miller	Email	Emailed to register interest in the project
4/03/2019	Kawul Cultural Services	Vicki Slater	Email	Emailed to register interest in the project
4/03/2019	Wurrumay Consultants	Kerry Slater	Email	Emailed to register interest in the project
4/03/2019	Wattaka WCCS LH	Des Hickey	Email	Emailed to register interest in the project
4/03/2019	Valley ELM Corp	Irene	Email	Emailed to register interest in the project
4/03/2019	A1 Indigenous	Carolyn Hickey	Email	Emailed to register interest in the project
6/03/2019	Wallagan	Maree Waugh	Email	Emailed to register interest in the project
6/03/2019	Culturally Aware	Tracey Skene	Email	Emailed to register interest in the project
6/03/2019	AHCS	Amanda Hickey	Email	Emailed to register interest in the project

6/03/2019	The Men's Shack Indigenous Corporation	Rod Hickey	Email	Emailed to register interest in the project
7/03/2019	Norman Archibald	Norman Archibald	Email	Emailed to register interest in the project
6/03/2019	Crimson-Rosie	Jeff Mathews	Mail	Mailed to register interest
10/03/2019	Methodology sent to RAPs			
11/03/2019	Murrabidgeemullangari	Ryan Johnson	Email	Endorsed the methodology
11/03/2019	Muragadi	Anthony	Email	Endorsed the methodology
12/03/2019	Divine Diggers	Deidre Perkins	Email	Endorsed the methodology
12/03/2019	Widescope	Steven Hickey	Email	Endorsed the methodology
14/03/2019	Gidawaa Walang	Craig Horn	Email	No comment on the methodology
27/03/2019	Merrigarn	Shaun Carroll	Email	Endorsed the methodology
14/03/2019	Margaret Mathews	Margaret Mathews	Phone	Called to say she was interested in any fieldwork for this project.
11/04/2019	The Men's Shack Indigenous Corporation	Rod Hickey	Email	Endorsed the methodology
11/04/2019	Kawul Cultural Services	Vicki Slater	Email	Endorsed the methodology
11/04/2019	Wurrumay Consultants	Kerry Slater	Email	Endorsed the methodology
16/04/2019	DNC	Paul Boyd	Email	Endorsed the methodology
3/04/2019	Invitations sent to selected RAPs for fieldwork			
3/04/2019	WLALC	Noel Downs	Email	Enquired what fieldworks will need. AECOM responded with details.
3/04/2019	Culturally Aware	Tracey Skene	Email	Stated she or someone else would be available
4/04/2019	Divine Diggers	Deidre Perkins	Email	Stated she would be available
5/04/2019	Wallagan	Maree Waugh	Email	Enquired about fieldwork. AECOM responded with details
8/09/2019	Tocomwall (PCWP)	Scott Franks	Phone	GO called Scott Franks to enquire whether they would provide a field officer for the works. Scott stated that Mary Franks would attend. Also stated he believed the land should be rehabilitated rather than a solar farm placed on it and this may be in violation of the approval.
8/09/2019	Murrabidgeemullangari	Ryan Johnson	Phone	GO called Ryan to discuss fieldwork. Ryan indicated he would attend.
8/09/2019	Barry French	Barry French	Phone	GO called Barry to discuss fieldwork. Barry stated he would attend.

17/04/2019	Draft ACHAR sent to RAPs			
18/04/2019	Merrigarn	Shaun Carroll	Email	Responded in support of the ACHAR
22/04/2019	Murrabidgeemullangari	Ryan Johnson	Email	Responded in support of the ACHAR
22/04/2019	AHCS	Amanda Hickey	Email	Responded in support of the ACHAR
23/04/2019	Divine Diggers	Deidre Perkins	Email	Responded in support of the ACHAR
23/04/2019	Wallagan	Maree Waugh	Email	Responded in support of the ACHAR
23/04/2019	Tocomwall	Scott Franks	Email	Responded with four main points 1) The proponent has not attempted to consult with the PCWP 2) There is a lack of understanding and text around Native Title in the report 3) Does not support the statement that there are no cultural values within the study area and Mary Franks did not participate in this statement 4) the mine has not fulfilled its commitment to rehabilitation as per the original approval. On the basis of the above points the PCWP rejects the assessment. On 30/04/19 AECOM responded addressing the above points and requesting a meeting. On 30/04/19 Scott Franks responded that he will review the response and would meet once rates and a date had been finalised. On 3/05/19 AECOM requested rates from Scott.

24/04/2019	Culturally Aware	Tracey Skene	Email	<p>Responded in support of the ACHAR. In addition had questions around economic issues and benefits of the project to the community. On 3/05/2019 AECOM responded with the following: With regards to employment and training, the project would generate 50 jobs during construction. Construction of the development is expected to take 18 months and will require some specialised solar service providers. Once in operation, it is estimated that only two jobs would be required on an ongoing basis.</p> <p>Due to the limitations noted above, there are no specific commitments to indigenous employment however, similar to our current approach to employment and supporting local service providers, Malabar Coal will definitely give consideration to companies who support the local (both upper and lower Hunter) indigenous community and have indigenous employees.</p> <p>We currently use Blackrock Industries as a service provider on site for general labour and land management works. Blackrock which is based in Muswellbrook, is 100 percent indigenous owned and operated and provides workforce services to the mining and construction industries. In addition, we have also supported their 'Second chance for change program', where inmates from St Heliers Correctional Centre work for Blackrock Industries on release. We are hoping to continue these existing relationships as we progress with projects such as the solar farm and Maxwell UG.</p>
29/04/2019	Ungooroo Aboriginal Corporation	Melanie Schulz	Email	Melanie stated she would forward to Allen Paget for comment

30/04/2019	Tocomwall (PCWP)	Scott/Danny Franks	Email	Scott Franks responded that he would review the provided information and would be open to a paid meeting. 3/05/2019 Geordie discussed this with Scott on the phone with Scott stating contact Danny Franks for rates. An email was sent to Danny on 3/05/2019 requesting rates. Danny responded on 15/05/2019 asking if a meeting had been arranged. Geordie responded on 15/05/2019 that no meeting had been arranged and requesting meeting rates.
1/05/2019	Muragadi	Anthony	Email	Responded in support of the ACHAR
2/05/2019	Gidawaa Walang Cultural Heritage Consultancy	Craig Horne	Email	No comment
5/05/2019	A1 Indigenous Services	Carolyn Hickey	Email	Responded in support of the ACHAR
15/05/2019	Wattaka WCCS LH	Des Hickey	Phone	Des indicated support of the ACHAR proving that the assessment of no cultural values or sites came from the RAPs and not solely from the AECOM archaeologists.
15/05/2019	Norman Archibald	Norman Archibald	Phone	Norman in support of the ACHAR providing that the creek line was surveyed.
15/05/2019	Kawul Cultural Services	Vicki Slater	Phone	Responded in support of the ACHAR.
15/05/2019	WLALC	Noel Downs	Phone	Noel indicated that he would call or email back with comments that afternoon.
15/05/2019	Dave Horton	Dave Horton	Phone	Responded in support of the ACHAR.
15/05/2019	John & Margaret Mathews	John & Margaret Mathews	Phone	John indicated that he and Margaret were in support of the findings, providing the works were not around the dam, which he mentioned contained many artefacts. It was explained that the dam was not part of the study area and John stated that he and Margaret were happy with the findings of the report.
15/05/2019	WLALC	Noel Downs	Email	Noel stated that the WLALC had nothing to add.

