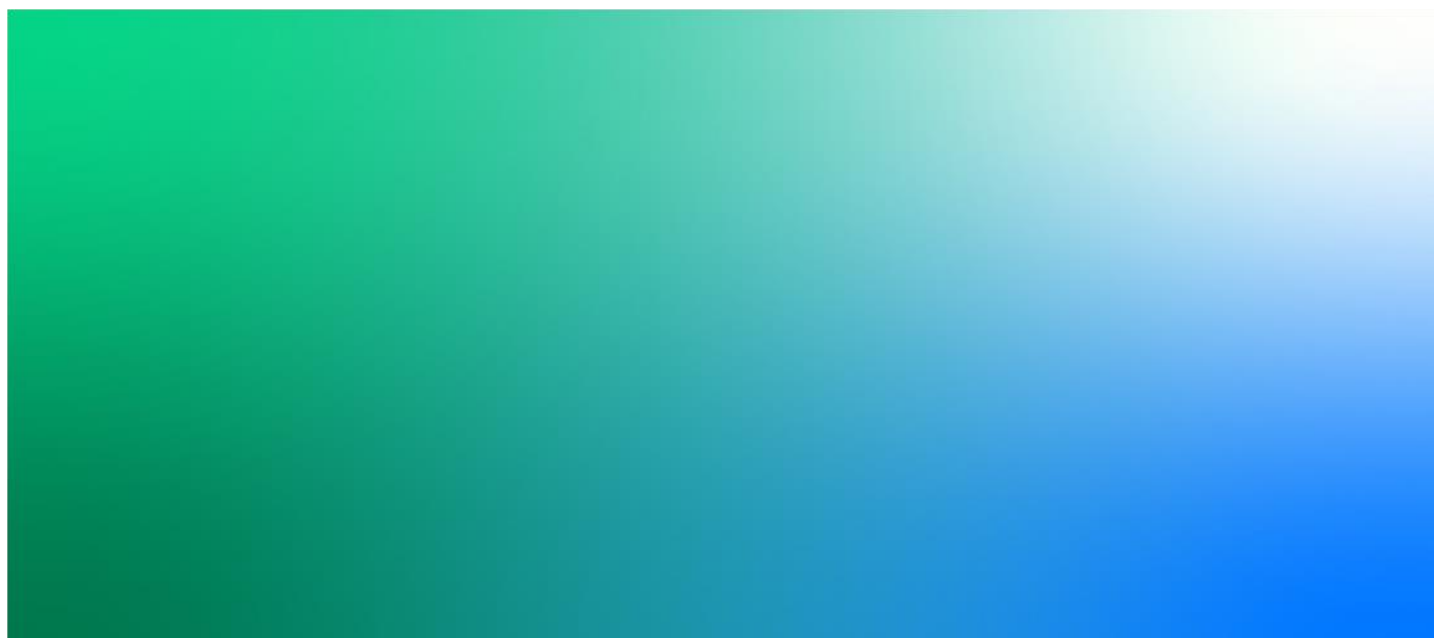




Jacobs

Liddell Battery and Bayswater Ancillary Works Project

Appendix F – Aboriginal Cultural Heritage Assessment Report

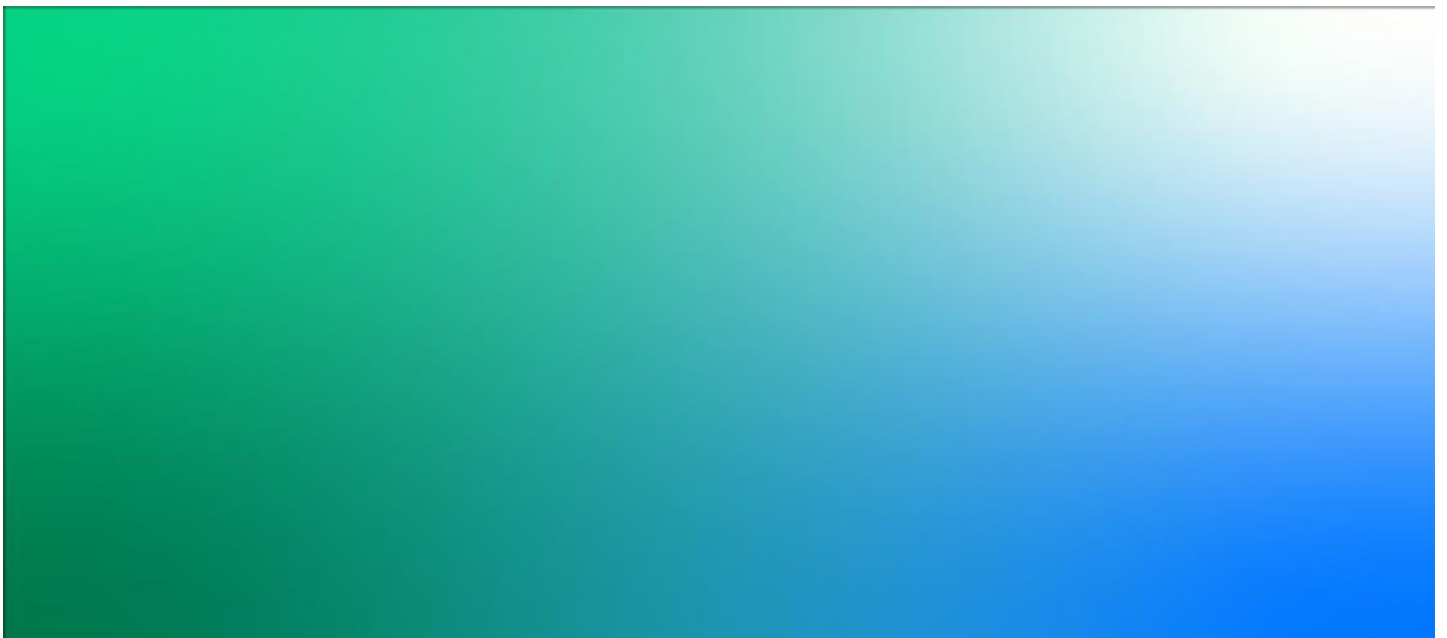




Liddell Battery and Bayswater Ancillary Works Project
Aboriginal Cultural Heritage Assessment Report

| Final
February 2021

AGL Macquarie Pty Ltd



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Executive Summary

AGL Macquarie Pty Limited (AGLM) owns and operates the Bayswater and Liddell power stations, Hunter Valley Gas Turbines and associated ancillary infrastructure. Liddell power station (**Liddell**) is approaching its end of life and is scheduled for closure in 2023. Bayswater power station (**Bayswater**) would continue to be operated through to 2035 to support the transition of the National Electricity Market (**NEM**) toward net-zero emissions and then is intended to be retired.

Jacobs, on behalf of AGLM is currently developing an Environmental Impact Statement (**EIS**) for the assessment of the Liddell Battery, Decoupling and Bayswater Ancillary Works Project (**the Project**) to facilitate the efficient, safe and reliable continuation of electricity generating works, in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. The Project is located within the Bayswater and Liddell power stations and surrounding buffer lands on the New England Highway within the Local Government Areas (**LGA**) of Muswellbrook and Singleton.

The features of the Project include:

- **The Battery:** A grid connected Battery Energy Storage System (**BESS**) with capacity of up to 500 megawatt (**MW**) and 2 gigawatt hours (**GWh**)
- **Decoupling works:** Alternative network connection arrangements for the Liddell 33 kilovolt (**kV**) switching station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and potential third-party industrial energy users
- **Bayswater Ancillary Works (BAW):** Works associated with Bayswater which may include upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement, expansion or demolition
- **Consolidated consents:** A modern consolidated consent for the continued operation of Bayswater through the voluntary surrender and consolidation into this application of various existing development approvals required for the ongoing operation of AGLM assets.

Construction works associated with the Battery and decoupling works would likely involve as follows:

- Installation and maintenance of environmental controls including temporary and permanent water management infrastructure
- Establishment of access from the existing Liddell access roads
- Demolition or deconstruction of existing equipment as required
- Establishment of a hardstand pad and construction laydown areas
- Cut and fill to battery compound, transformer compounds, footings and construction laydown area
- Trenching and installation of cable from the Battery to 330/33 kV transformer compounds
- Structural works to support battery enclosures, inverters, transformers, buildings and transformer compounds
- Delivery, installation and electrical fit-out of the Battery
- Delivery installation and fit out of transformers and ancillary equipment for decoupling works
- Testing and commissioning activities
- Removal of construction equipment and rehabilitation of construction areas.

This document presents the results of an assessment of Aboriginal cultural heritage within the Project area. This Aboriginal cultural heritage assessment involved:

- Consultation with Aboriginal stakeholders (following the procedures outlined in DECCW 2010a) to obtain feedback on the assessment process and input on significance and cultural values associated with the Project area

- An archaeological assessment including a desktop study and an archaeological survey of the areas subject to impacts beyond existing disturbance footprint
- Assessment of the potential impact to Aboriginal archaeological sites
- Recommendation of management measures to prevent or mitigate impacts to archaeological sites.

Previous archaeological assessments within the Project area and vicinity have identified a large number of sites including artefact scatters, and potential archaeological deposits. These sites are often located near water sources, particularly on elevated landforms. The long post-contact history of development in the area has resulted in destruction of a large number of sites.

The archaeological survey was carried out on the 23 and 24 November 2020, covering all areas within the Project boundary where impacts are proposed. On-site consultation with nominated site officers from the RAPs enabled the development of recommendations for any further assessment. Thirteen new sites were identified within the Project area and one previously recorded site. These sites consisted of isolated finds and artefact scatters.

As the Project is State Significant Development (SSD), if development consent is granted for the Project, Section 4.41(d) of the EP&A Act operates so that an Aboriginal Heritage Impact Permit (AHIP) is not required for the Project. However, the following mitigation actions are recommended for the Project, to minimise impacts to cultural heritage:

- If repair or maintenance works on the Liddell to Jerrys Plains High Pressure Pipeline are required the area of works will be subject to surface collection in accordance with **Section 11.1**. If no works are required in a site area the site will be conserved
- If possible, the design and construction of the brine concentrator return water pipeline will avoid the two recorded site areas. The sites will be protected with high visibility fencing. If impact cannot be avoided the sites will be salvaged through surface collection in accordance with **Section 11.1**
- During any works on the Liddell M1 Conveyor the site (Liddell M1 Conveyor AS1) will be conserved and protected by high visibility exclusion fencing to prevent impact.

1. Introduction

1.1 Project background

AGL Macquarie Pty Limited (**AGLM**) owns and operates the Bayswater Power Station (**Bayswater**), Liddell Power Station (**Liddell**) and the Hunter Valley Gas Turbines and associated ancillary infrastructure systems that operate to produce around 23,000 gigawatt hours (**GWh**) annually, or approximately 35 per cent (%) of New South Wales' (**NSW**) electricity supply.

AGLM is seeking approval for the Liddell Battery and Bayswater Ancillary Works Project (**the Project**). As a State Significant Development (**SSD**) under the *State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)*. The Project is subject to Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* which requires the preparation of an Environmental Impact Statement (**EIS**) in accordance with Secretary's Environmental Assessment Requirements (**SEARs**).

This Aboriginal Cultural Heritage Assessment Report (**ACHAR**) has been developed to support the EIS for the Project.

1.2 Purpose of this report

This ACHAR has been prepared in accordance with the SEARs issued for the Project on 29 September 2020 by the Planning Secretary of the NSW Department of Planning, Industry and Environment (**DPIE**). The SEARs relevant to Aboriginal and cultural heritage assessment are summarised in **Table 1-1**, along with a reference to where these requirements have been addressed.

Table 1-1 SEARs – ACHAR

Environmental Assessment Requirement	Where addressed
An assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the project, including adequate consultation with Aboriginal stakeholders having regard to the <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (OEH, 2010).	Throughout report. In particular see Section 10 for the assessment of impacts, and Section 4 for a description of Aboriginal consultation actions. Supporting data to this ACHAR is provided in the Archaeological Assessment Report (AAR).

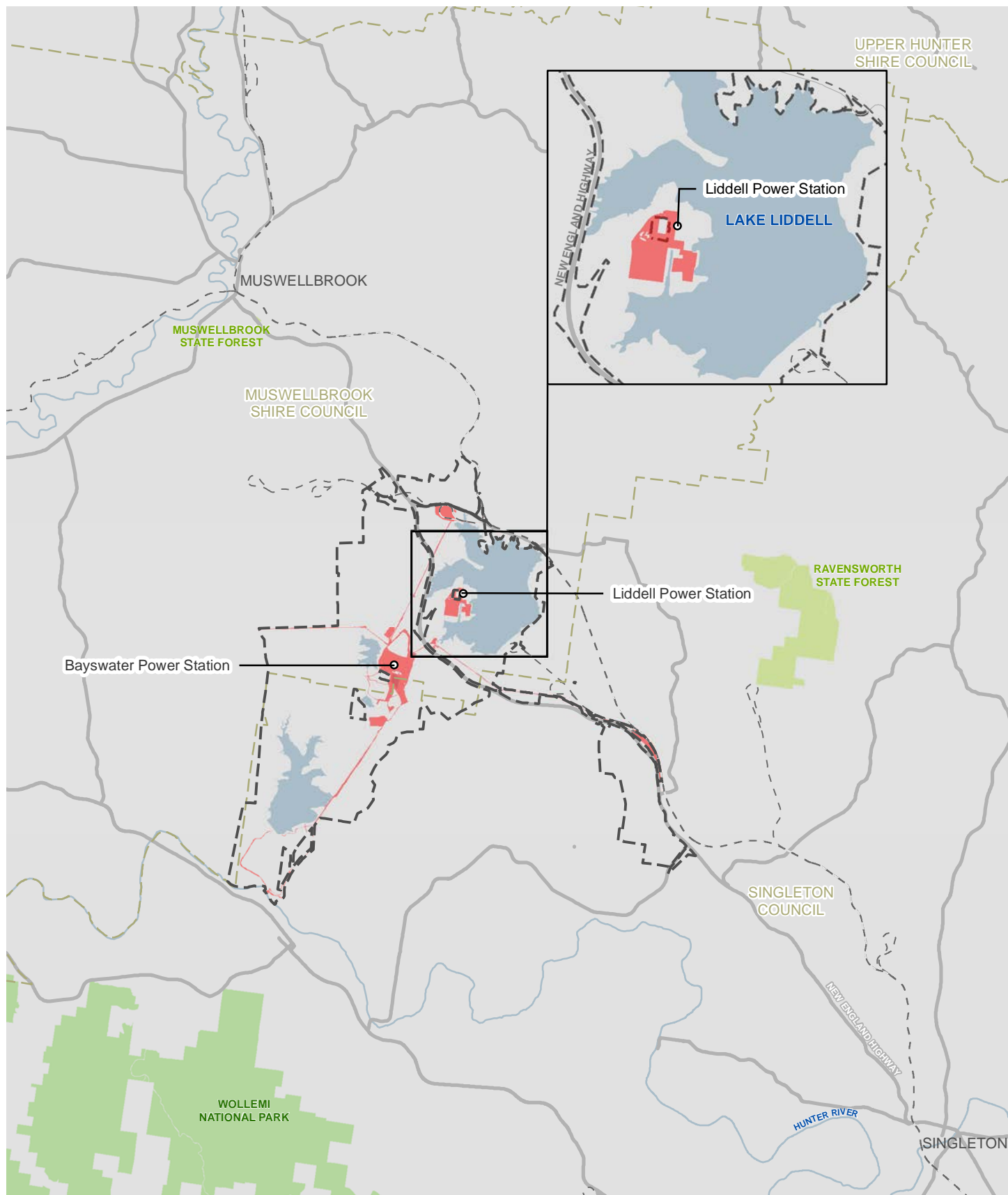
1.3 Project location

Liddell and Bayswater are located approximately 15 kilometres (**km**) south-east of Muswellbrook, 25 km north-west of Singleton and approximately 165 km north-west of Sydney (refer to **Figure 1-1**). The total area of the AGLM landholding is approximately 10,000 hectares (**ha**), including the Ravensworth rehabilitation area, Lake Liddell and surrounding buffer lands.

The majority of the AGLM landholding has been previously disturbed during the construction and operation of Liddell and Bayswater. The Project is located within an area dominated by mining and power generation. The landscape local to Liddell and Bayswater is heavily influenced by industrial activity. Local land use is dominated by large-scale infrastructure associated with Bayswater and Liddell and open cut mining activities at Ravensworth Mine Complex, Mount Arthur Coal, Hunter Valley Operations, Liddell Coal Mine and the former Drayton Mine. Agricultural clearing for the purposes of grazing is also present within and surrounding the AGLM landholding.

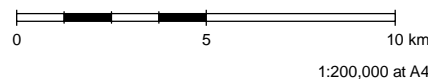
The closest residential area is the Antiene subdivision, which is located approximately 4 km north of the Project.

The New England Highway runs between Liddell and Bayswater, with access from the highway provided by means of a dedicated road network designed to service the power stations. The Northern Railway Line runs to the east of the AGLM landholding.



Legend

- Project area
- State forests
- National parks
- AGL owned land
- LGA boundary
- Railway
- Road
- Waterway
- Waterbody



Data sources

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AGL 2019
GDA94 MGA56

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Figure 1- 1 Project locality

1.4 Report structure

The report structure is as follows:

- **Section 1** provides the Project background and briefly describes the Project location
- **Section 2** describes the Project, and the proposed works that would involve ground disturbance and consequently could pose a risk to Aboriginal objects and sites
- **Section 3** outlines the legislative and policy framework relevant to the investigation and assessment of Aboriginal heritage in NSW
- **Section 4** presents an overview of consultation undertaken with the Aboriginal community in relation to the Project. Consultation was carried out in accordance with the *Aboriginal Cultural Heritage Requirements for Proponents* (DECCW 2010a)
- **Section 5** presents background information relevant to the Project, including environmental information (geology, soils, climate and vegetation)
- **Section 6** presents a review of ethnographic information relevant to the Project
- **Section 7** presents a summary of the identified Aboriginal cultural values associated with the Project area
- **Section 8** summarises the archaeological assessment and the Aboriginal archaeological sites and other areas of archaeological sensitivity the assessment has identified in the Project area. This summary draws upon supporting data presented in the AAR
- **Section 9** assesses the heritage significance of the identified Aboriginal sites assessed as part of this report using the NSW heritage significance criteria
- **Section 10** assesses the Project's direct and indirect impact on identified Aboriginal sites and Potential Archaeological Deposits (PADs) and the significance of these impacts to the area's Aboriginal cultural heritage resource
- **Section 11** presents recommended management and mitigation measures for the Project.

2. Project description

2.1 Project overview

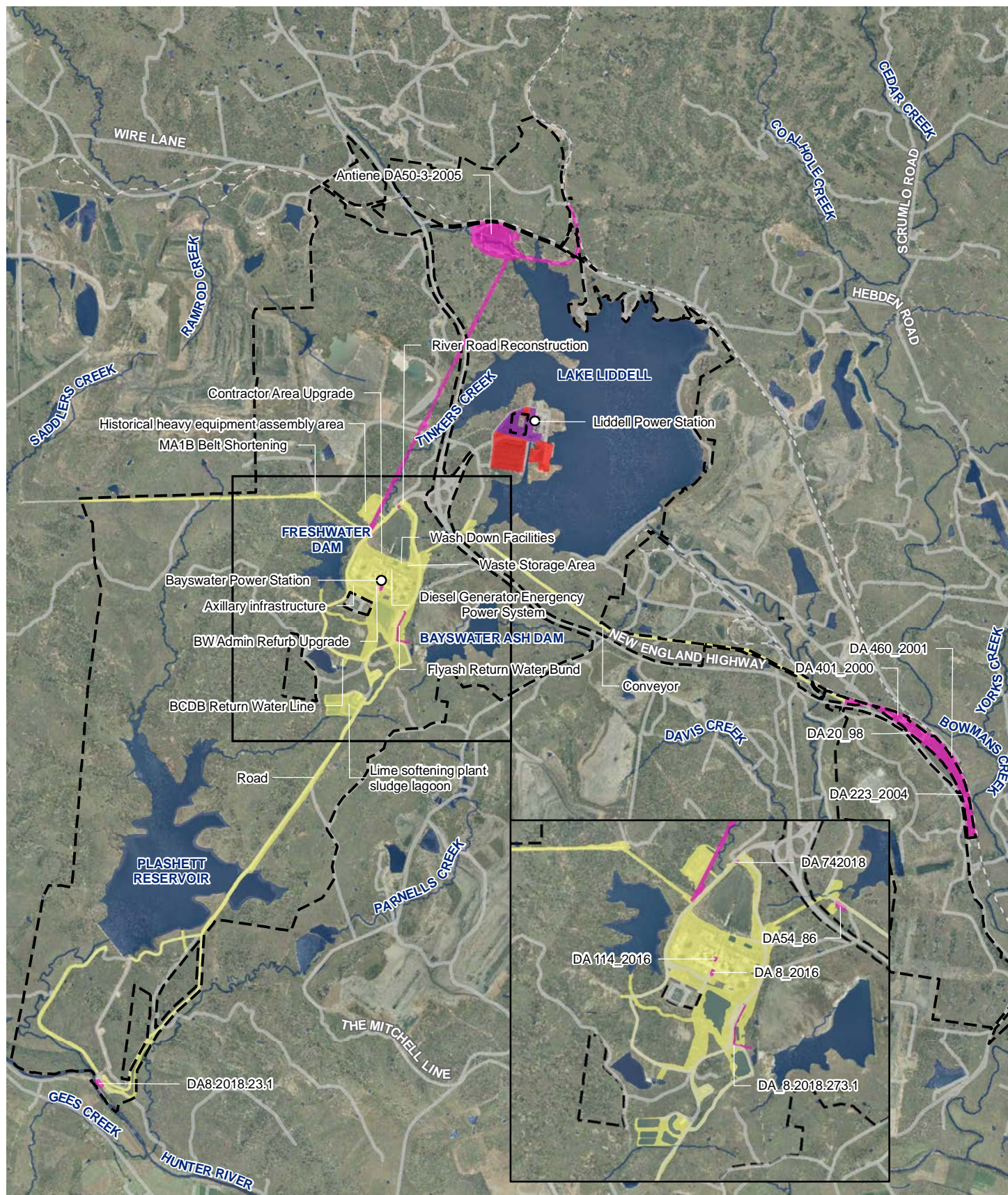
AGLM are progressing plans to facilitate the efficient, safe and reliable continuation of electricity generating works from Bayswater and Liddell. The Project would consist of the following:

- **The Battery:** A grid connected BESS with capacity of up to 500 megawatt (MW) and 2 GWh
- **Decoupling works:** Alternative network connection arrangements for the Liddell 33 kV switching station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and potential third-party industrial energy users
- **Bayswater Ancillary Works (BAW):** Works associated with Bayswater which may include upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement or expansion
- **Consolidated consents:** A modern consolidated consent for the continued operation of Bayswater through the voluntary surrender and consolidation into this application of various existing development approvals required for the ongoing operation of AGLM assets.

Construction works associated with the battery and decoupling works would likely involve as follows:

- Installation and maintenance of environmental controls including temporary and permanent water management infrastructure
- Establishment of a new access from the existing Liddell access roads
- Establishment of a hardstand pad and construction laydown areas
- Cut and fill to Battery compound, transformer compounds, footings and construction laydown area
- Trenching and installation of cable from the Battery to 330 kV /33 kV transformer compounds
- Structural works to support Battery enclosures, inverters, transformers, buildings and transformer compounds
- Delivery, installation and electrical fit-out of the Battery
- Delivery installation and fit out of transformers and ancillary equipment for Decoupling works
- Testing and commissioning activities
- Removal of construction equipment and rehabilitation of construction areas.

The key components of the Project are shown in **Figure 2-1**. A detailed description of the Project and each component is provided in Chapter 2 of the EIS.



Legend

Project area	--- Railway
Bayswater Ancillary Works	— Road
Battery energy storage system	— Waterway
Decoupling area	Waterbody
Consolidated consent	
AGL owned land	

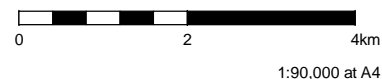


Figure 2-1 Project overview

Data sources

Jacobs 2021
AGL 2020
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Imagery:
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GDA94 MGA56



2.2 Construction program

The development of the Battery may be staged to respond to market demand. AGLM anticipates the construction occurring over multiple stages. These stages could potentially be:

- Stage 1 consisting of 150 MW and 150 MWh
- Stage 2 consisting of 150 MW and 150 MWh
- Stage 3 consisting of 200 MW and up to 1700 MWh with storage capacity being added in response to the needs of the National Energy Market (**NEM**).

The construction of each battery stage is anticipated to take up to 12 months, consisting of the civil works component, mechanical and structural component, electrical works and testing, and commissioning. Stage 3 may be further divided into smaller stages subject to market demand and be delivered on a progressive basis.

The Decoupling works are proposed to be undertaken prior to 2024 to facilitate the planned closure and decommissioning of Liddell. Decoupling works are anticipated to take up to 12 months.

The BAW component would be undertaken at any time up to the planned retirement of Bayswater. For cultural heritage assessment purposes, a reasonable worst-case assumption has been made that the entire BAW footprint may be considered for disturbance and assessed for this purpose.

No new disturbance is proposed as part of the approvals to be surrendered and these areas do not require additional assessment in this ACHAR.

3. Legislative and policy framework

3.1 Aboriginal cultural heritage legislation

The protection of Aboriginal cultural heritage in NSW is governed by a set of interrelated local, state and Commonwealth legislation and planning instruments. These Acts and their relevant sections and associated regulatory documents (e.g. codes of practice, guidelines, etc.) that govern the Project are described in **Table 3-1**.

Table 3-1: Legislative framework for Aboriginal cultural heritage

Reference	Requirements
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSIHP Act)</i>	The ATSIHP Act protects Aboriginal cultural property in a wider sense and includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. The Act may apply to contemporary Aboriginal cultural property as well as ancient sites. The responsible Minister may make a declaration under section 10 of the Act in situations where state or territory laws do not provide adequate protection of heritage places.
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	<p>The EPBC Act provides for the protection of the environment, especially in Matters of National Environmental Significance (MNES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the MNES without approval from the Australian Minister for the Environment. The definition of the environment under the EPBC Act includes both natural and cultural elements.</p> <p>The EPBC Act includes provisions to protect matters of national environmental significance and Commonwealth land. Lists and registers made under the Act include:</p> <ul style="list-style-type: none"> ▪ a National Heritage List (NHL) of places of national heritage significance ▪ a Commonwealth Heritage List (CHL) of heritage places owned or managed by the Commonwealth ▪ An independent expert body, the Australian Heritage Council, advises the Minister for the Environment on the listing and protection of heritage places. <p>The Project was referred and determined not to be a controlled action.</p>
<i>Native Title Act 1993 (NT Act)</i>	<p>The NT Act recognises and protects native title and provides that native title cannot be extinguished contrary to the NT Act. The National Native Title Tribunal (NNTT) is a Commonwealth Government agency set up under this Act and mediates native title claims under the direction of the Federal Court of Australia. NNTT maintains the following registers:</p> <ul style="list-style-type: none"> ▪ National Native Title Register ▪ Register of Native Title Claim ▪ Unregistered claimant applications ▪ Register of Indigenous Land Use Agreements (ILUAs). ▪ The Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 stipulates that, where relevant, consultation must be conducted with Native title holders or registered native title claimants in accordance with the NT Act.
<i>Environmental Planning & Assessment Act 1979 (EP&A Act)</i>	This legislation provides the framework for environmental planning and assessment in NSW. This act includes the requirement for environmental impacts to be considered prior to development approval including:

Reference	Requirements
	<ul style="list-style-type: none"> ▪ The requirement for impacts or likely impacts upon Aboriginal cultural heritage to be assessed as part of a project's environmental approval ▪ Local government areas prepare Local Environment Plans (LEPs) and Development Control Plans (DCPs) in accordance with the EP&A Act to provide guidance on the level of environmental assessment required ▪ Division 4.7 of the Act applies to SSD and guides the application of the National Parks and Wildlife Act 1974 in relation to assessment and secondary approvals required for SSD projects.
National Parks and Wildlife Act 1974 (NPW Act)	<p>The NPW Act provides for the protection of Aboriginal objects and Aboriginal places. Under section 5 of the Act, an Aboriginal object is defined as:</p> <p><i>'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.'</i></p> <p>An Aboriginal place is defined under the NPW Act as an area that has been declared by the Minister administering the NPW Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.</p> <p>Under section 86 of the NPW Act it is an offence to harm an Aboriginal object or harm or desecrate an Aboriginal place, without the prior written consent from the Director General of DPIE. Penalties apply to the offence of impacting on an Aboriginal object or Aboriginal place. The largest penalties apply when a person harms an object that they know to be an Aboriginal object (called a 'knowing offence'). However, a 'strict liability' offence still applies whether or not a person knows it is an Aboriginal object or place. Section 4.7 of the EP&A Act identifies that consent under section 86 of the NPW Act is not required for SSD projects.</p> <p>Under section 89A of the NPW Act it is a requirement to notify the DPIE Director-General of the location of an Aboriginal object. Identified Aboriginal objects and sites are registered in NSW on the Aboriginal Heritage Information Management System (AHIMS).</p> <p>Procedures that accompany the <i>National Parks and Wildlife Amendment Act 2010</i> include the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010c), the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010a) and the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010b).</p>
Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCRP) 2010	<p>The ACHCRP establishes the requirements for consultation (under part 6 of the NPW Act) with Aboriginal stakeholders as part of the heritage assessment process to determine potential impacts of the Project on Aboriginal objects and places. The report comprises four stages with associated timeframes which must be adhered to:</p> <ul style="list-style-type: none"> ▪ Stage 1- Notification of project proposal and registration of interest (14 days from date letter sent to register as a registered Aboriginal stakeholders) ▪ Stage 2- Presentation of information about the proposed project (potentially including meetings, prepare info etc) ▪ Stage 3- Gathering information about cultural significance (28 days for registered Aboriginal stakeholders to provide a review and feedback to consultants' methodology)

Reference	Requirements
	<ul style="list-style-type: none"> Stage 4- Review of draft ACHAR (registered Aboriginal stakeholders have 28 days from sending of the report to make a submission).
Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (the Code of Practice)	<p>The Code of Practice sets out the detailed requirements for archaeological investigations of Aboriginal objects in NSW for activities that require assessment under Part 4 or Part 5 of the EP&A Act. The Code of Practice sets out in detail:</p> <ul style="list-style-type: none"> Minimum qualifications for anyone undertaking archaeological investigation under the Code in NSW Assessment steps required to be undertaken for all archaeological investigation Assessment steps that may be required to be undertaken to adequately characterise the Aboriginal objects being investigated.
<i>Native Title Act (NSW) 1994</i>	<p>The <i>Native Title Act (NSW) 1994</i> was introduced to ensure that the laws of NSW are consistent with the Commonwealth <i>Native Title Act 1993</i>.</p> <p>The Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 stipulates that, where relevant, consultation must be conducted with Native title holders or registered native title claimants in accordance with the NSW Native Title Act (NSW) 1994.</p>
<i>Aboriginal Land Rights Act (NSW) 1983</i>	<p>The <i>Aboriginal Land Rights Act (NSW) 1983</i> recognises the rights of Aboriginal people in NSW and provides a vehicle for the expression of self-determination and self-governance. The purposes of the Act are:</p> <ul style="list-style-type: none"> to provide land rights for Aboriginal persons in NSW to provide for representative Local Aboriginal Land Councils (LALCs) in NSW to vest land in those LALCs to provide for the acquisition of land, and the management of land and other assets and investments, by or for those LALCs and the allocation of funds to and by those LALCs to provide for the provision of community benefit schemes by or on behalf of those LALCs.

4. Aboriginal community consultation

The *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) establishes the requirements for consultation with Aboriginal stakeholders as part of the heritage assessment process to determine potential impacts of the Project on Aboriginal objects and places. These requirements include four stages with associated timeframes which **must** be adhered to:

Stage 1 — Notification of project proposal and registration of interest (14 days from date letter sent to register as registered Aboriginal stakeholders).

Stage 2 — Presentation of information about the proposed project.

Stage 3 — Gathering information about cultural significance (28 days for registered Aboriginal stakeholders to provide a review and feedback to consultants regarding the methodology).

Stage 4 — Review of draft ACHAR (registered Aboriginal stakeholders have 28 days from sending of the report to make a submission).

Aboriginal stakeholder engagement and involvement is important for the identification of Aboriginal cultural values relevant to the Project. This section summarises the consultation process relating to the organisation and conduct of the ACHAR. Details of consultation including meeting minutes, examples of letters sent to the Registered Aboriginal Parties (RAPs) and knowledge holders, conversations undertaken during archaeological survey, native title search results, records of cultural heritage values interviews and a detailed consultation log are included in **Appendix A**.

This section summarises the consultation process throughout the archaeological assessment to date (**Table 4-1**) and outlines the stages of consultation.

Table 4-1 Summary of consultation process

Task Name	Start	Finish
Stage 1- Agency Letters	August 26, 2020	August 26, 2020
Stage 1- Newspaper advertisements	September 9, 2020	September 23, 2020
Stage 1- Project Notification and invitation to register supplied to potential Aboriginal stakeholders	September 24, 2020	October 12, 2020
Stage 1- Supply of the list of RAPs to Heritage NSW and Wanaruah LALC	October 26, 2020	October 26, 2020
Stage 2 and 3- RAP review of project information and methodology and request for information about cultural significance	October 21, 2020	November 18, 2020
Stage 4- Carry out archaeological survey and prepare a draft ACHAR	November 23, 2020	15 January 2021
Stage 4- Present the draft ACHAR to RAPs for review and comment	January 15, 2021	15 February 2021

4.1 Stage 1 - Notification of Project and registration of interest

Stage 1 of the consultation process is to identify, notify and register any Aboriginal people or groups who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Project area.

Notification was initiated on August 26, 2020 to all relevant organisations listed under section 4.1.2 in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a). These organisations are listed below in **Table 4-2**.

Table 4-2 List of contacted organisations (stage 1 consultation)

Name of Organisation	Date of Notification Sent	Date of Response Received
Wanaruah Local Aboriginal Land Council	August 26, 2020	No response
NTSCorp	August 26, 2020	No response
Heritage NSW – Hunter Branch	August 26, 2020	September 1, 2020
Office of the Registrar, <i>Aboriginal Land Rights Act 1983</i>	August 26, 2020	No response
Muswellbrook Shire Council	August 26, 2020	August 28, 2020
Singleton Council	August 26, 2020	September 7, 2020
Singleton Local Land Services	August 26, 2020	No response

In accordance with Section 4.1.3 (DECCW 2010a) a notice in the local newspaper circulating in the general location of the proposed project must be completed, with information explaining the Project and its exact location. Notices were placed in the *Koori Mail* (9 September 2020) and *Singleton Argus* (3 September 2020). These advertisements provided additional opportunity for Aboriginal people who are interested in the Project to register. A copy of the advertisement is included in **Appendix A**.

Project notifications were sent to all groups and individuals identified in the above consultation process. A total of 25 groups and individuals registered their interest:

- Culturally Aware
- The Men's Shack Indigenous Corporation
- Merrigarn
- Hunters & Collectors
- Kamilaroi Yankuntjatjara Working Group
- A1 indigenous Services
- AGA Services
- Cacatua Culture Consultants
- Didge Ngunawal Clan
- Divine Diggers Aboriginal Cultural Consultants
- Hunter Traditional Owner
- Jarban & Mugrebea
- Jumbunna Traffic Management Group Pty Ltd
- Kawul Pty Ltd trading as Wonn1 Sites
- Nunawanna Aboriginal Corporation
- Ungooroo Aboriginal Corporation
- Wallagan Cultural Services
- Wattaka Wonnarua CC Service

- Widescope Indigenous Group
- Yarrawalk (A division of Tocomwall Pty Ltd)
- Robert Syron
- Upper Hunter Wonnarua Council Inc
- Murra Bidgee Muilangari Aboriginal Corporation
- Wanaruah Local Aboriginal Land Council
- Wonnarua Nation Aboriginal Corporation.

Following Section 4.1.6 of Stage 1 of the Consultation Requirements (DECCW 2010a), a list of RAPs for the Project and copies of the notifications from Section 4.1.3 were submitted to Heritage NSW and Wanaruah LALC on October 26, 2020.

A copy of the notification is provided in **Appendix A**.

4.2 Stage 2 – Presentation of information about the proposed project

Stage 2 of the consultation process provides RAPs with information about the scope of the proposed Project and the proposed cultural heritage assessment process.

The RAPs were provided with a letter outlining the Project and a copy of the document *AGL Bayswater Project Information and Methodology* (please refer to **Appendix A**). Comments on this document were invited from RAPs and they were invited to contact Jacobs at any time throughout the assessment process to discuss the Project.

Site Officers were selected for the archaeological survey and were issued a checklist to ensure safety and preparedness for work.

4.3 Stage 3 – Gathering information about cultural significance

Stage 3 of the consultation process is to facilitate a process whereby RAPs can contribute to culturally appropriate information gathering and the research methodology, provide information that will enable the cultural significance of Aboriginal objects and/or places on the Project area to be determined, and have input into the development of any cultural heritage management options.

RAPs were invited to submit information relevant to the cultural significance of the Project area and any areas and objects within it, at all stages of the consultation process.

4.4 Stage 4 – Review of draft ACHAR

Stage 4 of the consultation process (this stage) involves the RAPs review and feedback on the draft ACHAR. The ACHAR was drafted to facilitate the RAP review and feedback process.

The draft ACHAR was sent to all RAPs on 15 January 2021, so that they could review the document and supply comments and provide feedback. The ACHAR will be updated to incorporate the input from all RAPs at the close of the review period.

The only comments received were in support of the findings and recommendations of the ACHAR, as documented in **Appendix A**.

4.5 Sensitive cultural information and management protocol

It is possible that during the consultation process, RAPs will provide sensitive cultural information to which access needs to be restricted.

In the event that such information is supplied, the RAP supplying the information should state to Jacobs how they wish that information to be treated, and how access to the information should be restricted.

Jacobs will follow the stated wishes provided by the RAP group in question when managing and using the information provided to Jacobs. All stated restrictions of access, communication and publication of the information will be followed. These might include:

- Restrictions on reproducing the information (in whole or in part) in reports
- Restrictions on reproducing the information in reports provided to different audiences (for example, the version provided to the client, the version provided to DPIE and the AHIMS database)
- Restrictions on communication of the information in other ways
- Restrictions on the location/storage of the information
- Other required processes relating to handling the information
- Any names and contact details of persons authorised within the relevant Aboriginal group to make decisions concerning the information, and their degree of authorisation
- Any details of any consent given in accordance with customary law
- Any restrictions on access to and use of the information by RAPs.

The above list should be considered when providing a statement of requirements regarding any culturally sensitive information.

4.6 Consultation log

A log summarising the consultation carried out with RAPs in relation to the Project to date is provided in **Appendix A**.

5. Background Information

5.1 Environmental context

5.1.1 Landforms

The Hunter Valley is the largest coastal catchment in NSW, with an area of about 21,500 square kilometres (km²) (Biswas 2010). The Project area lies within the Central Lowlands of the Upper Hunter Valley. The region encompasses a belt of undulating hilly terrain which follows the Hunter River (Erskine and Fityus 1998: 45; Hiscock 1986: 40) and the overall landform is made up of undulating low hills which range from elevation of 140 – 220 metres (m) above sea level.

5.1.2 Geology and soils

The geology of the Central Lowlands is made up of Permian and Triassic-aged geologies, (Percival et al. 2012: 1). Permian includes the Dalwood Group and lower Shoalhaven Group, which consist of shale and limestone, the Maitland and Shoalhaven Groups containing siltstone, sandstone and shale, and the Illawarra, Tomago and Newcastle Coal Measure Groups (Percival et al. 2012). Overlaying these Permian groups are the Triassic Groups which include the Narrabeen Group, Hawkesbury sandstone, and Wianamatta Group (Percival et al. 2012: 5).

Within the Project area, Whittingham Coal Measures and Wollombi Coal Measures are dominant. These are primarily sub-horizontally bedded sedimentary strata comprising interbedded coal seams, claystones, tuffs, siltstones, sandstones and conglomerates (Rasmus P.L. et al. 1969).

The soil landscape within the area is dominated by Bayswater and Liddell soil landscapes. Both comprise residual and colluvial shallow loams and sands at the upper ridgeline, with brown solodic soils on the lower slopes. Sandy earths and possible siliceous sands may be observed within drainage lines on the lower slopes.

5.1.3 Vegetation and hydrology

Within the Hunter Valley, Albrecht (2000) has estimated that 99% of the vegetation on the valley floor of the major valleys has been removed due to European land use practices. The Project area is located within the Hunter Valley sub-region of the Sydney Basin Bioregion as defined by Thackway and Cresswell (1995). The vegetation in the region includes a mixture of remnant native vegetation, planted vegetation and rehabilitation areas. Remnants of open woodlands and forest red gum and forest oak occur with narrow-leaved ironbark, yellow box, white box and spotted gum, Blakelys red gum, rough-barked apple and kurrajong are present. Bull oak, grey box and swamp oak may also be found in some areas.

The Hunter River flows around the south of the Project area and is located approximately 8 km from Liddell. Within the immediate vicinity of the Project area are several other hydrological features including:

- Lake Liddell (artificial waterbody)
- Chilcotts Gully
- Tinkers Creek
- Pikes Creek
- Saltwater creek
- Plashett Reservoir (artificial waterbody)
- Freshwater dam (artificial waterbody).

6. Ethnohistorical information

6.1 Aboriginal people of the Upper Hunter Valley area

Ethnographic information which relates to the Aboriginal occupation of the Project area is derived from publications and other surviving forms of documentation which were compiled by early non-Aboriginal explorers, settlers, missionaries and government officials who went to the region during the mid to late 19th century. Unfortunately, within the ethnographic record, early researchers sometimes referred to tribes as having as few as 10 members, to as many as 500, which makes the determination of social organisation within certain groups difficult.

It should be noted that the information provided here does not necessarily reflect the opinions of the Aboriginal knowledge holders for the project regarding their tribal affiliations and boundaries. The following information was compiled from a number of written sources based on language research and ethno-historic observations.

6.2 Aboriginal tribal boundaries

According to Tindale (1974) in relation to Australian Aboriginal people, the term 'tribe' describes a group of people that share a common language. Tindale describes Aboriginal tribal boundaries as the limits beyond which it is dangerous to move without adequate recognition, while Stanner (1965) argues that a tribe's territory is the sum of its constituent clan estates. According to the tribal boundaries as defined by Tindale (1974), the Project area traverses the traditional lands of the Wonnarua people to those of the Gamilaroi. Tindale defines the territory of the Wonnarua as the Upper Hunter River from a few miles above Maitland west to the Dividing Range. The southern boundary with the Darkinjung is on the divide north of Wollombi.

The grammar and vocabulary published by Hale (1845) ostensibly of the Gamilaroi tribe relates to the Geawegal of the lower Hunter River. Mathews (1904) with a broad-brush type of statement suggested the Gamilaroi language extended to Jerry's Plains but this included about one half of the Geawegal territory and also some Wonnarua country. Historical records from the 19th century are severely limited by disruptions prior to the first ethno-historical observations and the lack of anthropological expertise from the observers.

It should be noted, however, that the identification of names and boundaries of tribal groups in the Upper Hunter regions remains unclear and may never be resolved. More recent attempts to delineate the grammar of languages in the Hunter and Lake Macquarie region however have indicated that indeed there was a degree of bilingualism and shared lexicon amongst the tribes in the district (Lissarrague 2006).

The following statement was provided by a Gomeroi Native Title Claimant, Alfred Priestly with a request to have it added to this section of the document.

The Kamilaroi or Gamilaroi are an Indigenous Australian Koori people who are from the area which extended from around Singleton in the Hunter Valley through to the Warrumbungle Mountains in the west and up through the present-day centres of Quirindi, Gunnedah, Tamworth, Narrabri, Walgett, Moree, Lightning Ridge and Mungindi in New South Wales, to Nindigully in south west Queensland. The Gamilaroi is one of the four largest indigenous nations in Australia. The Gamilaroi language is classified in the Pama–Nyungan family of Australian languages.

6.3 Social Organisation, Settlement and Subsistence

Berndt & Berndt (1988) describe Aboriginal society as being comprised of a hierarchy of organisational levels and groups with fluid boundaries between them. The smallest group in the hierarchy is the family comprised of a man with one or more wives, their children and some of their parents. The second level of the hierarchy consisted of bands, small groups consisting of members of several nuclear families who conduct hunting and gathering tasks together for most of the year. The third level of the hierarchy consists of regional networks or

clans which comprise a number of bands. Members of these regional networks usually share beliefs in a common language dialect and assemble for specific ceremonies. The tribe is the next highest unit which is recognised as a linguistic unit with flexible territorial boundaries. The highest level of the hierarchy is the 'cultural area', which consists of groups who share certain cultural characteristics, such as initiation ceremonies and closely related languages.

The main subsistence strategy employed by Aboriginal people in the Hunter region focused on a hunter-gather lifestyle. In general, males undertook hunting activities, while women gathered smaller faunal and plant resources. The most basic unit in Aboriginal society was a 'band' that consisted of a collection of families, who grouped together for subsistence (Habermann 2003). Land ownership resided with the larger 'clan' or descendent group, of which the bands formed a part (Habermann 2003).

Single men were said to have lived separately to married men, single women and children. A single male entering a married man's camp without invitation would be met with violence. Campsites were thought to be on the banks of rivers:

'In choosing the site [for their camps], proximity to fresh water was one essential, some food supply a second, whilst a vantage ground in case of attack from an enemy was a third.' (Fawcett 1898, cited in Habermann 2003).

Kinship was an integral part of Aboriginal society, and created complex relationships between individuals, which governed the foods people consumed, their social and environmental interactions and the land they used. The kinship network extended social links beyond the band and even the language territory, resulting in economic ties outside the core group. As such, other territories could be visited; social gatherings promoted and maintained these extended rights and ties. Inter-clan and inter-tribal participation was also known to occur for ceremonies, such as initiation rites (Habermann 2003), and trade was a physical expression of these inter-tribal and clan networks (Habermann 2003).

6.3.1 Resources

The traditional use of resources for the Hunter region was perhaps best described in ethnographical terms by Threlkeld at Lake Macquarie. Whereas this is some way from the Project, traversing the Upper Hunter it does comprehensively describe the variety of the diet available to people at the time. At his mission, Threlkeld (cited in Gunson 1974) noted that Aboriginal people ate a variety of different fauna and flora. Threlkeld observed that people used the resources year round, eating certain species when they were available, such as wild plums, cobra (maggots from grass trees), snakes, cockles, lizards, fish, flying-foxes, ducks, pigeons, kangaroo, possum, swans, wallaby, kangaroo rat, eels, craw-fish, geese, oysters, honey and goanna (Threlkeld cited in Dillion 1989; Gunson 1974; Neal and Stock 1986). Even whale was consumed when stranded on the beaches and was feasted on by all Aboriginal people within reasonable travelling distance (Threlkeld cited in Dillion 1989; Gunson 1974; Thomas 2008).

Hunting practices, such as beating grasslands with waddies to flush out bandicoots, and the trapping of kangaroos through the use of fire, were also recorded (Gunson 1974). Men hunted for possum while women climbed trees in search of honey. Sometimes, a worker bee would be caught and a tuft of down attached to it, so it could be tracked to its hive. In addition, women would dive for lobster among the rocks, and would fish with lines, while men used spears. Fishing was such an important role for women, that a mother would select a female child and appoint her in the same role; this was signified by amputating the little finger on her right hand (Threlkeld cited in Gunson 1974). Cooking was said to have been done exclusively by men (Dillion 1989). Fish was usually consumed after being cooked, with fires kept alight on canoes during angling (Dillion 1989; Thomas 2008). Threlkeld noted that:

'Their mode of fishing is curious, sometimes angling with hook and line thrown by the hand as they are seated in the bark canoe, sometimes diving for shell fish, sometimes standing in their frail bark darting their spears into the fish as they pass, or at other times, using hand nets forming a circle in shallow waters and enclosing the fish, but the most curious method is that of planting sprigs of bushes in a zig-zag form across

the streams leaving an interval at the point of every angle where the men stand with their nets to catch what others frighten towards them by splashing in water.' (Gunson 1974: 30).

Plant resources such as ferns potentially Bracken Fern (*Pteridium esculentum*) or Swamp Fern (*Blechnum* spp.) were crushed or sometimes roasted, before being ground to produce a flour for bread-making (Threlkeld cited in Gunson 1974; Habermann 2003; Thomas 2008). Bracken Ferns comprise an edible starchy rhizome, and are available from late summer to autumn (Thomas 2008). According to Scott (2015), however, Aboriginal people had ceased eating ferns in preference for the root of the Gigantic Lily (*Doryanthus excelsa*), although this had to be soaked (Scott 2015). The consumption of *Macrozamia* nuts was also noted, but due to their toxic nature, had to be soaked for two to three weeks prior to being consumed (Murphy and Morris 2013; Thomas 2008). The *Macrozamia* seeds or nuts would also be roasted prior to consumption (Murphy and Morris 2013; Thomas 2008). It is also possible that Kangaroo Grass seeds were ground and eaten, although there is no direct ethnographic evidence to support this (Thomas 2008).

The Hunter people were great proponents of fire farming, which altered the landscape (Dillion 1989). 'Fire-stick farming' resulted in both long and short term gain, with cleared areas exposing the burrows and nests of prey, and in the long term, created breaks in forest cover, attracting herbivores (Dillion 1989).

Brayshaw (1987:21) describes the use of fire carried out one month prior to a hunt to attract game to the new grass (Dyall 1971:4.1; Kuskie 1997). Sokoloff notes fire was also used in burials, for fishing, and farming (Sokoloff 1978a:73; 1978b:125).

6.3.2 Material culture

The majority of the Project region's material culture (shields, spears, boomerangs, clubs, digging sticks, canoes, containers, shelters, and woven nets and bags) were made from wood or other vegetative material that is rarely preserved in the archaeological record. Generally, artefacts crafted from shell, bone or stone are preserved for future generations to record.

6.3.2.1 Bark and wood implements

Aboriginal people were recorded within the Hunter region as utilising a variety of bark and wood resources. Bark and wood was harvested from a variety of Stringybark species (Stringybark, White Stringybark, and Thin-leaved Stringybark), Tea-Tree (*Melaleuca quinquenervia*), Grass Trees (*Xanthorrhoea australis*), Cabbage-tree (*Livistona australis*), River Gum, Kurrajong (*Brachychiton populneus*), Iron Bark (*Eucalyptus crebra* or *E. paniculata*) and Swamp Mahogany (*Eucalyptus robusta*) (Dillion 1989; Neal and Stock 1986). The extraction of bark from the Nettle Tree (*Urticaceae*) and the Giant Fig Tree (*Ficus* sp.) was also recorded for use in shield making (Threlkeld cited in Gunson 1974). Bark and timber were used to make canoes; spears, clubs, and shelter, among many other items were crafted from bark and timber resources. They were also used in burial practices (Neal and Stock 1986).

Up to four different types of spears have been recorded for the region, and these could be thrown up to a distance of 36.6 m (Dawson 1830 cited in Thomas 2008). Spears were crafted from the stem of Grass Trees. The fish spear – the 'Kul-là-ra' and 'Mo-ting' – was approximately 1.83 m in length, with four pieces of hardwood at the base, which added approximately an extra 0.61 m to the length. The hardwood pieces were fastened with bark-thread covered with Grass Tree gum, and held apart through small wedges, also smeared with gum. The wooden points were fire hardened and had gum-fastened bone barbs at the tips. The hunting spear, or the 'wa-rai', had one hardened joint of wood at the base. The battle spear was also constructed similarly, although it had pieces of quartz stuck along one side of the wooden joint and were likened to the teeth of a saw. Following European settlement, glass was substituted for quartz (Threlkeld and Browne cited in Gunson 1974; Thomas 2008). Spears were thrown using a 'wom-mur-rur', which was tapered at the end where the barb was fixed and were 1.22 m in length and half an inch thick. Spears were traded for possum skin cloaks and 'hanks of line, spun by hand from the fur of animals of the opossum tribe' further inland (Threlkeld cited in Gunson 1974; Thomas 2008).

Canoes were observed at Maitland (Threlkeld cited in Gunson 1974; Heritage Alliance 2008; Thomas 2008), and described as being from 1.17 m in length, up to 3.66 to 4.27 m in length and 0.91 to 1.22 m wide (Threlkeld cited in Gunson 1974; Barrallier 1802 cited in Heritage Alliance 2008). Three types of canoe have been recorded, one made from a strong strip of gum bark, which was scraped and fire hardened. The second type was made from bark that was closed and pointed at both ends, sometimes kept taut by wedges, with the third type ('mooten'), crafted from fire. A log would be selected that was still aflame, and Aboriginals would control the fire to form a canoe (Dillion 1989).

Other implements known to have been used included – waddies (often crafted from ironbark), yamsticks (up to 2 m long and 40 millimetres (mm) in diameter), fire sticks, wooden bowls (crafted from tree burls), bark water carriers with twig handles, shields (oval and up to 0.91 m long, 0.46 m wide and painted white with two red bands or stripes), clubs, boomerangs, baskets (made from palm leaves), and lances (up to 5.48 m to 6.70 m in length) (Scott cited in DEDJTR 2015; Threlkeld cited in Gunson 1974; Barrallier 1802 cited in Heritage Alliance 2008; Neal and Stock 1986; Thomas 2008). Plant fibres (and fur cords) were also used to make fishing nets and twined dilly bags (Threlkeld cited in Dillion 1989; Gunson 1974; Thomas 2008). Women were described as making string from bark and also being the crafters of fishing nets (Dawson 1830 cited in Dillion 1989; Thomas 2008).

6.3.2.2 Stone

Few ethnographic references describe the stone artefacts used by Aboriginal people in the Hunter region (Thomas 2008), however, stone axes were observed and an Australian Museum collection of implements included 'primitive flaked celts' made from chert (Thorpe 1928 cited in Dillion 1989; Thomas 2008). Stone axes had ground edges and were often made from basalt or diorite, with the stone fastened to a handle with gum. The handle was crafted from vines or saplings, which were heat treated (Mathews 1894 cited in Dillion 1989; Thomas 2008). Stone axes were used for cutting saplings, peeling bark, and cutting notches into trees (Threlkeld cited in Gunson 1974; Thomas 2008). Axe grinding grooves have been described as being indicative of a large scale manufacturing industry (Dillion 1989).

While not specified as being made from stone, Mathews (1894 cited in Thomas 2008) stated that the 'largest knives' were used for skinning and dressing prey. Barrallier (cited in Heritage Alliance 2008) also noted the use of a fish weir at Newcastle. Near Merewether, chert (silicified tuff) was described as being abundant (Thorpe 1928 cited in Thomas 2008). The toolkit included stone artefacts that could be used as chisels, scrapers, graters and rasps (Dillion 1989).

6.3.2.3 Shell and bone

Shell was used to make fish hooks and tools. Fish hooks were made from oyster shell, while shell tools could be used to sharpen spears (until the advent of glass) (Threlkeld cited in Dillion 1989; Gunson 1974; Neal and Stock 1986; Thomas 2008). Kangaroo bones were made into combs or awls, the latter of which were used for sewing kangaroo and possum skin, belts and headbands (Heritage Alliance 2008; Neal and Stock 1986; Thomas 2008). Shell and glass were traded for possum skins, yarn and headbands (Dawson 1830 cited in Thomas 2008). According to Thorpe (1928 cited in Dillion 1989), shell middens extended from Port Waratah to Sandgate along the Hunter River. The sheer volume and size of the middens indicated a population of thousands (Dillion 1989; Gillison 1974).

6.3.3 Spiritual locations and culture

Other aspects of Aboriginal culture, such as burials, initiation ceremonies, corroborees and cosmological beings have been described in the ethnographic record (Thomas 2008). The following sites were considered to be of importance to Aboriginal people (Department of Transport Planning and Local Infrastructure 2014; from Wallsend & Plattsburg Sun 1890 and 1891, Threlkeld cited in Gunson 1974; Thomas 2008):

- 'Pòr-ro-bung' a bora ring
- 'Yu-lung' a ring where tooth extraction occurred

- 'Ko-pur-ra-ba' another volcano on the Hunter River, where red ochre ('ko-pur-ra') was sourced
- 'Pit-to-ba' a source of pipe-clay ('pit-to')
- 'Pu-r-ri-bang-ba', the ants' nest place, and another source of yellow ochre ('Pur-ro-bàng')
- 'Nir-rit-ti-ba' island, or Moon Island, where mutton bird and their eggs are eaten
- 'Nul-ka-nul-ka' at Reid's Mistake, a source of silicified tuff.

The Eaglehawk was an important animal to the many tribal groups, and was significant in astronomy, legend and social structure (Dillion 1989; Gunson 1974). The use of fire has also been described as an integral part of the Aboriginal way of life, as it was used in farming, hunting, cooking, warmth, communication, initiation ceremonies, burials, mourning, weapon making, canoe construction, and fishing (Chandler 2008; Thomas 2008).

Initiation ceremonies often took place within one or two cleared circles, with the circles sometimes up to 350 m apart (Habermann 2003). Carved trees often marked the area around the circle. One known initiation ceremony included the extraction of a front tooth for boys (Threlkeld cited in Gunson 1974; Brayshaw 1987). Burials were often deposited in the ground, with the body placed in various positions, often covered in a bark shroud (Habermann 2003). Grave goods, such as spears and stone tools, were often buried with the deceased (Habermann 2003).

6.4 European and Aboriginal interaction

Many of the initial interactions between Aboriginal people and non-Aboriginal settlers (such as timber cutters, convicts and settlers) have been described as friendly (Allom Lovell and Associates 1998; Graeme Butler & Associates 2007; Threlkeld cited in Gunson 1974; Thomas 2008). In 1790, four convicts landed at Port Stephens after seizing a small vessel and sailing from Port Jackson. After landing, they lived with local Aboriginals for five years (Goold 1981; Thomas 2008). Another group of convicts, this time of 15 individuals, stole the Norfolk and wrecked it at Stockton, where six men chose to live with the local Aboriginal people. After several months, three men made their way back to Sydney, assisted by Aboriginal guides (Goold 1981).

In 1799, conflict arose on the shores of the Hunter River, where the Aboriginal people gathered in great numbers on the foreshores' and drove the non-Aboriginal people away. An armed party was sent to rescue the remaining men, who the Aboriginal people had said had returned to Sydney overland, but they were not believed. Several Aboriginal people were wounded as a consequence of the resulting attack (Goold 1981). The early 1800s saw a variety of conflicts between escaped convicts and farmers (Andrews 2016), but in 1821, when Governor Macquarie visited Maitland, he was greeted by the chief of the 'Boan Native Tribe', Bungaree, who with his family, held a corroboree in welcome (Heritage Alliance 2008).

Aboriginal people also served as guides and trackers. In 1842, the explorer FW Ludwig Leichhardt was guided by Bo-win-bah (Gorman, chief of the Pambalong) and Biraban (Johnny M'Gill) from Ash Island to Minmi cattle station, around the margins of Hexham Wetlands (Department of Transport Planning and Local Infrastructure 2014; Thomas 2008). Peaceful encounters were soon replaced with serious conflict, however, and were generated from the mistreatment of Aboriginal women, misunderstandings with pastoral settlers, and violent behaviour from the convicts towards Aboriginal people (Gunson 1974; Dawson 1830 cited in Thomas 2008). Timber harvesting and hunting soon became other causes of conflict, due to spiritual beliefs (trees were thought to house the souls of Aboriginal people awaiting rebirth, with some fauna being totem animals to Aboriginal people) (Allom Lovell and Associates 1998). From the 1830s, Aboriginal groups raided settlers for food and those who were captured were tried before the Supreme Court in Sydney; some were acquitted, others sentenced to death (Wooldridge 2016).

Aboriginal populations suffered a dramatic decline after the arrival of non-Aboriginal settlers, with disease, the loss of traditional hunting grounds, and conflict with settlers (including massacres of Aboriginal people (Dillion 1989) all contributing to the reduced number of Aboriginal people. In 1821 in the Lake Macquarie area, over 100 individuals were observed by Reverend Middleton, whereas in 1840, only 15 adult males, seven adult females and four children were recorded (Thomas 2008). Diseases such as smallpox, typhoid, influenza, scarlet

fever, measles, diphtheria, whooping cough and croup were all disastrous to the Aboriginal people (Dillion 1989; Thomas 2008). The smallpox epidemics alone, in 1789, 1829 and 1831, meant that it was impossible for non-Aboriginal settlers to understand the population sizes of Aboriginal people prior to European arrival (Gunson 1974; Thomas 2008). The first epidemic was reported to have reduced the Aboriginal population by half, between Botany Bay and the Hawkesbury (Lovell Chen 2016).

Due to the loss of traditional hunting grounds, and the modification of the landscape, food resources such as kangaroo, wallaby, emu and possum became scarce (Wilson cited in Graeme Butler & Associates 2007). Normal hunting processes were also restricted, due to the clearance of vegetation and draining of lagoons (Graeme Butler & Associates 2007). However, Wooldridge (2016) argued that European settlement was not a major factor in Aboriginal population decline; rather, it was violence of non-Aboriginal men against Aboriginal women. Threlkeld (cited in Gunson 1974) and Dawson (cited in Thomas 2008) both report on the violence committed against Aboriginal women – including young girls – with rape resulting in the possible transmission of diseases which could lead to infertility, and the practice of infanticide reported by Reverend Middleton (Dillion 1989; Graeme Butler & Associates 2007). While violence against women would have certainly had an effect on populations, the culmination of general violence, landscape alteration and diseases would have all contributed to the massive reduction in Aboriginal populations in the region. The population loss affected traditional practices, such as kinship systems, marriage, subsistence strategies and more (Thomas 2008).

This period also included conflict in the Upper Hunter. In October 1825 the death of Robert Greig at 'Martindale' south of Denman was attributed to local Aboriginal people and after an attack on two European shepherds in the Putty area in 1826, a party of soldiers were sent from Windsor and murdered several members of an Aboriginal group (AECOM 2020). After incidents on 'Edinglassie', 'Ravensworth' and 'Fal Brook' (south of Liddell) in June 1826, a detachment of mounted police were deployed to the area. By August reports of indiscriminate violence including the shooting and hanging of Aboriginal people was reaching Newcastle. This prompted multiple inquiries into these incidents by Governor Darling. One of the incidents investigated was the 'Ravensworth Massacre' which resulted in the deaths of more than 18 Aboriginal people (AECOM 2020).

By the 1840s, Aboriginal people were reliant on settlers for clothing, food and money (Graeme Butler & Associates 2007; Thomas 2008) and were employed in a variety of functions, such as timber cutters, water drawers, farm assistants, and errand runners, among others (Graeme Butler & Associates 2007; Murphy and Morris 2013). Near the end of the 19th century, concern over the Aboriginal peoples' plight took root, with the Aborigines Protection Association formed in 1881. In 1883, a Board for the Protection of Aborigines was established by the government, and rural stations were developed to allow Aboriginal people to stay on traditional lands (Thomas 2008). Yet by the mid-20th century, Aboriginal people had begun to move to Newcastle and Lake Macquarie to escape the oppression of the Aborigines Protection Board and to gain employment (Thomas 2008). Between 1909 and 1967, 5,300 Aboriginal children had been removed from their families and placed in institutions (Thomas 2008). The main sources of employment during this time were Broken Hill Propriety Limited and the Department of Railways, with Aboriginal people living in shanty settlements or in tent villages near the railway lines (Dillion 1989; Thomas 2008). In the 1930s, the new policy of assimilation was created, to try and absorb Aboriginal people into the wider community, and by the 1940s, the concept of re-settlement was established. By the 1960s, Aboriginal people were once again occupying Newcastle (at the university) (Dillion 1989). Those living at the university were 'removed' from the premises (Dillion 1989). Kuskie also documented significant and widespread traditional, historical and contemporary cultural values identified by RAPs and ethno-historical evidence. Associations and cultural values included a number of gender related sites, the association of Mount Sugarloaf with the supreme being 'Koe-in', burial locations, and pathways throughout the landscape, such as through Black Hill Spur, Hexham Swamp and along Sugarloaf Ridge (Kuskie 1997).

The Aboriginal people of the Hunter region would have used the wide variety of natural resources present within the fertile landscape, and ethno-historical accounts list some of the methods through which Aboriginal people harvested fruits, nuts, marine resources, terrestrial fauna, birds and so forth. While there are gaps in the ethno-historical account, such as the lack of description regarding stone artefact manufacture and use, it does provide a basis that can be used to understand how Aboriginal people used the landscape prior to non-Aboriginal colonisation.

Modification of the landscape by Aboriginal people took place through the use of fire farming and reed planting/weir development, but little evidence of such activities is likely to have been preserved in the archaeological record due to the perishable nature of the materials used and the consequent alteration of the landscape through non-Aboriginal occupation. Evidence of campsites, through deposits of stone artefacts and shell, hearths or middens are, in contrast, likely to be found where the landscape has not suffered severe ground disturbance or sedimentation. While ethno-historical accounts make reference to camps being located near waterways, campsites would not have been limited to river banks. These descriptions do, however, aid in developing a predictive model for the location of Aboriginal sites.

6.4.1 Implications for the distribution of Aboriginal cultural heritage

Scarred trees, which were a result of the production of items such as canoes, containers, shelters and bowls also have the potential to be present within the region. Carved trees, which were decorated with designs and could be associated with ceremonial sites, are much rarer. However, the prevalence of logging in the Hunter region would have severely reduced remaining scarred and carved tree numbers.

Other sites, such as grinding grooves, stone quarries, burials and ceremonial grounds (bora rings, stone arrangements), while rarer, are discussed in the ethno-historical records and are known to be focal points within the current cultural landscape.

7. Aboriginal cultural values and landscapes

7.1 Method of obtaining information

Input and feedback can be provided by RAPs at any time throughout the assessment process. Jacobs has sought input and feedback from RAPs at several points during the process (following procedures outlined in DECCW 2010a):

- During Stage 2 – Initial presentation of information about the proposed Project
- During Stage 3 - Providing RAPs with the draft proposed methodology. RAPs were invited to provide feedback on the proposed methodology, and to identify cultural heritage values associated with the Project area
- During fieldwork
- During Stage 4 - Providing RAPs with the draft ACHAR. RAPs are invited to provide feedback on the report, and any further information they wish to be included.

7.2 Previous cultural assessments in or near the Project

A number of cultural values assessments (CVAs) related to the broader Project area were reviewed by the author.

7.2.1 AECOM 2020

As a part of the Aboriginal Cultural Heritage Assessment for the Bayswater WOAOW project a CVA was undertaken with input from the WOAOW RAPs. The landscape of the area was identified by many of the RAPs as an important point of connection between the present Aboriginal community members and the past of their ancestors. Particularly water courses and area of high ground. RAPs agreed that cultural values were 'strongly represented by the artefacts sites identified' and the significance of the artefacts goes beyond scientific significance; that they afford 'a very personal and often emotional connection for an individual to their own ancestors'.

In summary the CVA identified no specific cultural values within the WOAOW project area, but identified the values of the broader landscape and Aboriginal objects (stone artefacts). It was also noted that the project area has been subject to significant historical impacts as a result of the construction of the Power Station.

7.2.2 Umwelt (2010)

In the development of the Aboriginal Cultural Heritage Management Plan (ACHMP) for Xstrata Coal's Ravensworth Operations, Xstrata Coal undertook a CVA. This was done to gain an understanding of the importance or the cultural significance of the Ravensworth Project area to Aboriginal people. Aboriginal stakeholders were invited to participate in a CVA process, building on the consultation process for the Environmental Assessment which commenced in 2008. This included the opportunity for independent statements to be provided in writing and verbally during Project meetings, but also the opportunity to develop statements of cultural value during a facilitated workshop held over four days in March 2011.

During consultation meetings, Mrs Barbara Foot (Aunty Barb, now deceased) provided the most detailed comments on the cultural significance of the Ravensworth area, which identified that the local area contained many significant places, including women's places, men's places, bora grounds, an engraving site on Bowman's Creek and places to source ochre nearby. Bowman's Creek was identified to be of particular significance, with Aunty Barb identifying association with a song line and its connectivity to other culturally significant areas within the Valley lowlands, with the potential for scarred trees to add to the Wonnarua people's story. Bowman's Creek was also identified as an important fishing place, with fish traps in the creek that have been there for hundreds of years. Bowman's Creek is located to the south east of the Project area, however the Project does not interact with Bowman's Creek.

Bowman's Creek is located to the north of the Golden Highway, yet the story related to Xstrata by Mrs Foot corroborates stories related by knowledge holders interviewed for this assessment that also mentioned story places, bora grounds, engraving sites and connections to the wider landscape. These and overall point to the significance of the Upper Hunter cultural landscape.

7.2.3 ACHM (2016)

The United Wambo open cut coal mine is located in the vicinity of the current Project area at Jerry's Plains. Wollombi Brook is the major waterway in this vicinity of the Wambo project area. A comprehensive CVA was undertaken by the Glencore as a part of the Aboriginal cultural heritage assessment for the proposal.

- Wonnarua Nation Aboriginal Corporation (**WNAC**).

Cultural Values expressed by the WNAC concentrated almost exclusively on the loss of culture experienced by their members and made little comment on the cultural values of the Wambo project area. A number of those that contributed to the United Wambo assessment were also contacted for this current assessment. Similar stories were told in respect to loss of cultural values as were expressed in this report.

- Plains Clan of the Wonnarua People (**PCWP**).

The following is an excerpt from PCWP (2015) statement taken from the United Wambo CVA.

We need to look at the landscape from a position of duty, responsibility, and focus on the achievement of intergenerational equity. We do not own the land, in terms of European concepts of ownership. Our ownership is in the context of the use of the land and its various animals and plants to sustain our bodies and we gave/give homage to them by creating ceremonial dances for them. The importance of this process should not be underestimated, for it is how our people worked with the environment, the landscape, our neighbours and how we, all from different Aboriginal language groups, worked as one with Mother Nature. We were practising land management thousands of years before European invaded our country.

The study area is in an area with close proximity to places that have been used by our people since the time of creation. The location of ceremonial sites in the general area as well as pathways between them, known today as song lines, indicates that the cultural landscape of the study area and its environs holds significant values to the PCWP. The path was placed there by our creator Baiami, which in the beginning would have been sheltered from prying eyes and onlookers who were not supposed to know or see what was going on, unless invited. This pathway contains site for initiations and religious practises (Dream Time).

These are places that represent what our people are about. The landscape has present ceremonial places (bora grounds) scarred trees, fishing holes, teaching and birthplaces and places to camp and prosper. In today's terms this is our home and our community. Even today you can talk to any member of our claim group and all will have some type of association with this area....

Consideration in the past, by those in the archaeological industry is that Aboriginal people had more to say about the landscape than just stones and bones. This has never been fully canvassed which has been a fundamental flaw in almost all previous reports. There has not been an inclusion of the values that Aboriginal people place on the fauna and flora within a given study area. This is a major issue, not only for Aboriginal people but for the wider community. The history of this country is for all to protect. As the human race we learn from our past and our history to better understand the future. The Hunter Valley has been heavily impacted on for decades from both coal mining and the agricultural industries.

The Plains Clans of the Wonnarua People's country only has approximately 7.5% of our lands left untouched. Our own traditional lore's and customs need to be able to protect this remaining pristine

country for our people to live in harmony and for all future generations to learn from. We need to continue teaching our people and all future generations about who we are and where we are from. Most surveys tend to focus on the artefacts that are found on the day and invariably no real effort is taken to understand why they are there, what is happening or where the artefacts are located. Most are recorded as isolated finds when in fact it is a series of sites that make up a complex camping ground being a recognised Aboriginal site. We were taught from these lands as we grew up. It is a place where our families lived, hunted and learnt to interpret the lands. To a non - Aboriginal person in this area is your house, school, hospital, church, shopping centre, doctors, police station, your whole community or society. That is why most reports do not reflect this; it is very complex for a non - Aboriginal to understand and interpret the lands and put into words ...

Today, the lands, as in most other areas, are one of many pages in a book and allow us to look back in time. It gives our people a better understanding of the stories we were told, when we were young, what they were about and about why. The land still has the footprints of our people from the beginning of time and allows our people to have direct contact with our lands and our elders. As we looked around the landscape and participated in surveys or test excavations we found many artefacts. Each time we encountered these objects we felt the presence of our people and the excitement that we were now standing in one of our people's houses. It is a first-hand experience and shows where our people lived, hunted, fought to defend their lands, thrived and were happy and cried. This part of the Hunter Valley makes us feel like we are coming home. The reality is though that this is a place that will not be here in the future. Just as what has happened to the other homes of our people it will be lost. To try and put in words exactly what this place is worth is beyond comprehension...(Heads of Family of the PCWP, September 2015).'

- Wonnarua Traditional Custodians (WTC)

WTC members felt that the project area is important in the context of it being another part of Wonnarua country which would be further lost to mining. WTC members felt that the presence of artefacts (archaeological sites) across the project area showed that their ancestors had been present in that landscape in the past, which was significant to the WTC members, even if the scientific values of those archaeological sites was considered to be low. WTC members felt that whilst there had been a lot of disturbance over the years, the work at the sites had provided the current generation with an opportunity to meet and discuss Cultural heritage and to work/walk on country. One WTC member felt that the Wonnarua country was special to him, but that he got little feeling from the project area because it was so highly disturbed. There was a general consensus that the project area was 'already bugged'.

7.2.4 ERM (2004)

In 2004 the Roads and Traffic Authority (now Transport for NSW) undertook an archaeological salvage at Devil's Elbow prior to road works at the location. A total of 1385 stone artefacts were recovered during the salvage. Artefacts were recovered from the ground surface (or from recently stripped surface) from all areas of the site, from a number of test pits and from two open area excavations. The large number of artefacts recovered and their pattern of distribution across the site suggests that Devil's Elbow was an important site for Aboriginal people in the past. The number of artefacts recovered some distance from Halls Creek and relatively even distribution of artefacts has been interpreted as representing short-term activity or camping events along an important travel route between two distinct biogeographical, and perhaps cultural, regions.

Ethnohistoric sources indicate that, at least in recent prehistory, the site may have been close to the boundary of two culturally different groups. A nearby site, Sandy Hollow 1 Rock Shelter was found to have similar pattern in artefact distribution and has been dated to about 2000 years old. Comparison with the artefacts at this site suggests that this period of technological change may have been at around 1300 years. The appearance of backed artefact production in the region is still not well known. At sites further afield backed artefacts occur much earlier (Moore 2000).

The site may have been situated along an important travel or trade route connecting two different biogeographical regions. Moore (1970:30) noted that the valley through the range between Sandy Hollow to Merriwa and Cassila (the Halls Creek valley) provides easy access from the headwaters of the inland rivers to the upper Hunter Valley. The site is also located on the border between two 'tribal' groups recognised by Tindale (1974:193,201): the Geawegal and the Wonnarua. The area may have been an important point of contact between the two groups. Moore noted that Sandy Hollow 1 Rock Shelter (only a few kilometres south of DE1): is right the point where the Gamilaroi from the western slopes would have reached the Hunter River when they made their periodic excursions for trade, wives, or warfare with the Wonnarua (Moore 1970:35).

7.3 Identified cultural heritage values relevant to Project area

The landscape of the Hunter Valley as a whole has cultural value to Aboriginal people, being a landscape that their ancestors lived on, travelled through, and utilised for subsistence. Landmarks visible in the natural landscape are known to the present-day Aboriginal community to have been important in enabling Aboriginal groups to navigate through the landscape, and to identify where the territory of their tribes and clans were. The importance and cultural significance of visible landmarks in the landscape was communicated to Jacobs by representatives from RAP groups assisting with fieldwork. Large landmarks such as individual hills and mountains in surrounding ranges were cited as being important for navigation through the landscape. In addition, smaller and less obvious local high-points in the landscape would have had importance for the same purpose: small hills and ridgelines that were higher than their immediate surrounding landscape would have been points that travelling groups would have used as vantage points to identify landmarks and orient themselves in the landscape.

Rivers, creeks and other watercourses hold cultural value for similar reasons, as river valleys were followed when travelling through the landscape and would consequently have functioned as navigational aids. The importance of watercourses as travel routes, as well as the importance of the food resources they provided, were both cited by RAPs as attaching watercourses with cultural significance.

Stone artefacts, both individually and as assemblages, were cited as having cultural significance for a number of reasons. As they were produced and in some cases used by Aboriginal people, stone artefacts provide a tangible and direct link to the lifeways and thought processes of ancestral people. In the Hunter Valley, the distribution and source areas of various distinctive materials are well understood. Particular artefacts can consequently be identified as having been made from material sourced from a specific location in the landscape. For this reason, an artefact can carry information on where Aboriginal people had travelled in the landscape, or where they had obtained traded material from. The variability of materials found on sites in the region was cited by RAPs as evidence for interactions between groups whose home territories were in different areas. The ability to identify distinctive materials with specific groups, who travelled in from specific areas of the Hunter Valley and its surrounds, adds to the cultural value of stone artefacts in this region.

8. Summary of Archaeological Assessment

The AAR, which contains detailed data on the method and results of the archaeological assessment, is provided in **Appendix B**.

Previous archaeological assessments within the Project area and vicinity have identified a large number of sites including artefact scatters, and potential archaeological deposits. These sites are often located near water sources, particularly on elevated landforms. The long post-contact history of development in the area has resulted in destruction of a large number of sites.

A search of the AHIMS was undertaken on 13 October 2020 for the Project area and a 200m buffer zone. The search identified that 56 previously recorded sites are present within 200 m of the Project area. Of these 56 sites, one site (AHIMS ID (37-2-6145) is within the Project area and seven sites are within about 20 m of the Project area. Two of these sites (37-3-0675 and 37-3-1128) are recorded as being destroyed. All sites are artefact scatters on open ground, one artefact scatter also includes potential archaeological deposit.

The following specific predictive points are noted for the landforms within the Project area:

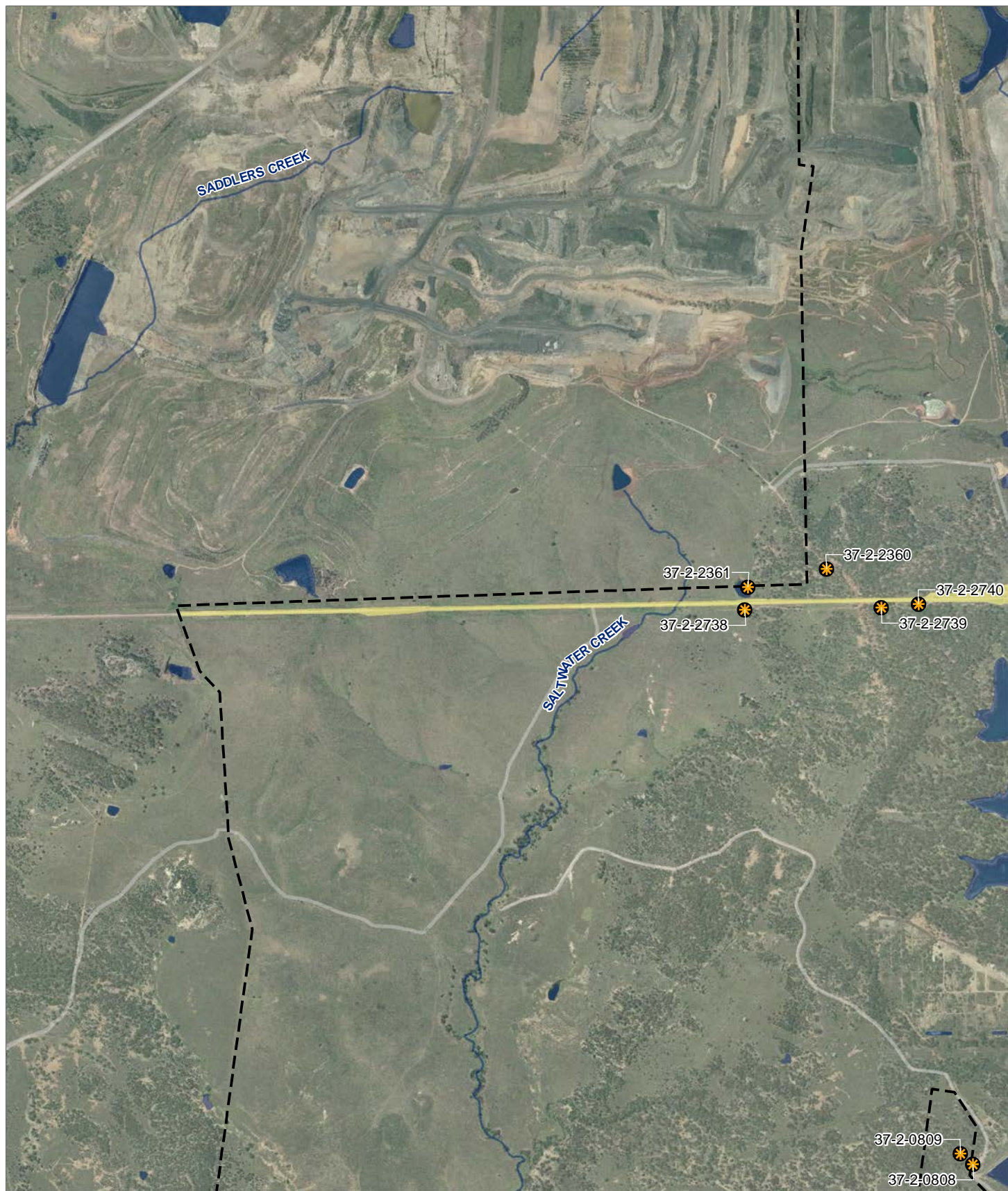
- Elevated landforms adjacent to ephemeral waterways possess high archaeological potential
- The most common site type will be surface and sub-surface scatters of stone artefacts
- The most commonly occurring raw material will be indurated mudstone followed by silcrete
- Other site types that may present in the landscape are quarries, grinding grooves and scarred trees
- Within road corridors, surface and sub-surface deposits are likely to be heavily disturbed and may contain areas of imported fill
- Where present, sub-surface archaeological deposit is most likely to be within 200 m of a water source (river or creek)
- Ridgelines and hills will have lower density artefact deposit than surface artefacts but may be of higher cultural significance to the Wonnarua people.

The archaeological survey was carried out on the 23 and 24 November 2020, covering all areas within the Project boundary where impacts are proposed. On-site consultation with nominated site officers from the RAPs enabled the development of recommendations for any further assessment. Thirteen new sites were identified within the area assessed and one previously recorded site. These sites consisted of isolated finds and artefact scatters. These sites are detailed in **Table 8-1** and **Figure 8.1**.

Table 8-1: Archaeological Sites Summary Table

AHIMS ID	Site Name	Site Type	Survey Unit
37-2-6280	Liddell Jerrys Plains Pipeline AS1	Artefact Scatter	SU1
37-2-6281	Liddell Jerrys Plains Pipeline IF2	Isolated Find	SU1
37-2-6279	Liddell Jerrys Plains Pipeline AS3	Artefact Scatter	SU1
37-2-6291	Liddell Jerrys Plains Pipeline IF4	Isolated Find	SU1
37-2-6290	Liddell Jerrys Plains Pipeline AS5	Artefact Scatter	SU1
37-2-6289	Liddell Jerrys Plains Pipeline AS6	Artefact Scatter	SU1
37-2-6287	Liddell Jerrys Plains Pipeline IF7	Isolated Find	SU1
37-2-6288	Liddell Jerrys Plains Pipeline IF8	Isolated Find	SU1
37-2-6286	Liddell Jerrys Plains Pipeline AS9	Artefact Scatter	SU1

AHIMS ID	Site Name	Site Type	Survey Unit
37-2-6283	Liddell Jerrys Plains Pipeline AS10	Artefact Scatter	SU1
37-2-6145	BAYS AS06	Artefact Scatter	SU1
37-2-6285	Brine Pipeline AS1	Artefact Scatter	SU3
37-2-6282	Brine Pipeline AS2	Artefact Scatter	SU3
37-2-6284	Liddell M1 Conveyor AS1	Artefact Scatter	SU7



Legend

Project area

The Bayswater Ancillary Works footprint

AGL owned land

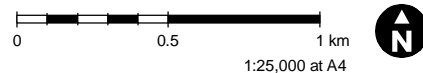
AHIMS sites

Valid

Road

Waterway

Waterbody



Data sources

Jacobs 2020
© Department Finance,
Services and Innovation 2019
DPE 2020
OEH 2020

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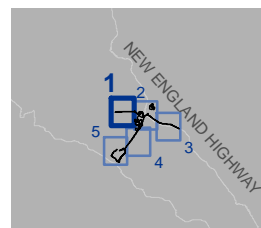
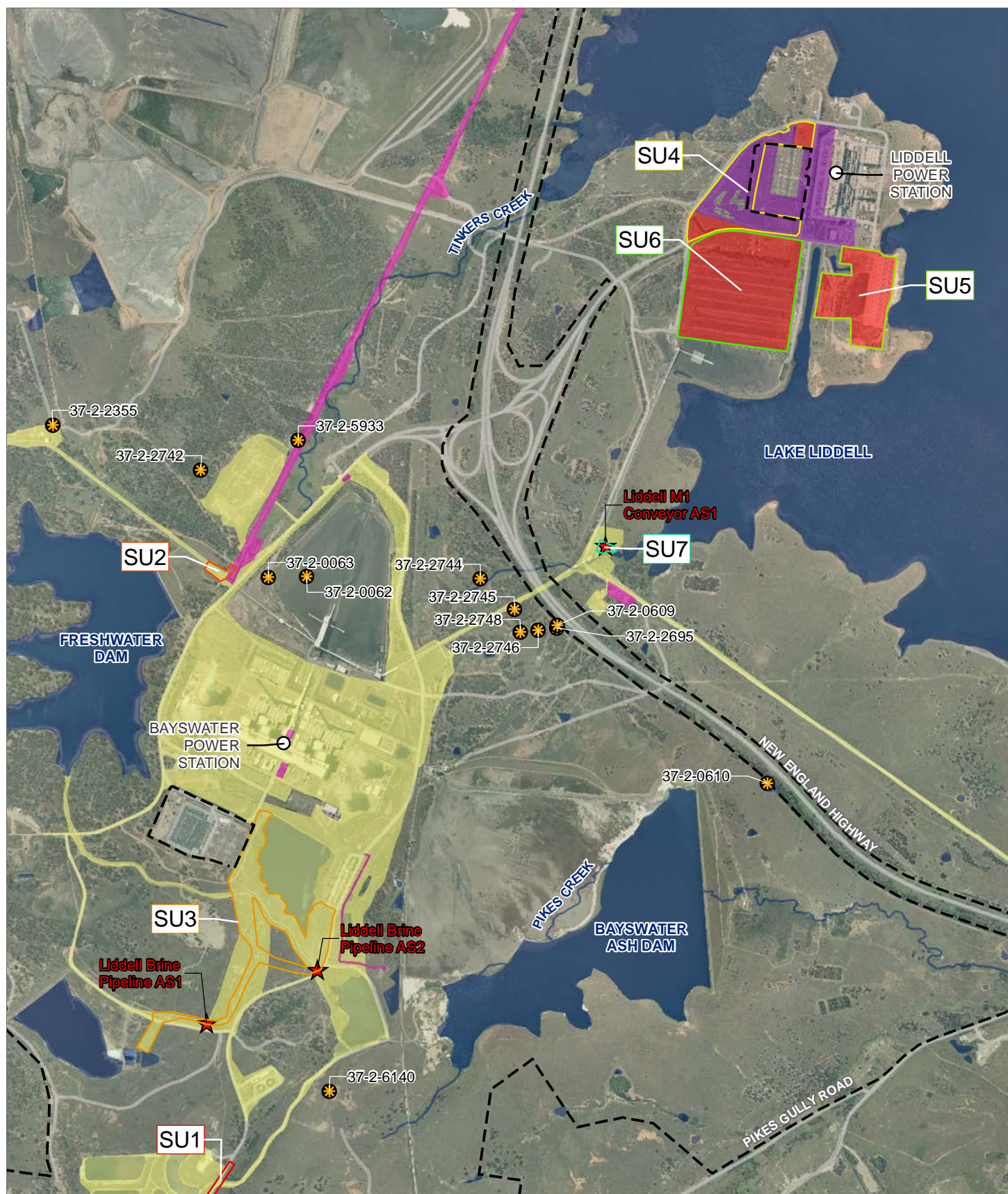


Figure 8 - 1 Results of Archaeological Assessment



Legend

Project area

- The Bayswater Ancillary Works footprint
- The Battery footprint
- The Decoupling footprint
- Consolidated consent
- AGL owned land

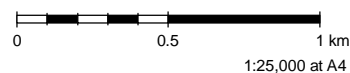
AHIMS sites

- Valid
- Newly identified site

Survey units

- SU1
- SU2
- SU3
- SU4
- SU5
- SU6
- SU7

- Road
- Waterway
- Waterbody



Data sources

Jacobs 2020
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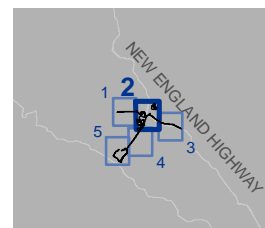
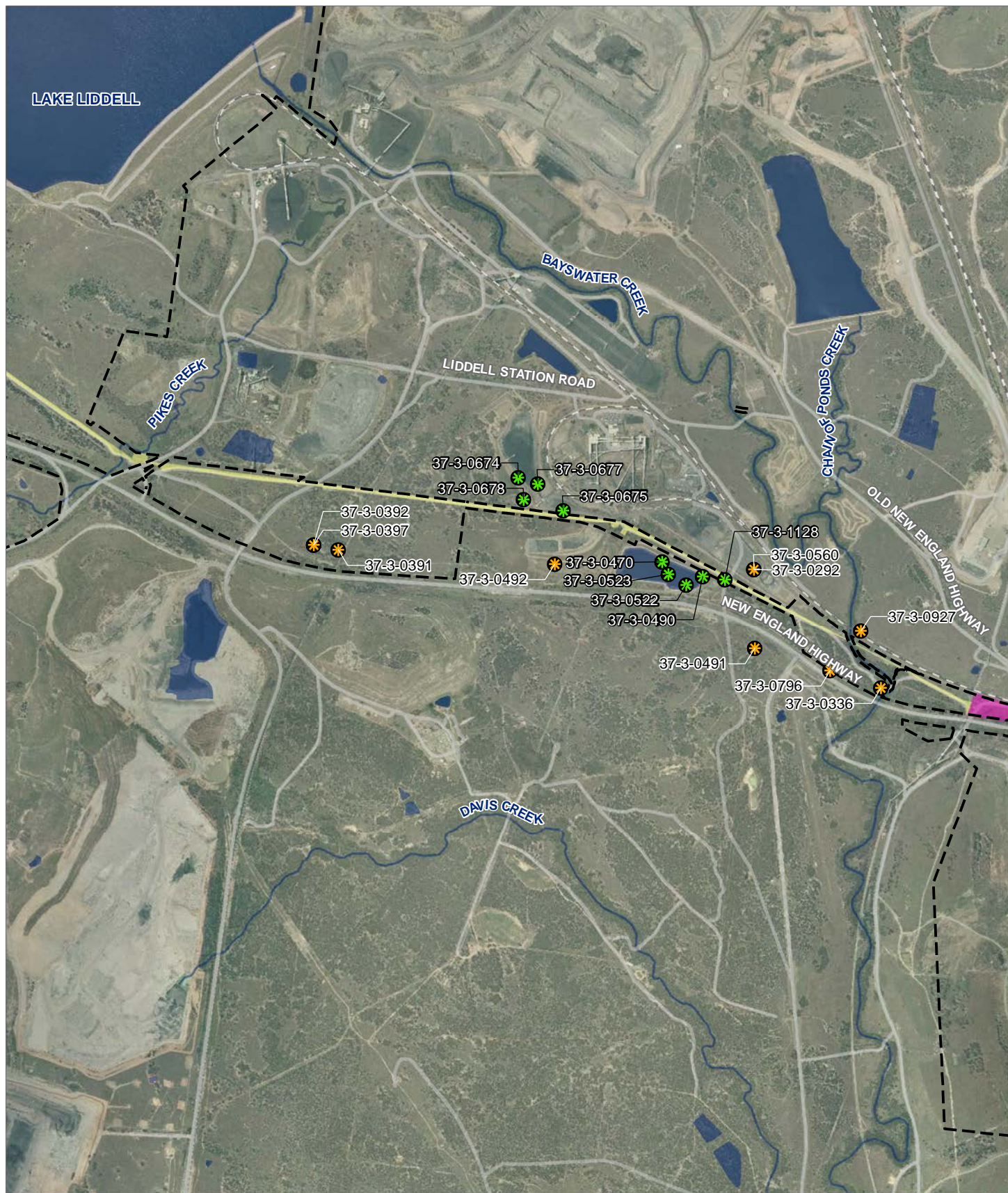


Figure 8-1 Results of Archaeological Assessment



Legend

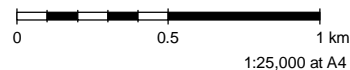
Project area

- The Bayswater Ancillary Works footprint
- Consolidated consent
- AGL owned land

AHIMS sites

- Valid
- Destroyed

- Railway
- Road
- Waterway
- Waterbody



Data sources

Jacobs 2020
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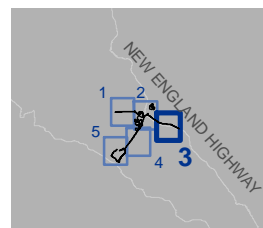
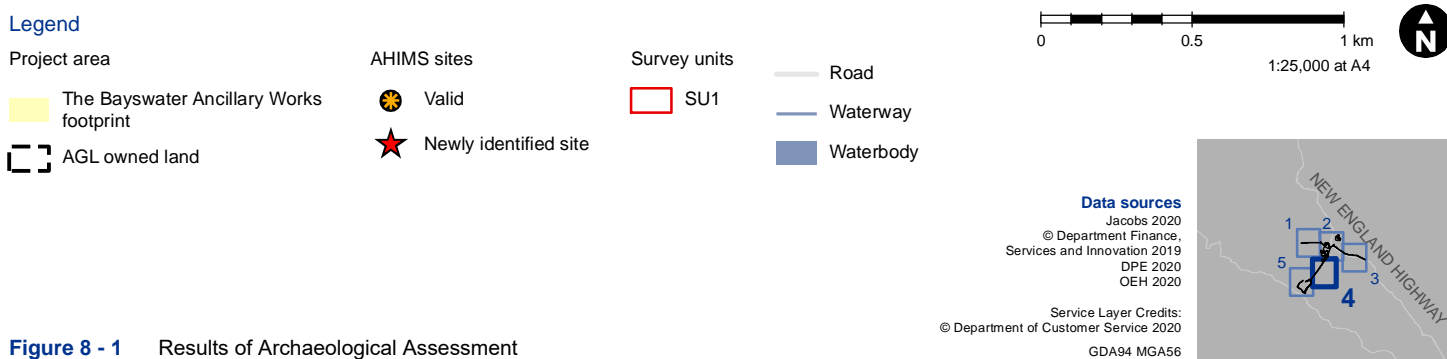
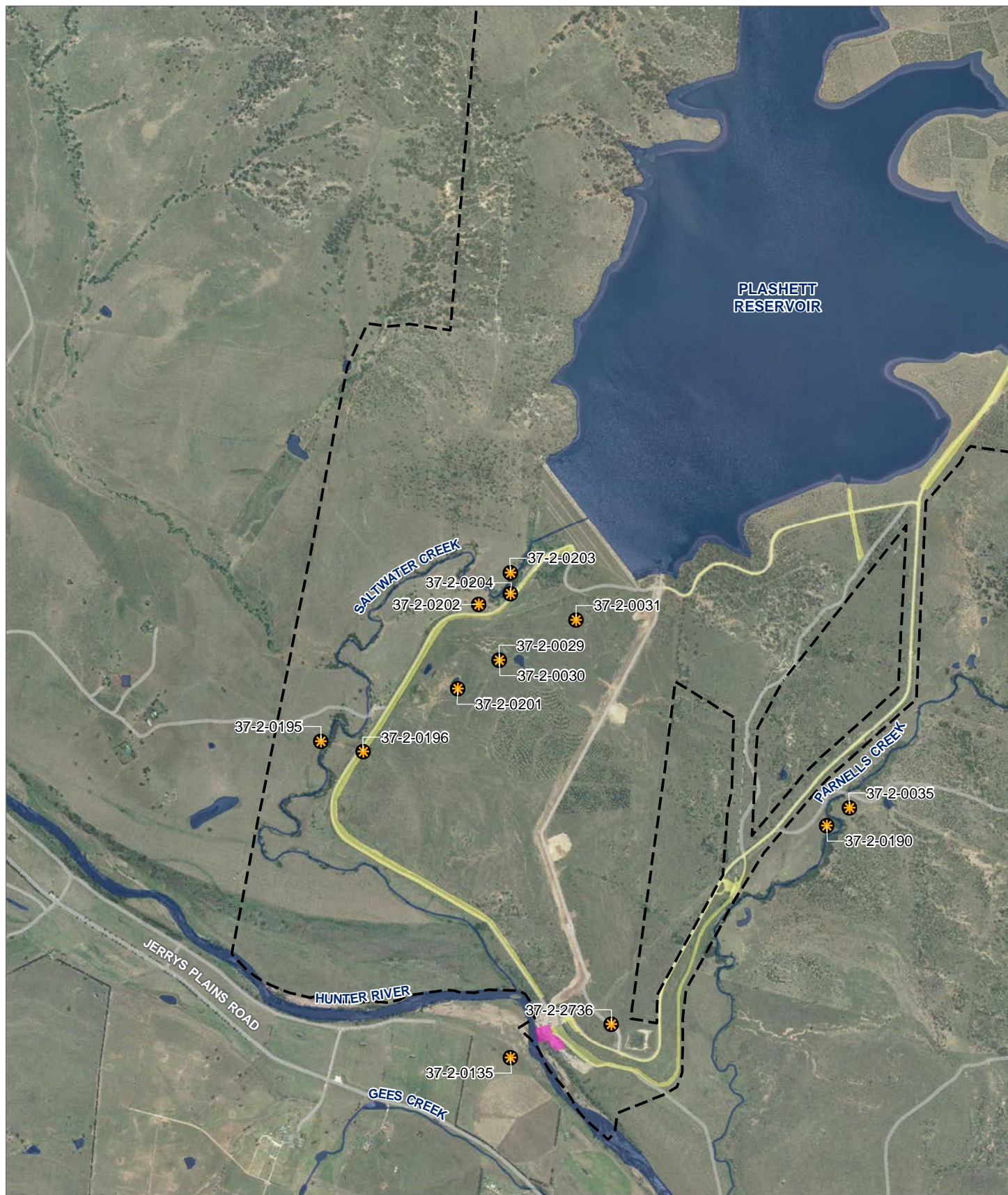


Figure 8 - 1 Results of Archaeological Assessment





Legend

Project area

The Bayswater Ancillary Works footprint

Consolidated consent

AGL owned land

AHIMS sites

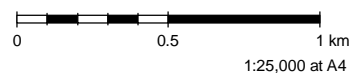


Valid

Road

Waterway

Waterbody



Data sources

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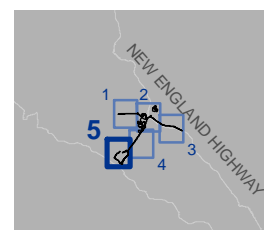


Figure 8 -1 Results of Archaeological Assessment

9. Significance assessment

9.1 Methodology

A significance assessment is made up of several significance criteria that attempt to define why a site is important. Such assessment recognises that sites may be important for different reasons to different people, and even at different times. The assessment of Aboriginal cultural heritage in this assessment is based upon the four values of the Australia ICOMOS Burra Charter (Australia ICOMOS 2013).

- Social values
- Historical values
- Scientific values
- Aesthetic values.

Each of these values is assessed below for Aboriginal sites in or adjacent to the Project area, and an overall significance is assigned based on an average across the values. This is inherently a reductive process and oversimplifies what is important for different reasons to a range of different stakeholders, but is a necessary process in being able to create comparative values between sites. The significance of each site ultimately informs the management of sites and places.

It should be noted that only existing Aboriginal sites within the Project area or adjacent (within 50 m) to the Project area are assessed for significance here. Aboriginal sites within or adjacent to the Project area that could not be found and re-recorded during the archaeological survey are not assessed in this chapter.

9.1.1 Social significance

The significance of a heritage item does not relate only to its scientific or research value. Aboriginal people's views on the significance of archaeological sites are usually related to traditional, cultural and educational values, although some Aboriginal people also value any scientific information a site may be able to provide.

Aboriginal cultural significance was assessed from consultation with the nominated Site Officers for the relevant RAPs during and following field assessments. It should be noted that Aboriginal significance assessed in this manner may not reflect the views of all members of the community.

9.1.2 Historic significance

The historic value of a site is determined through its association with historically important people, events or activities.

A place or object can have cultural significance if it is significant in exhibiting particular historic characteristics. Such as:

- It is significant in the evolution or pattern of the history of a locality, region, state, nation or people
- Importance for the density or diversity of cultural features illustrating the human occupation and evolution of the locality, region, state or nation
- Importance in relation to an event, phase or activity of historic importance in the region, state or nation
- Importance for close association with an individual or individuals whose life, works or activities have been significant within the history of the region, state or nation
- Importance as an example of technical, creative, design or artistic excellence, innovation or achievement in a particular period.

9.1.3 Scientific significance

A concept, place or object can have cultural significance if it is significant in exhibiting particular scientific characteristics. Such as:

- It has demonstrable potential to yield information that will contribute to an understanding of the natural or cultural history of the region, state or nation
- Importance for information contributing to a wider understanding of natural or cultural history by virtue of its use as a research site, teaching site, type locality, reference or benchmark site
- Importance for its potential to yield information contributing to a wider understanding of the history of human occupation of the locality, region, state or nation
- It is significant in demonstrating a high degree of technical innovation or achievement.

Research potential or scientific significance of an Aboriginal archaeological site can be assessed by using the criteria set out below. Each criterion is rated as low, moderate or high.

- **Site integrity** – The integrity of a site refers to its state of preservation, or condition. A site can be disturbed through a number of factors including natural erosion processes, destructive land use practices or repeated use of a site in the past by both humans and animals
- **Site structure** – Structure refers to a site's physical dimensions, that is, size and stratigraphy. A large site or a site with stratified deposits has more research potential than small sites and/or surface scatters. Sometimes however, specific research questions may be aimed at smaller sites in which case they would be rated at a higher significance than normal. Site structure cannot be assessed for scarred trees or isolated artefacts
- **Site contents** – This category refers to the range and type of occupation debris found in a site. Generally, complex art sites, extensive quarries with associated debris and surface sites that contain a large and varied amount of organic and non-organic materials are considered to have greater research potential than those sites with small, uniform artefacts, single motif art sites and small quarries with little or no debris. For scarred trees, contents may refer to the size and type of scar and/or how many scars there are on the one tree
- **Representativeness and rarity** – Representativeness refers to how much variability exists between the subject site and others inside or outside the subject area. It also considers the types of sites already conserved in the area and how much connectivity between sites exists. Rarity considers how often a particular site type occurs in an area. Assessment of representativeness and rarity requires some knowledge of the background archaeology of the area or region in which a study is being carried out. Rarity also relates to whether the subject site or area is important in demonstrating a distinctive way of life, custom, process, land use, function or design which is no longer practiced (OEH 2011).

9.1.4 Aesthetic significance

This refers to the sensory value of a place, and can include aspects such as form, texture, and colour, and can also include the smell and sound elements associated with use or experience of a site (Australia ICOMOS 2000). Aesthetic significance can be closely linked to the social value of a site.

A place or object can have cultural significance if it is significant in exhibiting particular aesthetic characteristics, such as:

- Importance to a community for aesthetic characteristics
- Importance for its creative, design or artistic excellence, innovation or achievement.

Importance for its contribution to the aesthetic values of the setting demonstrated by a landmark quality or having impact on important vistas or otherwise contributing to the identified aesthetic qualities of the cultural environs or the natural landscape within which it is located

9.2 Significance statement

The significance of all sites in the Project area is set out in **Table 9-1**. The significance assessment here is limited by the nature of the data available from the archaeological work carried out to date. Surface survey provides an understanding of the nature, and consequently the significance, of Aboriginal objects currently visible on the ground surface only.

Author's note: the assessed significance of individual sites provided here does not incorporate, at the time of writing, any input from RAPs on the cultural significance of individual sites.

Table 9-1: Assessment of Site Significance

Site ID	Significance assessment of site	Relevant notes
Liddell Jerrys Plains Pipeline AS1 (37-2-6280)	Low	Small artefact scatter on erosional surface
Liddell Jerrys Plains Pipeline IF2 (37-2-6281)	Low	Single artefact on erosional surface
Liddell Jerrys Plains Pipeline AS3 (37-2-6279)	Low	Small artefact scatter on erosional surface
Liddell Jerrys Plains Pipeline IF4 (37-2-6291)	Low	Single artefact on erosional surface
Liddell Jerrys Plains Pipeline AS5 (37-2-6290)	Low	Small artefact scatter on erosional surface
Liddell Jerrys Plains Pipeline AS6 (37-2-6289)	Low	Small artefact scatter on erosional surface
Liddell Jerrys Plains Pipeline IF7 (37-2-6287)	Low	Single artefact on erosional surface
Liddell Jerrys Plains Pipeline IF8 (37-2-6288)	Low	Single artefact on erosional surface
Liddell Jerrys Plains Pipeline AS9 (37-2-6286)	Low	Small artefact scatter on erosional surface
Liddell Jerrys Plains Pipeline AS10 (37-2-6283)	Low	Small artefact scatter on erosional surface
BAYS AS06 (37-2-6145)	Low	Small artefact scatter on unstable landform (eroding creekline). Located within Liddell to Jerrys Plains Water pipeline corridor.
Brine pipeline AS1 (37-2-6285)	Low	Small artefact scatter on erosional surface
Brine pipeline AS2 (37-2-6282)	Low	Small artefact scatter on erosional surface
Liddell M1 Conveyor AS1 (37-2-6284)	Low	Small artefact scatter on erosional surface

10. Impact Assessment

10.1 Impact avoidance

Where practicable, the detailed design of the Project would avoid impacts to Aboriginal sites (see recommendations in **Section 11**).

Sites and areas of PADs located outside the Project area but close enough to it to be at risk of inadvertent impact during construction works, would be protected during construction of the Project. In this way, the potential risk of inadvertent impact to sites located near the Project area would be avoided.

10.2 Impacts to identified sites

The impacts to identified sites have been summarised in **Table 10-1**.

Table 10-1 Summary of impacts to the identified sites

Name	Site type	Type of harm	Degree of potential harm	Consequence of harm	Notes
Liddell Jerrys Plains Pipeline AS1	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline IF2	Isolated Find	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline AS3	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline IF4	Isolated Find	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline AS5	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.

Name	Site type	Type of harm	Degree of potential harm	Consequence of harm	Notes
Liddell Jerrys Plains Pipeline AS6	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline IF7	Isolated Find	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline IF8	Isolated Find	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline AS9	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Liddell Jerrys Plains Pipeline AS10	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Total	Total loss of value	Site is entirely within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
BAYS AS06 (37-2-6145)	Artefact Scatter	Direct and indirect (in the event water pipeline repair works are required)	Partial	Partial loss of value	A small portion of the site is located within the Project area. Potentially subject to impact in the event of pipeline repair works are required.
Brine Pipeline AS1	Artefact Scatter	Direct (if cannot be avoided by design)	Total	Total loss of value	Site is entirely within the Project area and may be subject to impact resulting from the proposed works. Impact to this site can be avoided by design.
Brine Pipeline AS2	Artefact Scatter	Direct (if cannot be avoided by design)	Total	Total loss of value	Site is entirely within the Project area and may be subject to impact resulting from the proposed works.

Name	Site type	Type of harm	Degree of potential harm	Consequence of harm	Notes
					Impact to this site can be avoided by design
Liddell M1 Conveyor AS1	Artefact Scatter	None	None	None	Site is entirely within the Project area and may be subject to impact resulting from the proposed works. Impact to this site can be avoided by design.

10.3 Cumulative Impacts

Assessing cumulative impacts involves the consideration of the proposed impact in the context of existing developments and past destruction of heritage sites, as well as the population of heritage sites that still exist in the region of interest (Godwin 2011). The concept of assessing cumulative impacts aims to avoid discussing the impact of a development in isolation and aims to assess the impact in terms of the overall past and future degradation of a region's heritage resource.

Prior impact to large areas of land in the immediate surrounding region, and across the Hunter Valley overall, have increased the rarity of surviving Aboriginal sites in the region. However, the majority of impacts that would result from the Project are located within already disturbed and impacted areas. The Aboriginal sites the Project would impact are of low significance, being small artefact scatters, and are not rare site types in the Hunter Valley region.

The cumulative impact of the Project is assessed as being low, as the Project would not result in a substantial reduction in the region's Aboriginal archaeological resource.

11. Management Recommendations

Where complete avoidance of sites by the Project is not possible, mitigation measures have been provided as presented in **Table 11-1**. Environmental management measures have been identified with consideration of the likely degree of impact to each heritage item and the assessed significance of the site. A key measure to manage impacts on identified sites with higher scientific significance is to carry out salvage of further artefacts to improve the understanding of the areas impacted by the Project

Table 11-1: Management Measures

Management Measure	Sites
A Cultural Heritage Management Plan (CHMP) will be developed. It will include the methodologies developed in this document (Section 11.1, 11.2 and 11.3). It will specify that project works will be restricted to the disturbance site. It will include provisions to ensure workers are made aware of cultural heritage places and their value, for example through project inductions. The CHMP will include provisions to guard against indirect impact to the sites near the development site.	All sites
If repair or maintenance works on the Liddell to Jerrys Plains High Pressure Pipeline are required. The area of works would be subject to surface collection in accordance with Section 11.1 . If no works are required in the vicinity of a site the site would be conserved.	<ul style="list-style-type: none"> ▪ Liddell Jerrys Plains Pipeline AS1 (37-2-6280) ▪ Liddell Jerrys Plains Pipeline IF2 (37-2-6281) ▪ Liddell Jerrys Plains Pipeline AS3 (37-2-6279) ▪ Liddell Jerrys Plains Pipeline IF4 (37-2-6291) ▪ Liddell Jerrys Plains Pipeline AS5 (37-2-6290) ▪ Liddell Jerrys Plains Pipeline AS6 (37-2-6289) ▪ Liddell Jerrys Plains Pipeline IF7 (37-2-6287) ▪ Liddell Jerrys Plains Pipeline IF8 (37-2-6288) ▪ Liddell Jerrys Plains Pipeline AS9 (37-2-6286) ▪ Liddell Jerrys Plains Pipeline AS10 ▪ BAYS AS06 (37-2-6145)
If possible, the design and construction of the Brine Pipeline would avoid the two recorded site areas. The sites would be protected with high visibility fencing. If impact cannot be avoided the sites would be salvaged through surface collection in accordance with Section 11.1 .	<ul style="list-style-type: none"> ▪ Brine Pipeline AS1 (37-2-6285) ▪ Brine Pipeline AS2 (37-2-6282)
During any works on the Liddell M1 Conveyor the site would be conserved and protected by high visibility exclusion fencing to prevent impact.	<ul style="list-style-type: none"> ▪ Liddell M1 Conveyor AS1 (37-2-6284)
The Unanticipated Finds Protocol in the Section 11.3 will be followed for any previously unidentified Aboriginal heritage objects found during the works.	-

11.1 Surface collection methodology

A surface collection walkover will be carried out to collect all surface Aboriginal heritage material identified within the AHIMS sites to be impacted. The surface collection methodology would include:

- Artefact locations would be marked by RAPs using brightly coloured survey flags
- The location of each artefact would be recorded using a non-differential GPS
- Each artefact would be given a unique identifier, bagged and clearly labelled with that identifier.

The artefact assemblage would be temporarily stored and analysed.

11.2 Potential Human skeletal remains

If skeletal remains are uncovered during the course of works, all work must stop in the vicinity of the remains immediately and the area be secured, so that no further harm occurs.

If it is identified that the skeletal remains are likely to be human and are likely to represent a crime scene, the NSW Police must be called in the first instance. The NSW Police will determine the appropriate course of action.

If it is identified that the skeletal remains are likely to be human and are likely to represent Aboriginal Ancestral Remains, or human remains that would require consideration under the *Heritage Act 1977* (both Aboriginal and non-Aboriginal), both the NSW Police and Heritage NSW must be called. Heritage NSW will determine the appropriate course of action.

Work may not recommence in this area until either NSW Police or Heritage NSW provide authorisation.

Please note, if the remains are identified as Aboriginal, discussions and negotiations will need to occur with the relevant Aboriginal communities and Heritage NSW to determine the most appropriate course of action. These discussions will be led by Heritage NSW.

If it is identified that the skeletal remains are not human, appropriate recording must take place and works can continue.

11.3 Unanticipated Finds Protocol

This protocol is to be followed if unanticipated Aboriginal objects are encountered during or prior to works (including objects that are suspected to be Aboriginal objects) that:

- Are not permitted to be impacted by the approval the works are being carried out under or separate approvals.
- Would increase the assessed significance of the Aboriginal site being impacted.

An Aboriginal object is defined by the NPW Act as:

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

This definition includes stone artefacts, midden material, rock art, scarred and carved trees, skeletal material, and burials.

The following provisions regarding the appropriate management action(s) for previously unrecorded Aboriginal archaeological evidence identified within the Project area throughout the life of the Project would be implemented. Management action(s) will vary according to the type of evidence identified its significance (both scientific and cultural) and the nature of potential impacts.

The unanticipated finds protocol would include the following steps if an Aboriginal object is identified or harmed:

1. Immediately cease all work at the particular location

2. Secure the area to avoid further harm to the Aboriginal object
3. Seek advice from a qualified archaeologist on appropriate management considering the nature, type and significance of the object
4. Should it be determined the object is Aboriginal, it should be registered on Heritage NSW's AHIMS database as soon as practicable
5. The following management should apply for previously unrecorded objects identified within the Project area:
 - a. Open artefact sites (i.e., isolated artefacts and artefact scatters) assessed of low significance subject to Project related direct surface impacts should be subject to community collection. Sites assessed of moderate significance should be subject to surface collection and other forms of mitigation (i.e., detailed recording, test or open area excavation), regardless of impact type (i.e., including direct surface and subsidence related). Management of sites assessed of high significance would be determined through consultation with AGLM and RAPs
 - b. Scarred trees identified within the Project area subject to project related impacts would be managed through discussions between a qualified archaeologist, AGLM and RAPs and may include removal and relocation
 - c. Grinding grooves identified within the Project area subject to project related impacts would be managed through discussions between a qualified archaeologist, AGLM and RAPs and may include removal and relocation
 - d. Other sites (i.e., stone quarries, ochre quarries, stone arrangements, engravings) identified within the Project area subject to project related impacts would be managed through discussions between a qualified archaeologist, AGLM and RAPs.
6. A record of the find and management completed should be included in annual reporting
7. If the site would be impacted, an ASIR form would be completed and submitted to Heritage NSW, prior to disturbance.

12. References

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Appendix A. Aboriginal community consultation

A.1 Consultation Log

Table A.1: Agency Consultation Log

Date	Organisation	Description	Response
26/08/2020	Heritage NSW	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	Provided List of Aboriginal groups to contact.
26/08/2020	Singleton Local Land Services	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	
26/08/2020	Singleton Council	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	Identified the Wonnarua Nation Aboriginal Corporation as a group to contact.
26/08/2020	Wanaruah LALC	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	
26/08/2020	NTSCorp	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	
26/08/2020	ORALRA	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	
26/08/2020	Muswellbrook Council	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	Provided contact details Wonnaruah LALC, Tocomwall and Hunter Valley Aboriginal Corporation
27/08/2020	Wanaruah LALC	Agency letter - request for Aboriginal cultural knowledge holders relevant to the project area.	

A.2 Agency and RAP letter

26 August 2020

Attention: Senior Team Leader, Aboriginal Cultural Heritage Regulation North
Heritage NSW - Hunter
Level 4, 26 Honeysuckle Drive, Newcastle, NSW 2300

Via Email: heritagemailbox@environment.nsw.gov.au

Subject: Seeking Aboriginal knowledge holders to assist AGL to prepare a cultural heritage assessment report for a range of projects associated with the Bayswater and Liddell Power Station Sites

To Whom It May Concern,

AGL Energy Limited (AGL) own and operates the 2,740 megawatt (MW) Bayswater power stations (Bayswater) and 2,000 MW Liddell power stations (Liddell), the 50 MW Hunter Valley Gas Turbines and associated ancillary infrastructure systems.

Liddell is approaching its end of life and AGL has publicly announced both an intention to transition towards a low-carbon future and respond to National Energy Market (NEM) and customer requirements.

As such AGL are progressing a range of projects associated with the Bayswater and Liddell Power Station Sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works, consolidation of consents and works associated with the retirement of Liddell and associated infrastructure and re-purposing of the site for future uses.

The Project area is shown in Attachment A and is within the Muswellbrook and Singleton Local Government Areas.

Jacobs, on behalf of AGL is currently drafting an Environmental Impact Statement in accordance with Division 4.7 of the Environmental Planning and Assessment Act 1979 (NSW). Jacobs, on behalf of AGL, is therefore seeking to establish Registered Aboriginal Parties for all upcoming Aboriginal Heritage assessments associated with the AGL landholding.

In accordance with section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), it would be appreciated if your organisation could please provide a list of the names of, or pass this request along to, Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects or Aboriginal places for the proposal within the concept proposal area.

26 August 2020

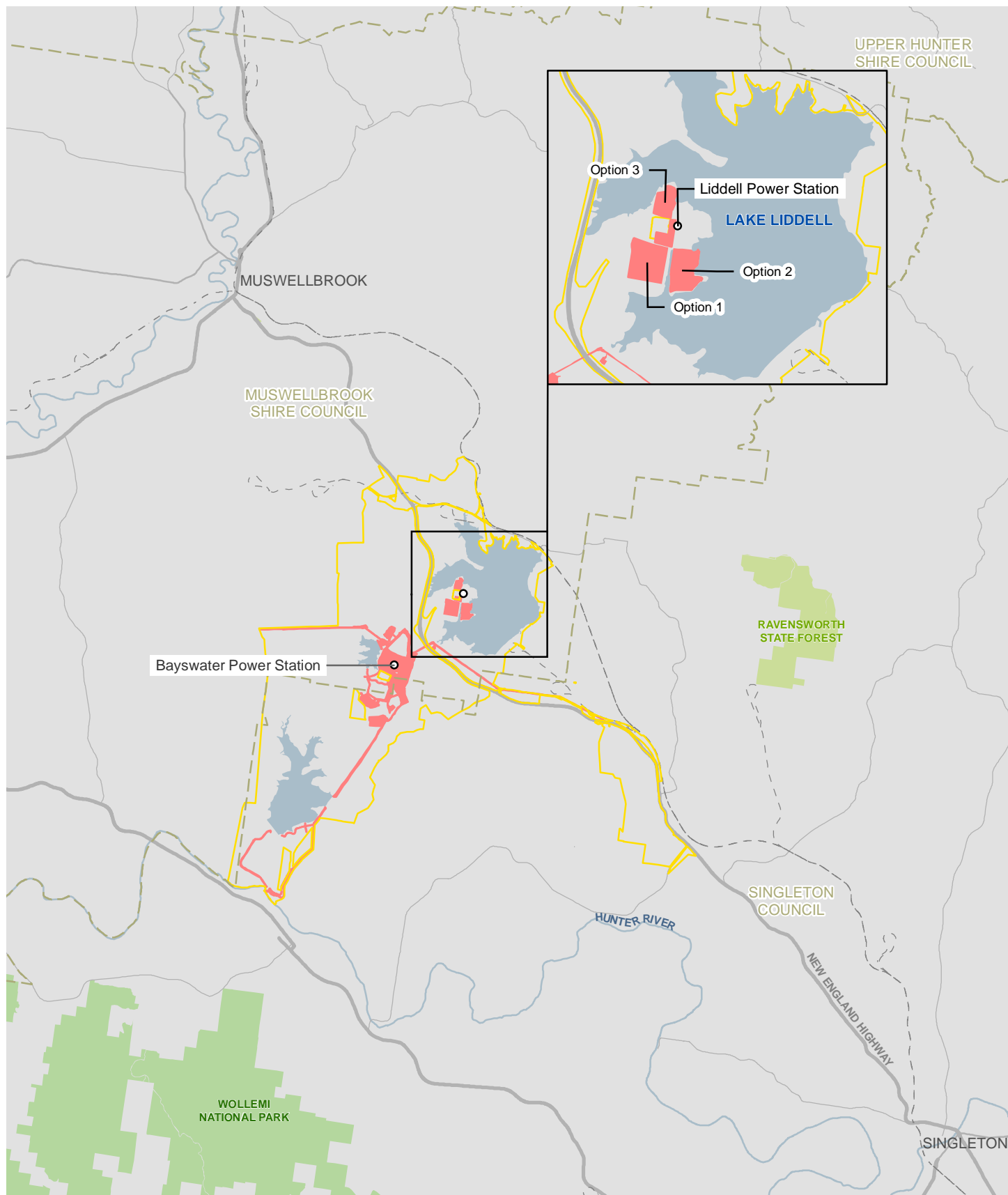
Thank you for your assistance and advice in this matter. If you have any questions or would like to discuss this further, please contact me as per the contact details below:

Clare Leever
Level 7, 177 Pacific Highway, North Sydney NSW 2060
clare.leever@jacobs.com

Yours sincerely,

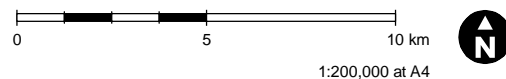


Clare Leever
Project Archaeologist
+61 2 9032 1815
clare.leever@jacobs.com



Legend

- AGL owned land
- Project area
- Railway
- LGA boundary



1:200,000 at A4

Data sources

Jacobs 2020
NSW Spatial Services 2019
AGL 2019
GDA94 MGA56

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Attachment A Locality

Reference: DOC20/702863

Ms Clare Leever
Project Archaeologist
Jacobs Australia Pty Limited
clare.leever@jacobs.com

RE: Request for information on Aboriginal stakeholders for an Aboriginal cultural heritage assessment – Proposed projects associated with Bayswater and Liddell Power Station Sites.

Dear Ms Leever,

Thank you for your letter of 26 August 2020 about Aboriginal cultural heritage consultation for the proposed above matter within the Muswellbrook and Singleton local government area. I appreciate the opportunity to provide input.

Please find enclosed a list of known Aboriginal parties for the Muswellbrook and Singleton local government area (Attachment 1) that we consider likely to have an interest in the proposal. Note this is not an exhaustive list of all interested Aboriginal parties. Receipt of this list does not remove the requirement for a proponent/consultant to advertise the proposal in the local print media and contact other bodies and community groups seeking interested Aboriginal parties, in accordance with the '*Aboriginal cultural heritage consultation requirements for proponents 2010*' (the CRs).

We would also like to take this opportunity to remind the proponent and consultant to ensure that consultation is fair, equitable and transparent. If the Aboriginal parties express concern or are opposed to parts of or the entire project, we expect that evidence will be provided to demonstrate the efforts made to find common ground between the opponents and the proponent.

If you have any questions about this advice, please do not hesitate to contact me via rosalie.neve@environment.nsw.gov.au or 02 6659 8221.

Yours sincerely



Rosalie Neve
Aboriginal Heritage Planning Officer
Aboriginal Cultural Heritage Regulation - Northern
Heritage NSW
Department of Premier and Cabinet

1 September 2020

Lamond, Alison

From: Sharon Pope <Sharon.Pope@muswellbrook.nsw.gov.au>
Sent: Friday, 28 August 2020 4:09 PM
To: Leever, Clare
Subject: [EXTERNAL] RE: Seeking Aboriginal knowledge holders a range of projects associated with the Bayswater and Liddell Power Station Sites

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Clare

The contact details of our recognised Aboriginal Groups in Muswellbrook Shire Council for your information:

Wanaruah Local Aboriginal Land Council
CEO Noel Downs
[REDACTED]

Hunter Valley Aboriginal Corporation
Secretary Aunty Rhonda Griffiths
[REDACTED]

In addition, Tocomwall is a Registered Aboriginal Party, the organisation that acts on behalf of the Plains Clan of the Wonnarua People (PCWP), the Registered Native Title Claimants for the Hunter Valley region. They will need to be involved if any of the land is currently Crown land.

Tocomwall Pty Ltd

Scott Franks
Native Title & Environmental Services Manager
[REDACTED]

Regards

Sharon Pope | Executive Manager Environmental and Planning Services



P: (02) 6549 3868
PO Box 122, Muswellbrook NSW 2333
Sharon.Pope@muswellbrook.nsw.gov.au
www.muswellbrook.nsw.gov.au

From: Leever, Clare <Clare.Leevers@jacobs.com>
Sent: Wednesday, 26 August 2020 2:41 PM
To: Muswellbrook Shire Council <council@muswellbrook.nsw.gov.au>
Subject: Seeking Aboriginal knowledge holders a range of projects associated with the Bayswater and Liddell Power Station Sites

To Whom It May Concern,

AGL Energy Limited (AGL) own and operates the 2,740 megawatt (MW) Bayswater power stations (Bayswater) and 2,000 MW Liddell power stations (Liddell), the 50 MW Hunter Valley Gas Turbines and associated ancillary infrastructure systems in the Muswellbrook and Singleton Local Government Areas.

As such, AGL are progressing a range of projects associated with the power station sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works, consolidation of consents and works associated with the retirement of Liddell and associated infrastructure and re-purposing of the site for future uses.

Jacobs, on behalf of AGL is currently drafting an Environmental Impact Statement in accordance with Division 4.7 of the Environmental Planning and Assessment Act 1979 (NSW). Jacobs, on behalf of AGL, is therefore seeking to establish Registered Aboriginal Parties for all upcoming Aboriginal Heritage assessments associated with the AGL landholding. Please see attached document for details.

In accordance with section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), it would be appreciated if your organisation could please provide a list of the names of, or pass this request along to, Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects or Aboriginal places for the proposal within the concept proposal area.

Thank you for your assistance and advice in this matter. If you have any questions or would like to discuss this further, please don't hesitate to contact me.

Kind regards,
Clare Leever

Clare Leever | [BArch, GradDipArch](#) | Jacobs | Team Leader – Cultural Heritage Eastern
Project Archaeologist & Heritage Consultant | ANZ Environmental Solutions
O: +61.2.9032.1815 | M: +61.431.709.550 | clare.leevers@jacobs.com
Level 6, 177 Pacific Highway | North Sydney, NSW 2060 | Australia

■ *I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future.* ■

I'm a Positive Mental Health Champion. Find out more [here](#) (Jacobs internal only).

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Lamond, Alison

From: Isaac Lancaster <ilancaster@singleton.nsw.gov.au>
Sent: Monday, 7 September 2020 1:23 PM
To: Leever, Clare
Subject: [EXTERNAL] RE: Seeking Aboriginal knowledge holders for a range of projects associated with the Bayswater and Liddell Power Station Sites

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Clare,

Thank you for your email enquiry raised with Council.

Please ensure the 'Wonnarua Nation Aboriginal Corporation' are consulted in relation to the proposals.

I can be contacted via my details below should you need to discuss further.

Regards,



ISAAC LANCASTER
Development Planner

T 02 6578 7290
E ilancaster@singleton.nsw.gov.au
W www.singleton.nsw.gov.au



From: Leever, Clare <Clare.Leevers@jacobs.com>
Sent: Wednesday, 26 August 2020 2:39 PM
To: Singleton, Council <council@singleton.nsw.gov.au>
Subject: Seeking Aboriginal knowledge holders for a range of projects associated with the Bayswater and Liddell Power Station Sites

To Whom It May Concern,

AGL Energy Limited (AGL) own and operates the Bayswater and Liddell power stations, the 50 MW Hunter Valley Gas Turbines and associated ancillary infrastructure systems in the Muswellbrook and Singleton Local Government Areas.

As such, AGL are progressing a range of projects associated with the power station sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works,

consolidation of consents and works associated with the retirement of Liddell and associated infrastructure and re-purposing of the site for future uses.

Jacobs, on behalf of AGL is currently drafting an Environmental Impact Statement in accordance with Division 4.7 of the Environmental Planning and Assessment Act 1979 (NSW). Jacobs, on behalf of AGL, is therefore seeking to establish Registered Aboriginal Parties for all upcoming Aboriginal Heritage assessments associated with the AGL landholding. Please see attached document for details.

In accordance with section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010), it would be appreciated if your organisation could please provide a list of the names of, or pass this request along to, Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects or Aboriginal places for the proposal within the concept proposal area.

Thank you for your assistance and advice in this matter. If you have any questions or would like to discuss this further, please don't hesitate to contact me.

Kind regards,
Clare Leever

Clare Leever | BArch, GradDipArch | Jacobs | Team Leader – Cultural Heritage Eastern
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Level 6, 177 Pacific Highway | North Sydney, NSW 2060 | Australia

■ I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future. ■

I'm a Positive Mental Health Champion. Find out more [here](#) (Jacobs internal only).

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24 September 2020

Attention: [REDACTED]
[REDACTED]

Dear [REDACTED]

Subject: Seeking Aboriginal knowledge holders to assist AGL to prepare a cultural heritage assessment report for a range of projects associated with the Bayswater and Liddell Power Station Sites

AGL Energy Limited (AGL) owns and operates the 2,640 megawatt (MW) Bayswater power stations (Bayswater) and 2,000 MW Liddell power stations (Liddell), the 50 MW Hunter Valley Gas Turbines and associated infrastructure.

AGL has announced the closure of Liddell power station in 2022/23 and Bayswater power station in 2035.

As such AGL is progressing a range of projects associated with the Bayswater and Liddell sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works, consolidation of consents, works associated with the retirement of Liddell and associated infrastructure, and re-purposing of the site for potential future uses.

The Project area is on the New England Highway approximately 16 km south-east of Muswellbrook within the Muswellbrook and Singleton Local Government Areas.

Jacobs, on behalf of AGL is currently drafting an Environmental Impact Statement in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979* (NSW). Other assessments may also be undertaken and AGL's intent is to develop a register of Aboriginal Parties that would be consulted for all upcoming works. The Name and contact details of the proponent are:

AGL Energy Limited

Level 24, 200 George St Sydney NSW 2000

Locked Bag 1837 St Leonards NSW 2065

As per the consultation guidelines, Jacobs, on behalf of AGL is seeking registrations of interest from Aboriginal people who hold cultural knowledge relevant to the Project area. The purpose of consultation with the Aboriginal community is to assist AGL in the preparation of a cultural

heritage assessment report, and to assist in the assessment and approval of the Project by the NSW Minister for Planning and Public Spaces.

Jacobs is also inviting registrations of interest in the process of community consultation from Aboriginal person(s) or groups who hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places at or between Muswellbrook, Howick, Lemington, Liddell and Ravensworth.

Please note that Section 4.1.6 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010) requires the proponent to advise Heritage NSW (formerly Office of Environment and Heritage) and the LALC of Aboriginal people who have registered an interest in the Project. Please advise if you **do not** want your details forwarded to the LALC.

We hope you or your organisation choose to participate in this Project and enclose for your completion a Notice to Register. **These completed forms need to be returned to Jacobs by 5pm Monday 12 October 2020.**

Rob Cooper -AGL Senior Manager Corporate Affairs
C/O Alison Lamond
Level 4, 12 Stewart Avenue, Newcastle West NSW 2302
Alison.lamond@jacobs.com

Thank you for your assistance and advice in this matter. If you have any questions or would like to discuss this further, please contact me as per the contact details below:

Yours sincerely,



Alison Lamond
Project Archaeologist
(+61) 0417 980 800
Alison.lamond@jacobs.com

Tuesday, 10 November 2020

Attention: CEO

Company: Wanaruah Local Aboriginal Land Council

Subject: Notification of Registered Aboriginal Parties - a range of projects associated with the Bayswater and Liddell Power Station Sites

Pursuant to Section 4.1.6 of the Aboriginal Cultural Heritage Consultation Requirements, we are writing to advise you of the steps taken to identify and invite Aboriginal parties with relevant traditional knowledge in this project and to advise you of the outcomes.

The RAPs in the table below have registered as part of this project.

Organisation	Contact Person	Email
Culturally Aware	Tracey Skene	
The Men's Shack Indigenous Corporation	Rod Hickey	
Merrigarn	Shaun Carroll	
Hunters & Collectors	Tania Matthews	
Kamilaroi Yankuntjatjara Working Group	Phil Khan	
A1 indigenous Services	Carolyn Hickey	
AGA Services	Ashley, Gregory & Adam Sampson	
Cacatua Culture Consultants	Donna & George Sampson	
Didge Ngunawal Clan	Paul Boyd & Lilly Carroll	
Divine Diggers Aboriginal Cultural Consultants	Deidre Perkins	
Hunter Traditional Owner	Paulette Ryan	

Company: Heritage NSW - Hunter Central Coast Branch
Dear Steven,

Organisation	Contact Person	Email
Jarban & Mugrebea	Les Atkinson	
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	
Nunawanna Aboriginal Corporation	Colin Ahoy	
Ungooroo Aboriginal Corporation	Alan Paget	
Wallagan Cultural Services	Maree Waugh	
Wattaka Wonnarua CC Service	Des Hickey	
Widescope Indigenous Group	Steven Hickey	
Yarrawalk (A division of Tocomwall Pty Ltd),	Scott Franks	
	Robert Syron	
Upper Hunter Wonnarua Council Inc	Rhonda Perry	
Murra Bidgee Muilangari Aboriginal Corporation	Ryan Johnson & Darleen Johnson-Carroll	
Wanaruah Local Aboriginal Land Council	CEO	

Yours sincerely,



Alison Lamond
Jacobs Group (Australia) Pty Ltd

Tuesday, 10 November 2020

Attention: Steven Cox

Company: Heritage NSW - Hunter Central Coast Branch

Subject: Notification of Registered Aboriginal Parties - a range of projects associated with the Bayswater and Liddell Power Station Sites

Dear Steven,

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The RAPs in the table below have registered as part of this project.

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Upper Hunter Wonnarua Council Inc	Rhonda Perry	
Murra Bidgee Muilangari Aboriginal Corporation	Ryan Johnson & Darleen Johnson-Carroll	
Wanaruah Local Aboriginal Land Council	CEO	

Yours sincerely,



Alison Lamond
Jacobs Group (Australia) Pty Ltd



Liddell Battery and Bayswater Ancillary Works

Aboriginal Cultural Heritage Assessment Project Information and Draft Methodology

2 | 1

October 21, 2020

AGL

AGL

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
1	12/10/2020	Report prepared	Alison Lamond		Oliver Macgregor	16/10/2020
2	21/10/2020	Updated after client review	Alison Lamond		Oliver Macgregor	21/10/2020

Distribution of copies

Revision	Issue approve	Date issued	Issued to	Comments

Liddell Battery and Bayswater Ancillary Works

Project No: IS334000
Document Title: Aboriginal Cultural Heritage Assessment Project Information and Draft Methodology
Document No.: 1
Revision: 2
Date: October 12, 2020
Client Name: AGL
Client No:
Project Manager: Thomas Muddle
Author: Alison Lamond
File Name: IS334000_Liddell and Bayswater Draft Methodology_02

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Appendix A. AHIMS Search Results

Executive Summary

AGL Energy Limited (AGL) own and operates the Bayswater and Liddell power stations south-east of Muswellbrook in the Local Government Areas of Muswellbrook and Singleton.

Jacobs, on behalf of AGL, is currently developing an Environmental Impact Statement (EIS) for the assessment of the Liddell Battery, Decoupling and Bayswater Ancillary Works Project to facilitate the efficient, safe and reliable continuation of electricity generating works, in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979 (NSW)*.

This document presents the proposed method for the assessment of Aboriginal cultural heritage. The information and results of the survey will be documented in an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project.

The features of the Project would include (see Figure 2.1):

- Liddell Battery: A grid connected Battery Energy Storage System with capacity of up to 500 megawatts (MW) and 2 gigawatt hours (GWh)
- Decoupling works: Alternative network connection arrangements for the Liddell 33kV Switching Station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and potential third-party industrial energy users
- Bayswater Ancillary Works: Works associated with Bayswater which may include upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement, expansion or demolition.

The Aboriginal cultural heritage assessment process will involve the following tasks:

- Desktop assessment of what is known about the archaeological resource of the project area and its surrounds from previous research
- Development of a methodology for archaeological survey (this document)
- Survey of the areas proposed to be impacted by the project
- Reporting – an ACHAR will be prepared to the requirements of the *Code of Practice* (DECCW, 2010b), the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011). The report will:
 - Synthesise the results of technical investigations, including the desktop assessment and archaeological survey
 - Include an assessment of the significance of any Aboriginal objects and record any Aboriginal cultural heritage values identified
 - Include an impact assessment and provide management and mitigations measures to inform the EIS and assessment, determination and application of associated conditions of approval by the Department of Planning Infrastructure and Environment.
- Site records on the Aboriginal Heritage Information Management System (AHIMS) database will be updated as necessary.

The field survey will systematically investigate the areas proposed to be impacted by the proposed works.

The survey will investigate the proposed impact areas in full. No sub-sampling of these areas will be employed.

This document is provided to all Registered Aboriginal Parties (RAPs) to invite comments and feedback on the proposed Aboriginal cultural heritage assessment process. RAPs are also invited to provide information on the cultural significance and values of Aboriginal objects and places relevant to the area of proposed works.

1. Introduction

1.1 Background and purpose of this document

AGL Energy Limited (AGL) own and operates the Bayswater and Liddell power stations, Hunter Valley Gas Turbines and associated ancillary infrastructure. Liddell power station (**Liddell**) is approaching its end of life and is scheduled for closure in 2023. Bayswater would continue to be operated through to 2035 to support the transition of the NEM toward net-zero emissions and then is intended to be retired.

Jacobs, on behalf of AGL is currently developing an Environmental Impact Statement (EIS) for the assessment of the Liddell Battery, Decoupling and Bayswater Ancillary Works Project (the Project) to facilitate the efficient, safe and reliable continuation of electricity generating works, in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979 (NSW)*. The Project is located within the Bayswater and Liddell Power Stations on the New England Highway within the Local Government Areas of Muswellbrook and Singleton.

This document presents the proposed method for the assessment of Aboriginal cultural heritage through the archaeological survey of the area of proposed works (hereafter referred to as the 'project area'). The results of this assessment will be presented in an Aboriginal Cultural Heritage Assessment Report (ACHAR).

This proposed methodology has been designed to conform to the requirements of the following advisory documents and guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH, 2011).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act, 1974)* (DECCW, 2010a)

1.2 Objective of community consultation

Consultation provides the Aboriginal community the opportunity to improve assessment results by:

- Sharing relevant information about the cultural significance and values of Aboriginal object(s) and/or place(s).
- Contributing to the assessment of cultural and scientific significance of Aboriginal object(s) and/or place(s).
- Reviewing and commenting on the proposed methods of assessing cultural heritage within the project area (this document).
- Contributing to the development of cultural heritage management options and recommendations for Aboriginal object(s) and/or place(s) within the subject area.
- Commenting and providing feedback on the draft Aboriginal Cultural Heritage Assessment Report (ACHAR) before it is submitted to the relevant government agency.

2. Project information

2.1 The Hunter Valley and the Bayswater Power Station

The Liddell and Bayswater Power Stations are located approximately 20km south of Muswellbrook and to the east and west of the New England Highway. The Project area lies within the Central Lowlands landscape, characterised by undulating low hills, ranging in elevation from 140m - 330m.

2.2 What is being proposed

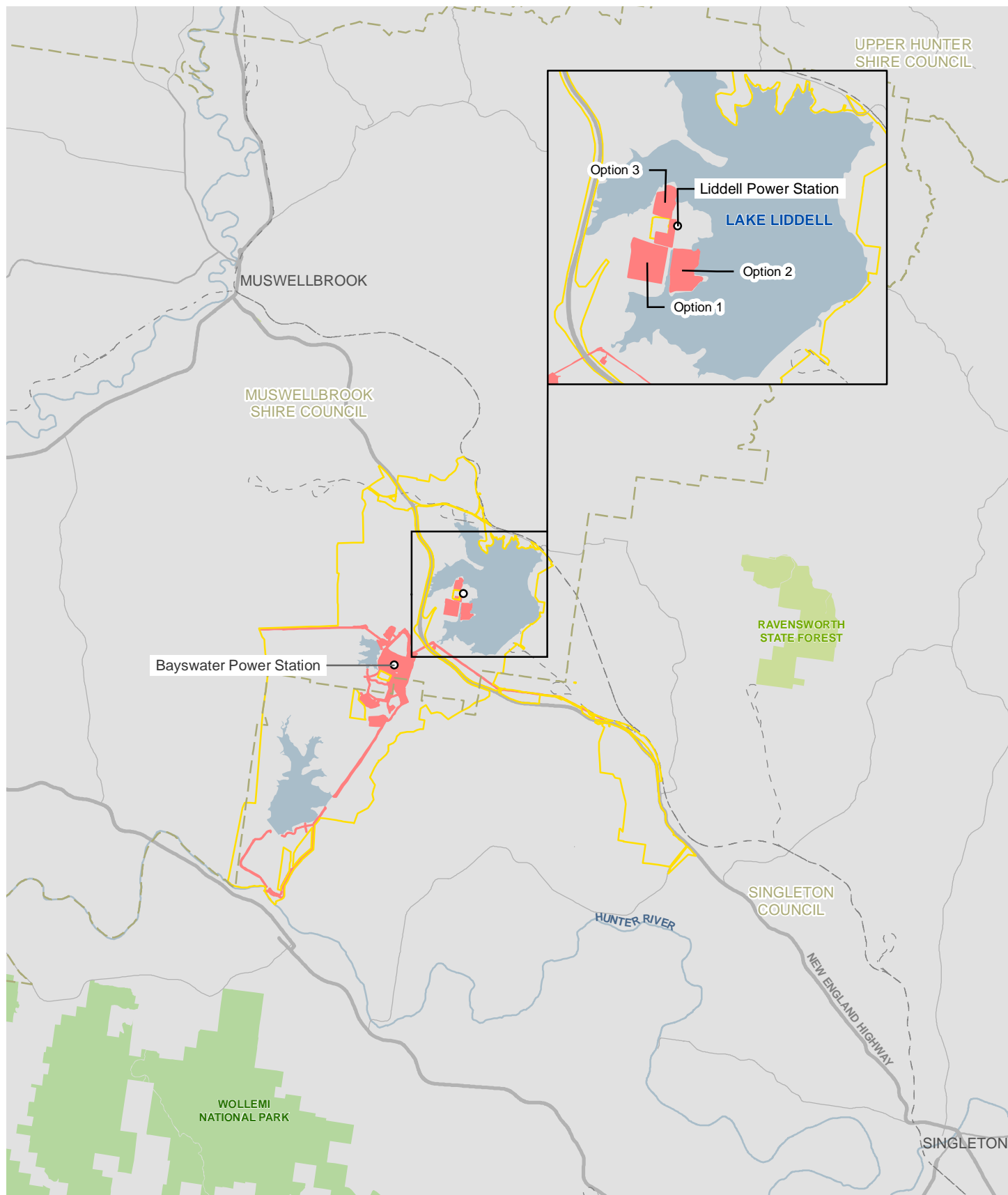
- The construction and operation of a Battery Energy Storage System
- Works to decouple Liddell and Bayswater power stations
- Works to facilitate the improved safety, reliability, efficiency and environmental performance of Bayswater including the ongoing operation, maintenance, upgrade, expansion and removal of existing ancillary infrastructure

The assessment does not seek approval for changes to how Bayswater is operated in relation to electricity generation and no increase in coal consumption, emissions or ash generation is proposed. The assessment is intended to cover currently anticipated capital works at Bayswater until closure. Additional works including the closure and rehabilitation of Bayswater are likely to be required but sufficient detail is yet to be developed to facilitate impact assessment. Approval of these additional works is intended to be sought through application to modify the development consent as details becomes available.

Project summary

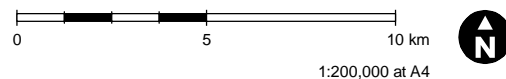
The project would consist of the following:

- Liddell Battery: A grid connected Battery Energy Storage System with capacity of up to 500 megawatts (MW) and 2 gigawatt hours (GWh)
- Decoupling works: Alternative network connection arrangements for the Liddell 33kV Switching Station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and potential third-party industrial energy users
- Bayswater Ancillary Works: Works associated with Bayswater which may include upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement, expansion or demolition



Legend

- AGL owned land
- Project area
- Railway
- LGA boundary



Data sources

Jacobs 2020
NSW Spatial Services 2019
AGL 2019
GDA94 MGA56

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Figure 2 - 1 Locality

3. Existing cultural heritage knowledge

3.1 Aboriginal Context

The Hunter River system, about 160km north of Sydney, contains many fertile and well-watered valleys. Aboriginal people were documented living in the Hunter Valley by Europeans who first visited and settled in the area (Gunson, 1974). The Hunter Valley was first described in writing by Sir Thomas Mitchell in 1831 who defined it as “being park-like” with light forest and grassy glades, populated by many different animals such as marsupials, birds and rivers full of shellfish and fish (Mitchell, 1839). The area contained many species of edible nuts, wild grains and berries. Today the native animal and plant communities within the project area are extensively modified as a result of European land use practices and introduced species.

The Hunter Valley contains a range of ecological zones within a relatively small area. Major rivers and smaller watercourses would have provided relatively easy access to fresh water across most of the region. Ecological communities would have varied considerably from low lying watered areas around rivers and streams, to open and forested areas on valley floors, hills and mountainous regions bordering the valley to the north, south and west. The area would likely have supported a large population of Aboriginal people.

The impact of disease and violence on Aboriginal populations unfortunately makes it difficult to estimate the size of the pre-contact population. The overall number of different Aboriginal groups and the location of their territorial boundaries were severely affected by a smallpox epidemic beginning in or before 1789. Soon after European arrival in Sydney, the arrival of smallpox in the local Aboriginal population was recorded. Despite the coincidence of these two events, it is now known that smallpox had originally been contracted by Aboriginal people living in Arnhem Land, who caught the disease from fishermen from Southeast Asia (Butlin, 1985; Campbell, 2002; Macknight, 1986). The disease had spread across the continent to arrive on the east coast.

Mortality rates from the epidemic are difficult to measure precisely, but are likely to have been around 80 percent (Butlin, 1983). Mortality could plausibly have been as high as 98 percent based on observations of smallpox’s effects on previously unexposed populations in other continents (Hiscock, 2008: 14). The epidemic resulted in movements of people across the landscape, and possibly the disappearance of some previously existing groups. In Sydney, Governor Arthur Phillip recorded that many Aboriginal people migrated inland, away from the settlement, in an attempt to escape the disease (Phillip, 1789). Lieutenant-Governor David Collins recorded a group that had been reduced to three survivors negotiating to merge with another group, and also observed a group that had been reduced to a single survivor (Collins, 1798).

The impact of the smallpox epidemic on the distribution of Aboriginal groups across the landscape is likely to have been severe. Hiscock (2008: 14) sums up the effect of smallpox by stating it would have “altered the operation of Aboriginal life”. This alteration resulted from the reduction in population and other effects flowing on from this. The possible disappearance of some groups through mortality and group mergers, the mass migration of people fleeing the disease, the depopulation of areas, and the incursion of groups into abandoned or depopulated lands, would have substantially altered the social landscape of Aboriginal groups that had existed prior to the epidemic. The tribal boundaries mapped by European researchers after contact are those of a population that had survived the epidemic (and further epidemics that followed) and had adapted their occupation of the landscape in response to it.

Violence toward Aboriginal populations from European settlers would probably have had effects similar to disease. The impact of violence on Aboriginal groups and the operation of Aboriginal society would have been substantial. Conflict with European settlement would have altered the ways in which Aboriginal society functioned, compared with the pre-contact period. As with disease, conflict caused Aboriginal groups to move off land they had

previously occupied, to give up sources of food and other resources that they had previously utilized, and to alter their use of the landscape to avoid the risk of encountering European settlers. Conflict, like disease, would have drastically altered the distribution of Aboriginal groups across the landscape. The areas occupied by groups before European contact, and the overall number of groups, is likely to have differed from the picture we have from post-contact historical records.

Although disease and violence had substantial effects on the demographics of Aboriginal groups, its effects on Aboriginal cultural practises are impossible to estimate. It is important to note that these processes did not extinguish Aboriginal culture. Aboriginal traditional knowledge and elements of pre-contact Aboriginal culture, both tangible and intangible, survive today.

Records from the early nineteenth century describe Aboriginal communities living in the Hunter Valley and a textual source dated April 1825 stated that in the lower Goulburn although no Aboriginal had been seen there were found “their recent mark on the Trees and fired country” (Moore, 1969, p. 20). David R. Moore, Curator of Anthropology of the Australian Museum in 1969, described the Aboriginal groups who lived in the Hunter Valley. He wrote that at the time of the first European arrival the Hunter Valley territory was divided between many Aboriginal communities, such as:

- The Geawegal in the upper Hunter from the Mount Royal Range to Muswellbrook;
- The Wonarua from the middle Hunter down to Maitland;
- The Gaddhng from the Hunter estuary and Port Stephens;
- The Gamilaroi to the north and the Wirandhuri to the south of the upper Goulburn;
- The Awabakal around Lake Macquarie (south of the Hunter Valley);
- The Darginung on the northern side of the Hawkesbury (Moore, 1969).

Moore’s description is consistent with Tindale’s later mapping of Aboriginal groups, the only point of difference being that Tindale depicts the Worimi group covering an area along the coast from the Hunter estuary to Wallis Lake (Horton, 1996; Tindale, 1974). The groups identified by Tindale, and by earlier European researchers, are generally language groups. Finer-grained groupings almost certainly existed within these language groups. It should be noted also that various alternative spellings exist for the groups listed above.

In 1965 the first systematic archaeological survey of the Hunter and Goulburn Valley was undertaken by the Australian Museum and by July 1984 the National Parks and Wildlife Service (NPWS) site register contained records of 1.650 archaeological sites in the Hunter Region, revealing the high heritage value of this area (Moore, 1969).

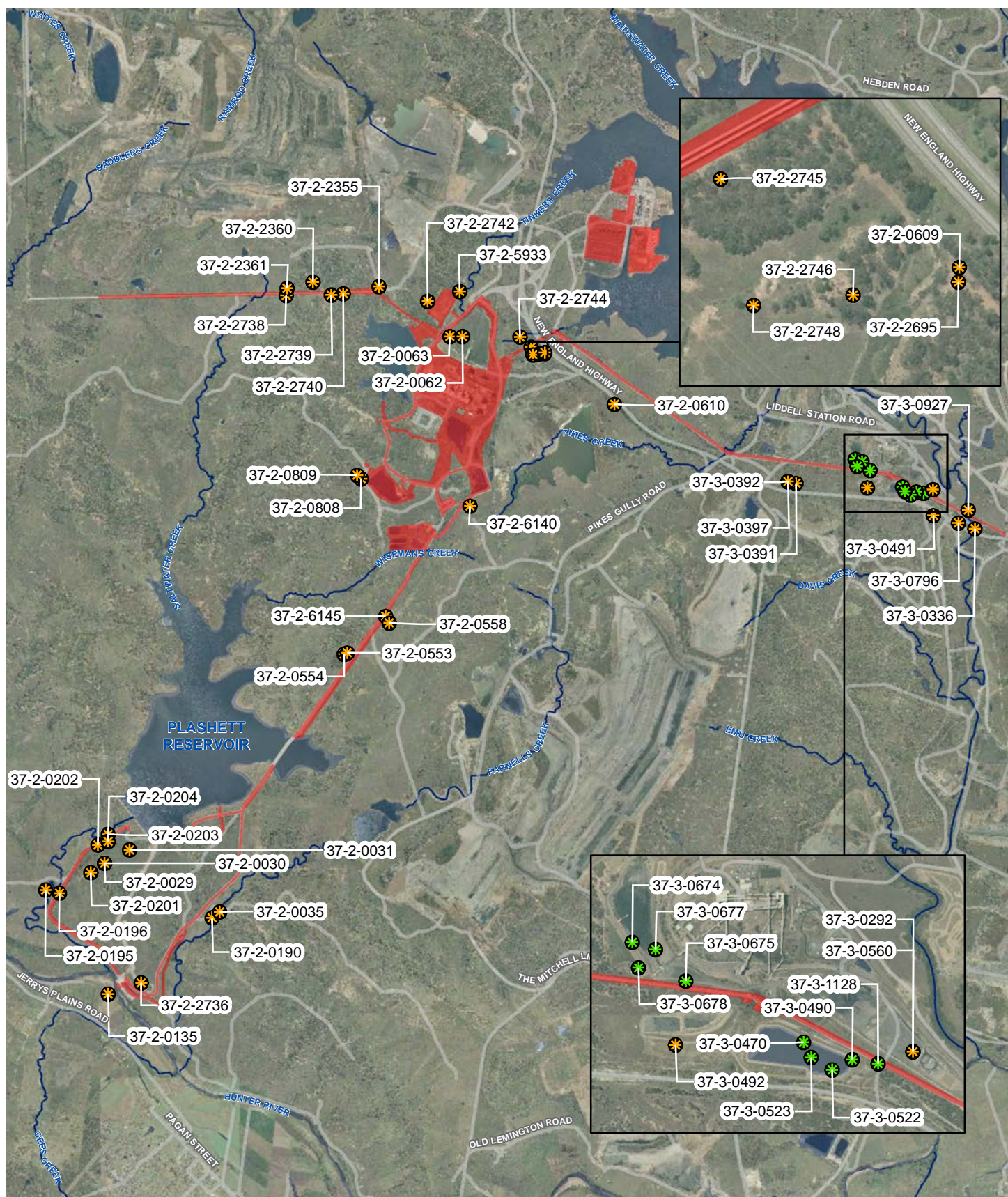
Surface distributions of stone artefacts, variously referred to as artefact scatters, open sites, and open camp sites, are by far the most common and widely distributed form of Aboriginal archaeological site in the Hunter Valley. Flaked stone artefacts dominate the archaeological assemblages of this area and, in the majority of cases, these were recorded on open artefact sites. Grindstones, charcoal, animal bone, shell and ochre both entire or fragmentary have also been recorded (AECOM, 2013). Other types of Aboriginal sites present in the region include scarred trees, shell middens, quarries, grinding grooves, burials and rock shelters (see Section 3.3).

3.2 Aboriginal Heritage Information Management System (AHIMS) searches

Alison Lamond (Senior archaeologist, Jacobs) carried out a search of the Aboriginal Heritage Information Management System (AHIMS) on 13 October 2020. The footprint of the Project area and a 200m buffer zone was used as the search area.

Seventeen previously recorded sites are present in proximity to or within the project area, two of which are recorded as being destroyed. All sites are artefact scatters on open ground one artefact scatter also includes potential archaeological deposit.

The list of AHIMS site records is provided in **Appendix A. Figure 3.1** overleaf shows the location and extent of Aboriginal sites listed on the AHIMS within and in proximity to the project area.



3.3 Previous archaeological assessments in the project area and surrounding region

One of the first archaeological investigations of the project area was carried out between 1976-1979 as part of the Mt. Arthur Project. Associate Professor L.K. Dyll from Newcastle University surveyed three mining sites with the intent of discovering Aboriginal artefacts. He found artefacts in three small areas of open ground (The Electricity Commission of New South Wales, 1979).

In 1979, the electricity commission of New South Wales in relation to the Bayswater Power Station project concluded that the only Aboriginal sites within the area were located within the Saltwater Creek reservoir area. It recommended salvage of these Aboriginal heritages before the area was flooded (The Electricity Commission of New South Wales, 1979).

Dyll (1980) carried out a survey immediately south of the Bayswater Colliery, recording three sites on the banks of Saddler's creek. The sites were scatters of flaked stone artefacts, including cores and backed artefacts. The artefacts were made from chert, rhyolite and quartz.

Dyll (1981a) carried out a survey immediately south of Mount Arthur, recording 24 open sites along Saltwater and Saddlers Creeks. The sites were stone artefact scatters, two of which contained more than 500 artefacts. Artefacts recorded included backed artefacts, ground stone axes, choppers and grindstones.

Dyll (1981b) reviewed all Aboriginal sites recorded during surveys of the Mount Arthur Coal Lease area. This report records a number of sites along the banks of Saltwater creek. One scatter of stone artefacts recorded covered more than one acre, extending up to 100m back from the creek bank. The report also records 27 axe grinding grooves on a sandstone shelf. The great majority of sites recorded are open artefact scatters and are located adjacent to the creek.

Hughes (1981) carried out a survey of a proposed extension to the Bayswater Colliery, recording nine Aboriginal sites. The sites were open artefact scatters, six of which are located on creek lines.

In 1992 Pacific Power carried out a survey of a proposed slurry pipeline and water storage pond within the Bayswater Ash Disposal Project. The area was assessed as being highly modified by European settlement and Aboriginal sites were likely to have been disturbed or destroyed (Pacific Power, 1992). Six sites were identified: five artefact scatters and one isolated artefact. The number of artefacts found per site varied from 2 to greater than 200. These sites were identified as outside the proposed area of impact. Avoidance and protection were recommended. Subsequent test excavation in the area of the proposed work identified an absence of artefacts in subsurface deposits.

In 1993 an environmental impact assessment of the Bayswater Power Station was undertaken as part of the Fly Ash Disposal in Ravensworth No.2 Mine Void and Mine Rehabilitation project. As part of the assessment an examination of Heritage registers and field examination was performed. The research showed no European heritage items along the transport corridor and two Aboriginal open artefacts scatter sites and an isolated Aboriginal artefact (Pacific Power, 1993).

Umwelt Australia (1997) carried out a survey of three areas of the southern section of the Bayswater No. 3 mining lease. These areas included a coal processing plant, haul road and mine access road, overland conveyer and stockpile area. The survey recorded 36 sites comprising 28 open artefact scatters and eight isolated artefacts. The majority of sites were located adjacent to watercourses, namely Saddlers Creek and its tributaries. Sites were located on the watercourses' banks, as well as on elevated ground such as upper slopes and ridge tops adjacent to the watercourses. Artefacts included retouched flakes and cores, and one hammerstone.

In 2007 an assessment of the Bayswater Power Station was undertaken as part of the Bayswater Power Station River Intake Project. During the survey an isolated mudstone flake was identified. Due to the lack of further sites in the project area, it was inferred that extensive levels of past disturbance had impacted and destroyed sites in the area (McCardle Cultural Heritage Pty Ltd, 2007).

An archaeological assessment of the Bayswater and Liddell Power Generation complex was carried out in 2009, recording 47 Aboriginal sites. All sites were open artefact scatters and isolated artefacts. The number of artefacts per scatter varied from 11 up to 250 with the majority of sites (n.36) containing fewer than 10 artefacts. It was noted that flat areas associated with Saltwater Creek and its tributaries contained surface sites and potential for associated PAD and that elevated landforms and hillslopes were landforms with low archaeological sensitivity (AECOM, 2009).

In 2017 a survey was undertaken as part of the Aboriginal due diligence assessment for the Bayswater Ash Dam Overland Water Pipeline. The survey recorded ground Surface Visibility (GSV) within the project area between 31-50%. No surface artefacts were identified during this inspection. A search of the AHIMS, covering an area approximately 17.8km by 13.5km identified a total of 102 sites outside the pipeline's footprint. These 102 sites included artefact scatters (n.78), isolated artefacts (n.15), sites destroyed under the condition of an AHIP (n.8) and a single modified tree. The majority of sites consist of artefacts identified on exposed ground surfaces. From these results it was concluded that the area did not contain areas of subsurface potential, and that this was probably due to erosion and past disturbance (AECOM, 2017).

A preliminary Aboriginal heritage assessment for proposed electrical works modifications at the Bayswater Brine Concentrator Decant Basin (BCDB) was carried out in 2018 and as part of the assessment a search of the AHIMS database was completed. This search identified 113 Aboriginal archaeological sites (two sites were classified as "destroyed") (AECOM, 2018).

An Aboriginal cultural heritage assessment for the Water and Other Associated Operational Works project at the Baywater Power station was carried out in 2019. This assessment identified through survey a further 23 Aboriginal heritage sites including isolated artefacts, artefact scatters, PAD, and artefact scatters with associated PAD (Jacobs, 2019). Test excavations and further investigations of these sites is currently underway.

These assessments demonstrate that the area has been subject to past disturbance, particularly during the post-contact period, which has probably impacted the Aboriginal heritage of the area and reduced the overall number of sites. Previous assessments suggest also that Aboriginal sites are most likely to occur in flat areas associated with water sources and that their number is expected to be higher in areas near permanent water sources. Elevated areas away from watercourses, and slopes are expected to contain fewer Aboriginal sites. These results feed into the predictive model outlined in the following section.

3.4 Predictive model

The following predictive model is used to identify areas of archaeological sensitivity. The model is based on a 'land system' or 'archaeological landscape' model of site location. This type of model predicts site location based on known patterns of site distribution in similar landscape regions.

The predictive model is based on:

- A review of previous models developed for the project area.
- An assessment of the results of the previous archaeological assessments reviewed in Section 3.3.
- The interpretation of the distribution patterns of known sites close to the project area.

- A study of previous impacts to the project area and the potential effects of these impacts on the archaeological record.

The following specific predictive points are noted for the landscape the project sits within:

- Elevated landforms adjacent to watercourses have high archaeological potential. Existing archaeological data for the Hunter Valley indicate a strong trend for the presence of open sites along watercourses, specifically, on creek banks and 'flats' (i.e. flood/drainage plains), terraces and bordering slopes.
- Landforms adjacent to permanent watercourses have a higher archaeological potential than those adjacent to ephemeral watercourses.
- The most common site type will be surface and sub-surface scatters of stone artefacts.
- Other site types that may present in the landscape are quarries, grinding grooves and scarred trees.
- The most commonly occurring material will be indurated mudstone/silicified tuff followed by silcrete. Other materials such as chert and quartz are also likely to be present.
- Where present, sub-surface archaeological deposits are most likely to be within 200 m of a water source (river or creek).
- Ridgelines and hills will have a lower density of sites than basal slopes and valley floors.
- Within the road corridor surface and sub-surface deposits are likely to be heavily disturbed and may contain areas of imported fill.

A number of post-depositional processes can result in disturbance or destruction of archaeological sites. Identifying areas of high disturbance is an important factor in the predictive model. Disturbance can alter the patterns of site location expected from the points above. The following general predictive points relate to the effects of site disturbance:

- Landforms adjacent to watercourses and which have been subject to frequent or high-energy flooding events will have reduced archaeological potential.
- Steep hillslopes have reduced archaeological potential, as sites will be more likely to have been displaced by downslope movement and surface erosion.
- European land-use practises can have a range of impacts to sites. Road corridors will have low archaeological potential, particularly if heavily graded or capped with imported material. Areas that have been excavated, inundated by dammed watercourses, or buried under fill or stockpiled materials will have low archaeological potential.

Many post-depositional processes result in the movement of artefacts away from their original location and context, without resulting in damage or destruction to the artefacts themselves. Some post-depositional processes will result in the destruction of some, but not all, artefacts within a site. Only severe impacts will destroy or remove all Aboriginal objects from a landform. Factoring post-depositional disturbance into the assessment of a landform's archaeological potential should consequently take a precautionary approach. A landform should be assumed to retain archaeological potential unless there is compelling evidence for severe disturbance that can be confidently inferred to have removed all sites from the landform.

4. Proposed methodology for the cultural heritage assessment

4.1 Aboriginal Cultural Heritage Assessment

The Aboriginal cultural heritage assessment will involve the following tasks:

- Desktop assessment of what is known about the archaeological resource of the project area and its surrounds from previous research.
- Development of a method for archaeological survey (this document).
- Survey of the areas proposed to be impacted by the project.
- Reporting – an ACHAR will be prepared. The report will satisfy the requirements of the *Code of Practice* (DECCW, 2010b), the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011). The report will:
 - Synthesise the results of technical investigations, including the desktop assessment and archaeological survey
 - Include an assessment of the significance of any Aboriginal objects and record any Aboriginal cultural heritage values identified
 - Include an impact assessment and provide management and mitigations measures to inform any AHIP application as required.
- Each report will be reviewed by RAPs. Information, comments and feedback received from RAPs will be incorporated into the final version of the report.
- Site records on the AHIMS database will be updated as necessary.

4.2 Aboriginal community input points during the assessment process

Input and feedback can be provided by RAPs at any time throughout the assessment process. Jacobs will specifically seek input and feedback from RAPs at several points during the process (following procedures outlined in DECCW, 2010a):

- During Stage 2 – Initial presentation of information about the proposed project.
- During Stage 3 - Providing RAPs with the draft proposed methodology (this document). RAPs are invited to provide feedback on the proposed methodology, and to identify cultural heritage values associated with the project area.
- During fieldwork.
- During Stage 4 - Providing RAPs with the draft Aboriginal Cultural Heritage Assessment Report. RAPs will be invited to provide feedback on the report, and any further information they wish to be included.

4.3 Archaeological Field Survey

The field survey will systematically investigate the areas proposed to be impacted by the project.

The survey will be carried out on foot by a team of archaeologists and Aboriginal representatives.

The survey will investigate the proposed impact areas in full. No sub-sampling of these areas will be employed. Areas that are assessed by field teams as having no potential for archaeological material to be present, for example

because of previous impacts and ground disturbance, will not be surveyed. The decision to exclude areas in this way will be made in the field, through a consensus of all field team members.

The ground survey team will consist of two archaeologists as well as Aboriginal representatives. The field survey is aimed at locating Aboriginal objects and areas of Potential Archaeological Deposit (PAD) with the potential to contain subsurface archaeological material.

Where archaeological sites or areas of PAD are encountered, the following attributes will be recorded:

- Site location (single point for isolated artefacts, or as a boundary drawn around larger sites such as artefact scatters);
- Site type;
- Landform context;
- Vegetation type;
- Land use;
- Categories of features and artefacts present on the site;
- Orientation/aspect of the site;
- Observations on individual stone artefacts: stone material type; artefact type; platform surface; platform type; termination type; cross-section category; length, width and thickness in millimetres;
- Observations on modified trees: living status of tree; condition of tree; condition of scar; tree species; length and width of scar; height above ground; presence of regrowth; depth of scar (height of regrowth); shape of scar; orientation of scar; presence/absence of axe marks;
- Observations of other specific site types (grinding groove, art, shell scatter, closed site) following the requirements of OEH site recording forms;
- Photographs of the site and individual site features/artefacts will be taken as judged necessary by the field team;
- Any other comments or information as judged relevant by the field team.

Any previously recorded sites within the footprint of the project (including previously recorded sites in areas sufficiently close to the project area to be at risk of inadvertent impact) will be searched for during the survey. If found, these sites will be recorded following the same procedure as newly identified sites. If survey teams are unable to find previously recorded sites, this will be noted in the report.

The survey will also record land disturbance, survey coverage variables (ground exposure and archaeological visibility) and landform types across the project area.

Data will be captured using iPad notebooks, handheld GPS, and compact digital camera. Standard measuring tools such as tape measures and callipers will be used.

4.4 Survey logistics and requirements for Aboriginal participants

At least five days prior to fieldwork, Jacobs will contact RAPs with details of fieldwork schedule, including meeting location, start and finish times, and expected fieldwork duration. Details of relevant inductions and safety regulations applying to the areas of the Liddell and Bayswater site being accessed will also be communicated to RAPs at that time.

We note that due to the Covid-19 pandemic and associated government guidelines the procedure for undertaking archaeological site surveys to ensure the health and safety of all officers will be applied. Current restrictions and safety concerns require the implementation of a range of safety measures to limit the risk of COVID-19 transmission.

4.5 Sensitive cultural information management protocol

RAPs have the opportunity to provide Jacobs with information on the project area and the surrounding region, including information on cultural heritage values. Information will be accepted at any point during the cultural heritage assessment process prior to the finalisation of the ACHAR (see section 4.2).

It is possible that during this consultation process, RAPs will provide sensitive cultural information to which access needs to be restricted.

In the event that such information is supplied, the RAP supplying the information should state to Jacobs how they wish that information to be treated, and how access to the information should be restricted.

Jacobs will follow the stated wishes provided by the RAP group in question when managing and using the information provided to Jacobs. All stated restrictions of access, communication and publication of the information will be followed. These might include:

- Restrictions on reproducing the information (in whole or in part) in reports
- Restrictions on reproducing the information in reports provided to different audiences (for example, the version provided to the client, the version provided to OEH and the AHIMS database)
- Restrictions on communication of the information in other ways
- Restrictions on the location/storage of the information
- Other required processes relating to handling the information
- Any names and contact details of persons authorised within the relevant Aboriginal group to make decisions concerning the information, and their degree of authorisation.
- Any details of any consent given in accordance with customary law
- Any restrictions on access to and use of the information by RAPs.

Please consider the above list when providing your statement of requirements regarding any culturally sensitive information.

4.6 Contact details

For more information and to discuss this project, please do not hesitate to contact:

Alison Lamond

Senior Archaeologist

Jacobs

Level 4, 12 Stewart Avenue, Newcastle West, NSW 2302.

Alison.lamond@jacobs.com

0417 980 800

5. References

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Appendix A. AHIMS Search Results

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0397	Carrington Mines CM 44, same as 37-3-0392	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	ASRSYS					Permits		
37-3-0391	Carrington Mine CM 43	AGD	56	312022	6412566	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Mrs.Angela Besant					Permits		
37-3-0392	Carrington Mine CM 44, same as 37-3-0397	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	103364
	Contact	Recorders	Mrs.Angela Besant					Permits		
37-2-0609	Ravensworth Open Cut;BAD 1;	AGD	56	308400	6414450	Open site	Valid	Artefact : -	Open Camp Site	2688,4525
	Contact	Recorders	Doctor.Susan McIntyre-Tamwoy					Permits		
37-2-0610	Ravensworth Open Cut;BAD 2;	AGD	56	309400	6413700	Open site	Valid	Artefact : -	Open Camp Site	2688,4525
	Contact	Recorders	Doctor.Susan McIntyre-Tamwoy					Permits		
37-3-0336	Rail Facility 1	AGD	56	314600	6411910	Open site	Valid	Artefact : -	Open Camp Site	103364
	Contact	Recorders	Mr.Matthew Barber					Permits		
37-2-0808	P13;	AGD	56	305750	6412630	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	David Bell,Doctor.Jo McDonald					Permits		
37-2-0554	P7;Plashette;	AGD	56	305500	6410100	Open site	Valid	Artefact : -	Open Camp Site	2238
	Contact	Recorders	Margrit Koettig					Permits		
37-2-0558	P11;Plashette;	AGD	56	306150	6410550	Open site	Valid	Artefact : -	Open Camp Site	2238
	Contact	Recorders	Margrit Koettig					Permits		
37-2-0809	P14;	AGD	56	305690	6412680	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	David Bell,Doctor.Jo McDonald					Permits		
37-2-0190	Ponds Creek;	AGD	56	303600	6406300	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0195	Saltwater Creek;No.1;	AGD	56	301200	6406700	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0201	Saltwater Creek;No.7;	AGD	56	301850	6406950	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0202	Saltwater Creek;No.9;	AGD	56	301950	6407350	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0203	Saltwater Creek;No.10;	AGD	56	302100	6407500	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0204	Saltwater Creek;No.11;	AGD	56	302100	6407400	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0029	Saltwater Creek;	AGD	56	302047	6407085	Open site	Valid	Artefact : -	Open Camp Site	310
	Contact	Recorders	ASRSYS					Permits		

Report generated by AHIMS Web Service on 13/10/2020 for Alison Lamond for the following area at Search using shape-file IS334000_SearchAreaAHIMS_20201013_v2.SHP with a buffer of 0 meters. Additional Info : ACHAR. Number of Aboriginal sites and Aboriginal objects found is 56

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-2-0030	Saltwater Creek;Saltwater Creek West Bank; Contact	AGD	56	302047	6407085	Open site	Valid	Artefact : - Permits	Open Camp Site	310
37-2-0031	Saltwater Creek; Contact	AGD	56	302410	6407275	Open site	Valid	Grinding Groove : - Permits	Axe Grinding Groove	310
37-2-0035	Ponds Creek;Parnell's Creek; Contact	AGD	56	303707	6406385	Open site	Valid	Artefact : - Permits	Open Camp Site	310
37-2-0135	Jerry's Plains; Contact	AGD	56	302100	6405200	Open site	Valid	Burial : - Permits	Burial/s	313
37-2-0063	Liddell;Tinkers Creek; Contact	AGD	56	307027	6414679	Open site	Valid	Artefact : - Permits	Open Camp Site	4525
37-2-5933	BA-IA1-19 Contact	GDA	56	307170	6415342	Open site	Valid	Artefact : - Permits		
37-3-0490	NARDELL -N1 Contact	AGD	56	313754	6412440	Open site	Destroyed	Artefact : - Permits		
37-3-0491	NARDELL N2 Contact	AGD	56	314000	6412100	Open site	Valid	Artefact : - Permits		103364
37-3-0492	NARDELL N4 Contact	AGD	56	313050	6412500	Open site	Valid	Artefact : - Permits		103364
37-3-0470	Nard 13 Contact	AGD	56	313560	6412510	Open site	Destroyed	Artefact : - Permits	1362,1363	
37-3-0560	Nard 8, same as 37-3-0292 Contact	GDA	56	313998	6412486	Open site	Valid	Artefact : - Permits		
37-3-0522	Nard 11 Contact	AGD	56	313675	6412400	Open site	Destroyed	Artefact : - Permits	1414	
37-3-0523	Nard 12 Contact	AGD	56	313590	6412450	Open site	Destroyed	Artefact : - Permits	1414	
37-2-0553	P6;Plashette; Contact	AGD	56	305550	6410120	Open site	Valid	Artefact : - Permits	Open Camp Site	2238
37-2-2740	Liddell EW 4 Contact	GDA	56	305491	6415308	Open site	Valid	Artefact : 1 Permits		101420
37-2-2742	Liddell EW 6 Contact	GDA	56	306707	6415201	Open site	Valid	Artefact : 2 Permits		101420
37-2-2744	Liddell EW 8 Contact	GDA	56	308036	6414684	Open site	Valid	Artefact : 2 Permits		101420

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-2-2745	Liddell EW 9	GDA	56	308197	6414538	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-2-2738	Liddell EW 2	GDA	56	304665	6415282	Open site	Valid	Artefact : 2		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-2-2739	Liddell EW 3	GDA	56	305315	6415291	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-2-2746	Liddell EW 10	GDA	56	308310	6414439	Open site	Valid	Artefact : 3		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-2-2748	Liddell EW 12	GDA	56	308225	6414430	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-3-0796	Liddell EW 13	GDA	56	314359	6412006	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>		Insite Heritage Pty Ltd				<u>Permits</u>		
37-3-0674	Newpac Stockpile OS 1	GDA	56	312877	6412922	Open site	Destroyed	Artefact : 2		99846
	<u>Contact</u> Searle	<u>Recorders</u>		Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag				<u>Permits</u> 2385		
37-3-0675	Newpac Stockpile OS 2	GDA	56	313091	6412766	Open site	Destroyed	Artefact : 4		99846
	<u>Contact</u> Searle	<u>Recorders</u>		Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag				<u>Permits</u> 2385		
37-3-0677	Newpac Stockpile IF 2	GDA	56	312971	6412892	Open site	Destroyed	Artefact : 1		99846
	<u>Contact</u> Searle	<u>Recorders</u>		Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag				<u>Permits</u> 2385		
37-3-0678	Newpac Stockpile IF 3	GDA	56	312903	6412819	Open site	Destroyed	Artefact : 1		99846
	<u>Contact</u> S Scanlon	<u>Recorders</u>		Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag				<u>Permits</u> 2385		
37-2-2355	Delpah D15	GDA	56	306003	6415415	Open site	Valid	Artefact : -		
	<u>Contact</u> Searle	<u>Recorders</u>		Mr.Giles (dup ID#12832) Hamm				<u>Permits</u>		
37-2-2360	Delpah D20	GDA	56	305054	6415475	Open site	Valid	Artefact : -		
	<u>Contact</u> Searle	<u>Recorders</u>		Mr.Giles (dup ID#12832) Hamm				<u>Permits</u>		
37-2-2361	Delpah D21	GDA	56	304680	6415390	Open site	Valid	Artefact : -		102616
	<u>Contact</u> Searle	<u>Recorders</u>		Mr.Giles (dup ID#12832) Hamm				<u>Permits</u>		
37-2-0196	Saltwater Creek;No.2;	AGD	56	301400	6406650	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Unknown Author				<u>Permits</u>		
37-2-0062	Tinkers Creek;Liddell;	AGD	56	307210	6414682	Open site	Valid	Artefact : -	Open Camp Site	4525
	<u>Contact</u>	<u>Recorders</u>		ASRSYS				<u>Permits</u>		
37-2-2695	B.A.D 1 (Jerrys Plains)	GDA	56	308400	6414450	Open site	Valid	Artefact : -		2683
	<u>Contact</u>	<u>Recorders</u>		Doctor.Susan McIntyre-Tamwoy				<u>Permits</u>		
37-2-2736	Maggen Pump Station	GDA	56	302579	6405370	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : 1		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Mr.Rick Bullers							
37-3-1128	REA256	GDA	56	313859	6412438	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited - Individual users,Ms.Alison Lamond							
37-3-0292	Nard 8; same as 37-3-0560	GDA	56	313998	6412486	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart,OzArk Environmental and Heritage Management,Miss.Stephanie Rusder							
37-3-0927	REA3	GDA	56	314506	6412193	Open site	Valid	Artefact : -		103364
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited - Individual users							
37-2-6140	BAYS AS09	GDA	56	307318	6412247	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Jacobs Group (Australia) Pty Ltd - North Sydney,Miss.Alexandra Seifertova							
37-2-6145	BAYS AS06	GDA	56	306099	6410662	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Jacobs Group (Australia) Pty Ltd - North Sydney,Miss.Alexandra Seifertova							

Report generated by AHIMS Web Service on 13/10/2020 for Alison Lamond for the following area at Search using shape-file IS334000_SearchAreaAHIMS_20201013_v2.SHP with a buffer of 0 meters. Additional Info : ACHAR. Number of Aboriginal sites and Aboriginal objects found is 56

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Lamond, Alison

From: Carolyn .H [REDACTED]
Sent: Monday, 26 October 2020 11:16 AM
To: Lamond, Alison
Subject: [EXTERNAL] Re: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project
Attachments: A1.PL2021.pdf; A1.WC2021.pdf



INDIGENOUS SERVICES PTY LTD

Contact: Carolyn Hickey



Hi,

I have reviewed the document and support the Methodology; I would like you to consider including A1 Indigenous services in the upcoming field work.

I have attached Insurances, please feel free to contact me for any questions you may have.

Kind regards

Carolyn Hickey

From: Lamond, Alison <Alison.Lamond@jacobs.com>
Sent: Wednesday, 21 October 2020 4:05 PM
To: [REDACTED]
Subject: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Hello Carolyn

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist
+61 2 4979 2647 | + 61 417 980 800

alison.lamond@jacobs.com

Level 4, 12 Stewart Avenue | Newcastle West, NSW, 2302| Australia



■ *I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future.* ■

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Lamond, Alison

From: Darleen Johnson [REDACTED]
Sent: Monday, 26 October 2020 6:10 PM
To: Lamond, Alison
Subject: [EXTERNAL] Re: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project
Attachments: IS334000_Liddell and Bayswater Draft Methodology_02.pdf

Hi Alison

I have read the draft methodology for the above project, I endorse the recommendations made.

Kind regards

Darleen Johnson
[REDACTED]

On Wednesday, 21 October 2020, 04:10:41 pm AEDT, Lamond, Alison <alison.lamond@jacobs.com> wrote:

Hello

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist

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Jacobs Challenging today.
Reinventing tomorrow.

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Lamond, Alison

From: Paulette Ryan [REDACTED]
Sent: Sunday, 25 October 2020 2:47 PM
To: Lamond, Alison
Subject: [EXTERNAL] Re: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project
Attachments: image001.jpg

To whom it may concern

Thank you for your email have read and understand there is nothing new as this as been recorded and map kind regards Paulette Ryan from HTO

On Wed, Oct 21, 2020, 3:07 PM Lamond, Alison <Alison.Lamond@jacobs.com> wrote:

Hello Paulette

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

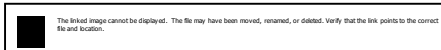
Regards



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Lamond, Alison

From: Des Hickey <[REDACTED]>
Sent: Monday, 26 October 2020 2:14 PM
To: Lamond, Alison
Subject: [EXTERNAL] RE: Draft Methodology for the assessment of the Liddell and BayswaterPower Station sites project

Hi Alison

Thank you for your email and methodology report, I agree with the methodology that as been put forward for this project, however I would like to recommend that if any new cultural unregistered sites be found or located further investigations should be applied. I agree to the decision to exclude areas will be made in the field through a consensus of all field team members.

I also agree the survey will investigate the proposed impact areas in full. I would also like to recommend, due to the COVID 19 pandemic only local community's Aboriginal groups be involved in this project, between Singleton & Scone no out of country groups" we must keep the Aboriginal community's safe from the pandemic. If you require any further information please call or email.

Thanks'

Des Hickey
Manager WWCCS

Sent from [Mail](#) for Windows 10

From: [Lamond, Alison](#)
Sent: Wednesday, 21 October 2020 4:09 PM
To: [REDACTED]
Subject: Draft Methodology for the assessment of the Liddell and BayswaterPower Station sites project

Hello Des

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

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Lamond, Alison

From: philip khan [REDACTED]
Sent: Monday, 26 October 2020 4:50 PM
To: Lamond, Alison
Subject: [EXTERNAL] Re: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Dear Alison,

I have reviewed your methodology for the Liddell and Bayswater Power Station & confirm I agree and support your assessment. We look forward to working alongside you on this project.

Kind Regards

Kadibulla Khan



From: Lamond, Alison <Alison.Lamond@jacobs.com>
Sent: Wednesday, 21 October 2020 4:05 PM
To: [REDACTED]
Subject: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Hello Phil

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

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Lamond, Alison

From: Maree Waugh <[REDACTED]>
Sent: Monday, 2 November 2020 10:08 AM
To: Lamond, Alison
Subject: [EXTERNAL] Re: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Hi Alison,

I'm happy with the methodology.

Thank you

Maree Waugh

Wallangan Cultural Services

Sent from [Outlook Mobile](#)

From: Lamond, Alison <Alison.Lamond@jacobs.com>
Sent: Wednesday, October 21, 2020 4:09:22 PM
To: [REDACTED]
Subject: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Hello Maree

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

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Lamond, Alison

From: Bob & Sam [REDACTED]
Sent: Tuesday, 27 October 2020 9:07 AM
To: Lamond, Alison
Subject: [EXTERNAL] RE: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Dear Alison

Thank you, But I strongly feel that I need to correct this

I don't understand why you have not referenced **"The original earliest records from the 1800s"** and have referenced late work from (Horton, 1996; Tindale, 1974) , David R. Moore 1969, all of these people have use **"The original earliest records from the 1800s"! ? and you have made no reference to the Guringai tribe ?**

The Guringai also spelt kuringai, Kuring-gai , Cooringay, Guringai, Gooreeggai, Goreenggai, Gourenggai, Gingai, Gooreenggai, Gringai, Corringorri and Guringay on our language dictionary – Guthang.

Ref In the report-

"David R. Moore, Curator of Anthropology of the Australian Museum in 1969, described the Aboriginal groups who lived in the Hunter Valley. He wrote that at the time of the first European arrival the Hunter Valley territory was divided between many Aboriginal communities, such as:

1. **The Geawegal in the upper Hunter from the Mount Royal Range to Muswellbrook the Geawe- gal are a sub clan "suffix- Gal = a hord - of the Guringai.**

2. The Wonarua from the middle Hunter down to Maitland

3. **The Gaddhng from the Hunter estuary and Port Stephens. PS - (the Worimmi, Guringay, Burippi are dialects of the Gaddhng or spelt Kutthung,**

"W J Enright 1932 Identified the Giringai "The suffix "gal," however, shows conclusively that "the Geawegal was only a horde, and Kattang was the language," and A. P. Elkin at Port Stephens recorded - "Worimi are a clan of the Kattang"

4. The Awabakal around Lake Macquarie (south of the Hunter Valley);

5. The Darginung on the northern side of the Hawkesbury (Moore, 1969).

Referances to the Guringai Tribe- also spelt kuringai Kuring-gai , Cooringay, Guringai, Gooreeggai, Goreenggai, Gourenggai, Gingai, Gooreenggai, Gringai, Corringorri and Guringay on our language dictionary – Guthang.

Donald Mcrae identified the boundaries of the Tookala – **Gringai** This knowledge was achieved and taken from local knowledge and family's – Mr Hook and others from the Barrington Gloucester NSW.

<https://fromthepage.com/tyay/howitt-and-fison-papers/hw0143/display/452363?translation=false> and <https://fromthepage.com/tyay/howitt-and-fison-papers/hw0144/display/452365>

Extracts “Gringai “From the Barnet River to karuah River – North and South to Myall River to Mount royal ranges East and West.”.

James Boydell 1820s Identified – **Greengai** he refers to them headquartering at Camyr Allyn and a breast plate Alamongarindi (Camyr Allyn)

William Scott born 1844 identified **Gringai** Carrington, NSW

William Anderson Cawthorne, ca. 1865-187-?, including family details of the **Coringoori Tribe, Patricks Plains, Singleton** District, New South Wales, 187-?

John Fraser 1890 “I know that the **Goringai** tribe occupied the whole of the east coast from the Hastings and the Manning down to the Hunter, and had several subdivisions named from particular localities in their territory.”

H. Mathews 1898 Gooreenggai North of the Hunter River No. 5. Within this area, which extends from the Hunter river almost to the Macleay, the initiation ceremonies are of the Keeparra type described by me in Journ. An/hrop. Ins/. London, Vol. xxvi, pp. 320-340. This tract of country is inhabited by the remnants of the tribes speaking different dialects, some of the most important of which are the following: Wattung, **Gooreenggai**, Minyowa, Molo, Kutthack, Bahree, Karrapath, Birrapee, etc. North of the Hunter river and extending along the sea coast to about Cape Hawk there is an elementary ceremony called Dhalgai,

Howitt – Refers to a tribe he calls the Geawegal, as inhabiting part of the valley of the Hunter River extending to each lateral watershed and from twenty to thirty miles along the valley on each side of Glendon. On one of ‘the maps illustrating his work he shows their territory as lying along the north bank of the Hunter from about Tomago to Glendon. **Howitt also** applies the name to the aborigines of the district around Dungog on the authority of J.W Boydell of Camyr Allyn NSW, who was noted for his keen interest in the natives, (Geawegal, with the evidence recorded would be a clan of the Gringai and of the Kattang language group.

Gordon Bennet Identified the **Giringai Dungog, Williams and Patterson Rivers**

Elkin at Port Stephens recorded “Worimi are a clan of the Kattang”

W J Enright 1932 Identified the Giringai “The suffix “gal,” however, shows conclusively that “**the Geawegal was only a horde, and Kattang was the language,**” at any rate as far west as Maitland and Paterson. The Geawegal, he (**Howitt**) states, spoke the language of and intermarried with those of Maitland and also of Paterson. **The Gringai, according to the same author,** intermarried with the Paterson River natives and those of Gloucester.”

Thelkeld, whose work was on the Awaba , Awabakal of Lake Macquarie only (recorded as Awaba on the original map)

***1890 **JOHN FRASER** wrote

TO THE EDITOR OF THE HERALD.

Sir, When the municipalities of the North Shore combine and adopt the native name of their district, as Mr Oliver very fitly suggests, it is to be hoped that the spelling of the name will receive attention. For, although Cammeray is not a monstrosity like Woolloomooloo or Woollahra, yet the spelling of it might be improved. The C should give place to K, for C in English is a redundant letter, representing the sound either of K or of S, and should not be used here in our native words. The termination "eray" might, I think be written "arai," for "ara" and "arai" are established forms in the aboriginal languages. The whole name would thus be Kamarai, which, certainly, is prettier and easier to pronounce than St Leonards. But as our blacks make the "a" and the "o" sounds to be nearly alike, the name might also be written Komaroi; to this we have a parallel in the name Kamilaroi. Mr Oliver is right as to the location of the Kamilaroi tribe. Many years ago, I had the privilege of long and interesting conversations about that tribe with a gentleman who had been one of the pioneer settlers in their district 50 years ago. He could speak their language "like a native," was called by them Charley Murruba, "Charles the Good," was never molested even in those days by any men of the tribe, and his property was always safe in their hands. He had often travailed the main road from Maitland to the Lower Namoi, and know the country well. The limits of the Kamilaroi dialect, he said, were then the River Gwydir on the north, on the west an irregular line drawn from Walgett, southwards through Coonabarabran and round to Scone on the Hunter, and thence east and north along the Dividing Range to the sources of the Gwydir. Beyond the Gwydir was the Ualaroi dialect, a kin to the Kamilaroi, but yet considerably different from it; to the west the Wirrajery, or Wirradhuri, quite different and to the south and east **the Goringai, also different from the Kamilaroi.**

I know that the Goringai tribe occupied the whole of the east coast from the Hastings and the Manning down to the Hunter, and had several subdivisions named from particular localities in their territory.

These subdivisions correspond with the Cammeray, Cadi, Gwea, **&c, of Mr Oliver's letter**, which were only local portions of one great tribe stretching along the coast from the Hunter, **"probably"** as far south as the Illawarra district. The language of this tribe was distinct from the Kamilaroi, although, like all the Australian dialects, they had many words in common and the same root-word used in different forms or with different applications. For instance, one would say murra (hand), another would apply the word to the whole of the lower arm, including the hand; so also, mir or mil, the eye; mir, the face. The Kamilaroi says kara-ji for wizard, doctor, medicine man, but the **Goringai** says kara-kal. Of course, variations like these are common in all languages.

The kal, of karakal, leads me on to say that cadigal is neither the name of a language nor of a tribe; the gal or kal in this and similar names is merely a suffix equivalent to "belonging to" or "they of," just as we say a Sydneyite, a Londoner, an Aberdonian. An Englishman, in the local aboriginal dialect, would be called England-kal, and an Englishwoman England kalin.

Those who imagine that our aboriginal languages are only rude gibberish, are vastly mistaken. These languages or dialects are one of the unsolved problems of ethnology, but enough is known of them to prove that they have well-defined principles of formation and of grammar which cannot have been the invention of mere savages.

I am, &c, JOHN FRASER.

Then John Fraser 1882-1892 focus was Aboriginal languages. He made contradictory statements in his 1882 article about his sources of information.

"The tribes with which I am acquainted are chiefly those of the northern half of our territory, the Gringai, the Kamilaroi, and the Ooalaroi, and to these I add a slight knowledge of the Wiradjery and Yuin tribes" (Fraser 1882:199-200).

"I owe special acknowledgments to Mr. C Naseby, Maitland (for the Kamilaroi tribe) and Mr. J. W. Boydell, Camyrallyn, Gresford for the Gringai tribe. Both of these men have had an intimate acquaintance with these tribes for more than thirty years." (Fraser 1882:199 - footnote).

Most of Fraser's notes on the Kamilaroi and Gringai was second hand information from his European informants in Maitland. Also, in his introduction to the "edited version of Threlkeld's work on the Awakabal Language", Frazer (1892) provided a "Map of New South Wales as occupied by the Native Tribes" (see Map 3-4). In this map, the Hunter Valley north of Warkworth is included in Kamilaroi, while the more southerly areas around Broke and Maitland are included in Kuring-gai, which is shown as extending along the coast from Bulli in the south just north of Woollongong to almost Port Kempsey.

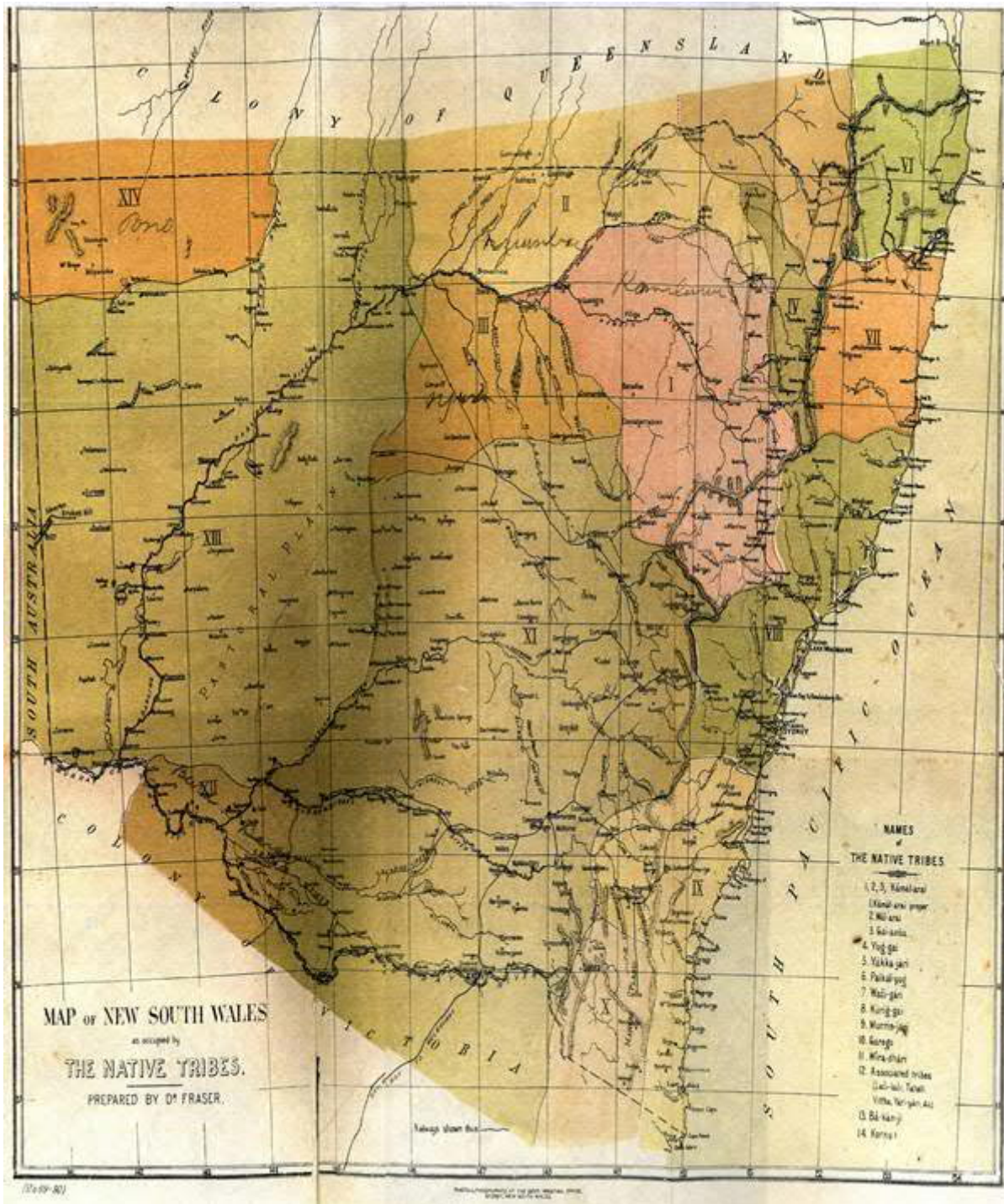
"This map is the issue of ten years' thought and inquiry on the location of our native tribes; nothing of the kind has been attempted before. The basis of the whole is the boundaries of the Kamalarai tribe, which were marked out for me by a friend who knew the tribe well fifty years ago; his information I have tested and extended by answers I got from others who also knew the tribe about that time. The Walarai dialect differs only a little from the Kamalarai proper; so also, the Wailwun, spoken by the Ngaiamba blacks; for this reason, and because they have the classification of the Kamalarai, these are regarded as only subdivisions of the great Kamalarai tribe. The Walarai dialect extends into Queensland.

The next great tribe is the Kuringgai on the sea coast. Their 'taurai' (hunting ground or territory)-is known to extend north to the Macleay River, and I found that southwards it reached the Hawkesbury. Then, by examining the remains of the language of the natives about Sydney and southwards, and by other tests, I assured myself that the country thereabout was occupied by sub-tribes of the Kuringgai." Fraser 1892:. John Fraser was attempting to map different language groups. He based the entire map upon his understanding of the Kamilaroi language / tribe, and that Awakabal, lower Hunter Valley, north coast, and Sydney and south coast languages were all part of the same language group and therefore "tribe".

Fraser's mapping of the Kamilaroi over this area is said to be based upon information from friends who would have been a Mr. C. Naseby of Maitland and Mr. J. W. Boydell, Camyrallyn, Gresford mentioned in his 1882 paper) that was "tested and extended by answers I got from others who also knew the tribe about that time", and his own conclusions about the grouping of Aboriginal dialects and languages.

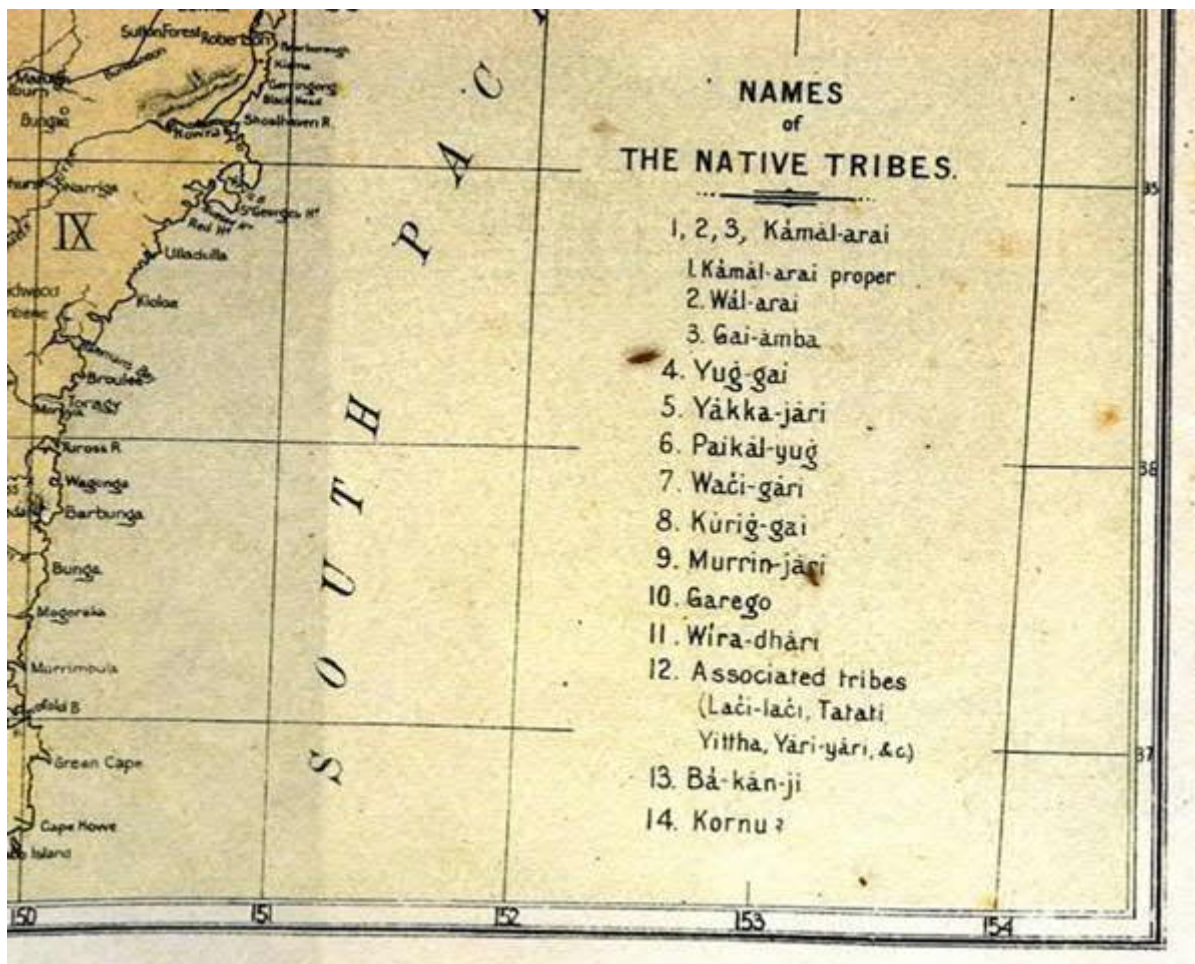
"I owe special acknowledgments to Mr. C Naseby, Maitland (for the Kamilaroi tribe) and Mr. J. W. Boydell, Camyrallyn, Gresford for the Gringai tribe. Both of these men have had an intimate acquaintance with these tribes for more than thirty years." (Fraser 1882:199 - footnote).

Curr (1886-7 showed six different tribes for the same coastal and sub-coastal area as Fraser's (1892) Kurig-gai mapping. Tindale (1974) mapped 11 tribes that intersect this area. Even the generalised map by Matthews (1898) has three groups.



Fraser's (1892) Kurig-gai mapping

He has also spelt Kurig-gai on this map, Kuringgai and in 1890 spelt it Goringai in his "letter to the editor". The G and the k are interchangeable in the Kutthung language as most of Frasers work was provided to him from 2nd sources people who were hearing different sounds in the word Guringai. (see Below)



Maps by R.H. Mathews – 1897-1917

Initiation Ceremonies of Australian Tribes Author(s): R. H. Mathews Source: Proceedings of the American Philosophical Society, Vol. 37, No. 157 (Jan., 1898), pp. 54-73 Published by: American Philosophical Society
Stable URL: <https://www.jstor.org/stable/983694> Accessed: 30-03-2020 09:40 UT

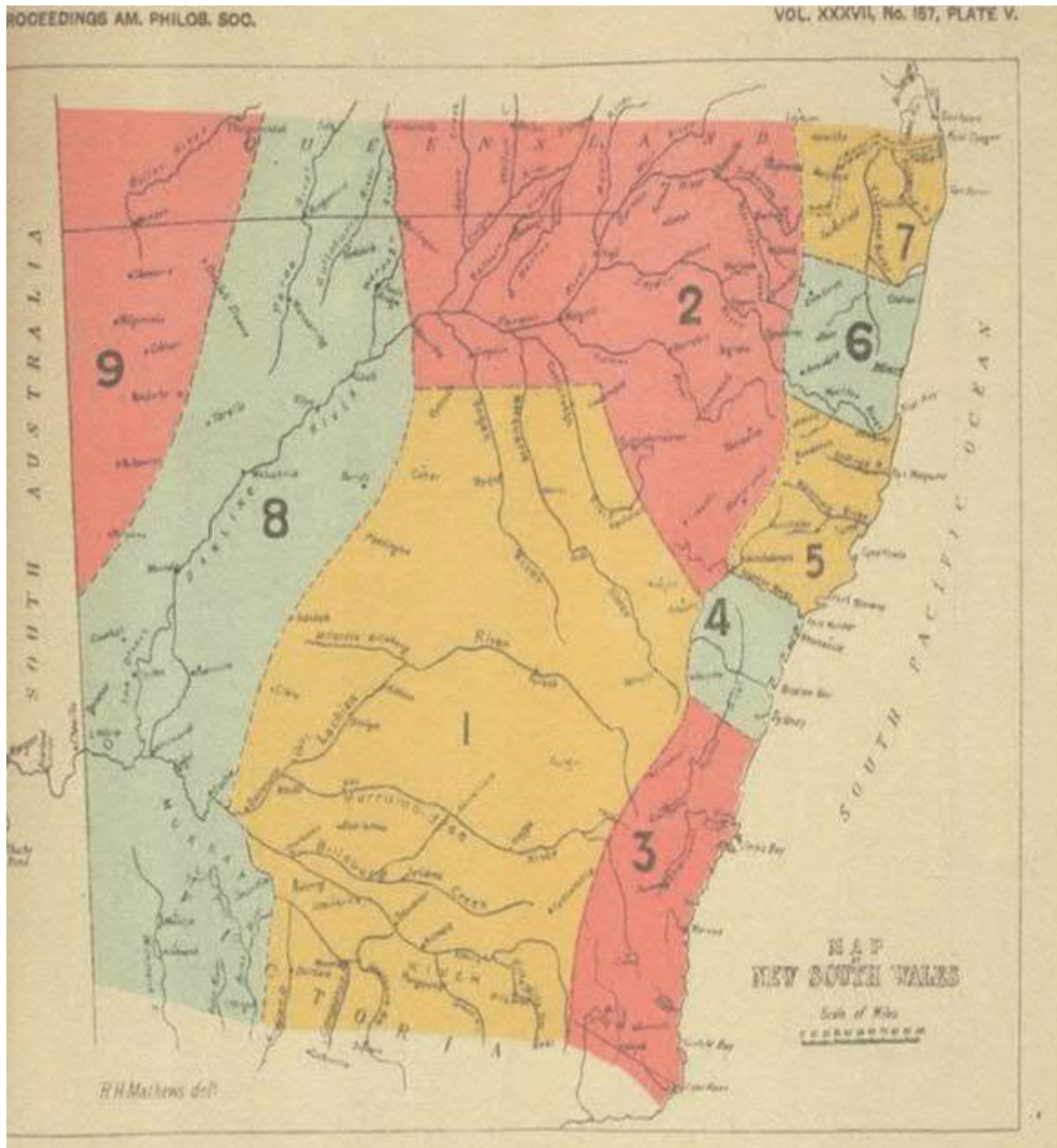
Surveyor and dedicated amateur ethnographer R. H. Mathews published several papers that included consideration of the Hunter Valley and adjacent areas, with a particular focus on the Kamilaroi. The map shown below as Map 3-5 information from Mathews (1898).” Accompanying an article on male initiatory rites, Mathews 1898 had a map (see Map 2) “defining the areas representing the country occupied by each tribe which he numbered 1 to 9.” He also in 1898 in addition noted “the people speaking the different dialects prevalent in each district”. He indicated that:

“No. 2 includes the country of the Kamilaroi [and others]” (1898:67),

“68 MATHEWS--INITIATION IN AUSTRALIAN TRIBES. [March 18,

No. 4 represents the country occupied by the tribes speaking the Darkinung, Wannerawa, Warrimee, Wannungine, Dharrook and some other dialects. Their country commences at the Hunter river and extends southerly till it meets and merges into that of the people of No. 3. Their ceremony of initiation is known as the Narramang, which is described in a paper published in Proc. Roy. Soc. Victoria, Vol. x, N. S., pp. 1-12. Their totemic system is dealt with in Journ. Roy. Soc. N. S. Wales, Vol. xxxi, pp. 170-171.

No. 5. Within this area, which extends from the Hunter river almost to the Macleay, the initiation ceremonies are of the Keeparra type described by me in Journ. An/hrop. Ins/. London, Vol. xxvi, pp. 320-340. This tract of country is inhabited by the remnants of the tribes speaking different dialects, some of the most important of which are the following: **Wattung**, **Gooreenggai**, Minyowa, Molo, Kutthack, Bahree, Karrapath, Birrapee, etc. North of the Hunter river and extending along the sea coast to about Cape Hawk there is an elementary ceremony called Dhalgai,



Ref

Initiation Ceremonies of Australian Tribes Author(s): R. H. Mathews Source: Proceedings of the American Philosophical Society, Vol. 37, No. 157 (Jan., 1898), pp. 54-73 Published by: American Philosophical Society Stable URL: <https://www.jstor.org/stable/983694> Accessed: 30-03-2020 09:40 UT

The Origin, Organization and Ceremonies of the Australian Aborigines Author(s): R. H. Mathews Source: Proceedings of the American Philosophical Society, Vol. 39, No. 164 (Oct. - Dec., 1900), pp. 556-578 Published by: American Philosophical Society Stable URL: <https://www.jstor.org/stable/983776> Accessed: 17-02-2020 10:48 UT

From: Lamond, Alison <Alison.Lamond@jacobs.com>

Sent: Wednesday, 21 October 2020 3:40 PM

To: Bob & Sam [REDACTED]

Subject: Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project

Hello Bob

Please find attached the details of the Liddell and Bayswater Power Station sites project and Draft Methodology for the assessment of the Liddell and Bayswater Power Station sites project for your review and comment. Please note that comments on the draft report close on the 18th of November 2020.

Please feel free to call me questions or concerns you may have.

I look forward to hearing from you.

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist

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alison.lamond@jacobs.com

Level 4, 12 Stewart Avenue | Newcastle West, NSW, 2302 | Australia

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Lamond, Alison

From: Lamond, Alison
Sent: Wednesday, 3 February 2021 8:41 PM
To: Seifertova, Alexandra
Subject: FW: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

See a response for the finalisation of Liddell ACHAR below

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From: philip khan [REDACTED]
Sent: Wednesday, 3 February 2021 7:29 PM
To: Lamond, Alison <Alison.Lamond@jacobs.com>
Subject: [EXTERNAL] Re: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Dear Alison,

Thank you for your draft AHAR for works at Liddell Battery and Bayswater Ancillary Works. This area is highly significant to Aboriginal people as it is near water ways. Allowing room for other activities to occur like fishing, hunting and gathering of foods etc.

We agree to your recommendations and believe the study area should be excavated as a last chance to uncover Aboriginal cultural heritage.

Warm regards

Kadibulla

Kamilaroi Yankuntjatjara Working Group

Aboriginal Cultural Heritage Surveys, Lawn Mowing & Fencing

ABN 33 979 702 507

Not registered for GST



From: Lamond, Alison <Alison.Lamond@jacobs.com>
Sent: Friday, 15 January 2021 2:26 PM

To: Donovan, Tina-Maria <Tina-Maria.Donovan@jacobs.com>; Muddle, Thomas <Thomas.Muddle@jacobs.com>
Subject: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Hello

Please find attached the draft ACHAR and AAR (starts Page 124 of the PDF) for you review and feedback.

Please feel free to call me if you want to discuss any part of the document. I look forward to your response, please note that comment on the document closes 5 February 2021.

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](https://www.jacobs.com) | Senior Archaeologist

0417 980 800

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Lamond, Alison

From: Lamond, Alison
Sent: Monday, 15 February 2021 11:59 AM
To: Seifertova, Alexandra
Subject: FW: [EXTERNAL] Re: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Follow Up Flag: Follow up
Flag Status: Flagged

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist
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Jacobs Challenging today.
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■ I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future. ■

From: Darleen Johnson <[REDACTED]>
Sent: Saturday, 13 February 2021 7:14 AM
To: Lamond, Alison <Alison.Lamond@jacobs.com>
Subject: [EXTERNAL] Re: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Hi Alison,
I have read the project information, Draft ACHAR and AAR for the above project, I endorse the recommendations made.

Kind regards
Ryan Johnson
[REDACTED]

On Friday, 15 January 2021, 02:35:48 pm AEDT, Lamond, Alison <alison.lamond@jacobs.com> wrote:

Apologies, I gave incorrect date for comment closure in earlier email.

The Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR review period closes on **15 February 2021**

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist

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alison.lamond@jacobs.com

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From: Lamond, Alison
Sent: Friday, 15 January 2021 2:26 PM
To: Donovan, Tina-Maria <Tina-Maria.Donovan@jacobs.com>; Muddle, Thomas <Thomas.Muddle@jacobs.com>
Subject: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Hello

Please find attached the draft ACHAR and AAR (starts Page 124 of the PDF) for you review and feedback.

Please feel free to call me if you want to discuss any part of the document. I look forward to your response, please note that comment on the document closes **5 February 2021**.

Regards

Alison Lamond | BA. (Hons), BSci. | [Jacobs](https://www.jacobs.com) | Senior Archaeologist

0417 980 800

alison.lamond@jacobs.com

Level 4, 12 Stewart Avenue | Newcastle West, NSW, 2302| Australia



■ *I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future.* ■

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Lamond, Alison

From: Lamond, Alison
Sent: Thursday, 4 February 2021 4:23 PM
To: Seifertova, Alexandra
Subject: FW: Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Alison Lamond | BA. (Hons), BSci. | [Jacobs](#) | Senior Archaeologist
+61 2 4979 2647 | + 61 417 980 800
alison.lamond@jacobs.com
Level 4, 12 Stewart Avenue | Newcastle West, NSW, 2302 | Australia

Jacobs Challenging today.
Reinventing tomorrow.

■ I acknowledge the Traditional Owners of Country upon which I work, and pay my respects to them, their culture and their Elders past, present and future. ■

From: Taasha Layer [REDACTED]
Sent: Thursday, 4 February 2021 12:05 PM
To: Lamond, Alison <Alison.Lamond@jacobs.com>
Cc: Donovan, Tina-Maria <Tina-Maria.Donovan@jacobs.com>; Muddle, Thomas <Thomas.Muddle@jacobs.com>; sites <sites@ungooroo.com.au>
Subject: [EXTERNAL] Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR for review

Hi,

This email is to verify that Allen Paget agrees with the methodology for The Liddell Battery and Bayswater Ancillary Works Project Draft ACHAR and AAR review. If you would like any further information or comment, please do not hesitate to contact us on the numbers provided below, thanks.



Kind Regards
Taasha Layer | CEO



WEB www.ungooroo.com.au



A.3 Advertisements

Connect with Classifieds

The Singleton Argus

Phone: 02 6572 2611

Email: classifiedshunter@austcommunitymedia.com.au



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Death Notices

BRUCE JAMES MARTIN

Aged 91 years

Passed 22/08/2020 at Gosford Hospital. Late of Terrigal, formally of Scone.

Bruce is survived by Lilian, wife of 63 years, 5 children and 6 grandchildren.



WARREN Sylvia Frances

Late of Elizabeth Gates Nursing Home passed away 31st August 2020 aged 85 years

Dearly loved sister and sister-in-law of Rosemary and John Loring, much loved aunt of Elizabeth, Chris, James and Alison and partners. Fantastic fun great aunt of Caitlin, Hamish, Dominic, Thomas, Emily, Jack Charlotte, Annabel, Gabriella and Patrick.

Sadly missed but our wonderful memories are a comfort.

A private Family Funeral will be held in Singleton on Wednesday 9th September 2020.

In the care of Chapmans Funerals Singleton 6572 1089 A.F.D.A.

Death Notices



JAMES Norma Margaret

Late of Singleton passed away at Newcastle Private Hospital 25th August 2020 aged 86 years

Much loved mother of Lesley, Malcolm and Karyn, mother-in-law, grandmother, great grandmother and great great grandmother to their families.

Norma's Funeral was held in Singleton, Monday 31st August followed by a Private Cremation.

In the care of Chapmans Funerals Singleton 6572 1089 A.F.D.A.



Death Notices



GARDINER Elva

Late of Elizabeth Gates Nursing Home passed away 30th August 2020 aged 89 years

Dearly loved wife of Fred (dec), loving mother of Mark (dec), Michael, Kerry (dec), Craig and Shayne, mother-in-law, grandmother and great grandmother to their families, a sister, sister-in-law, aunt and friend.

Elva's Funeral was held yesterday at All Saints Anglican Church followed by burial in the Sedgefield Lawn Cemetery.

In the care of Chapmans Funerals Singleton 6572 1089 A.F.D.A.

Funeral Notices



McNAMARA Neil William OAM

Passed away at Mercy Nursing Home 29th August 2020 aged 97 years

Beloved husband of Joan (in Heaven), loved father of Anthony, Christopher, Bernadette, Therese, Philip and Angela (in Heaven), loved father-in-law, grandfather and great grandfather to their families.

Family and friends are advised that Neil's Funeral will be held in the Immaculate Conception Catholic Church, Broke this Friday 4th September 2020 commencing at 11.00am.

Please note current Government restrictions apply - with a very limited number of attendees by invitation only. Those attending must wear a face mask and abide by social distancing rules.

Neil's service will be live streamed on Chapmans Funerals Facebook page from 10.55am Friday 4th September 2020.

In the care of Chapmans Funerals Singleton 6572 1089 A.F.D.A.

Funeral Notices



CLIFTON Joselyn Vida

Formerly of All Saints Court and Maison Dieu passed away 27th August 2020 aged 92 years

Relatives and friends are warmly advised that Josie's Funeral will be held in All Saints Anglican Church, High Street, Singleton commencing at 11.00am, Tuesday 8th September 2020, followed by private cremation.

In the care of Chapmans Funerals Singleton 6572 1089 A.F.D.A.



In Memoriam

Mark (Poddy) Pearce

1962- 2015
Loved & remembered
Always in my thoughts,
Never forgotten.
♥ Mum

Anniversaries

Happy 60th Wedding Anniversary John & Marion HALL

3.9.2020
Love from Gregory, Michelle and family

Wanted to Buy

ANTIQUE CHINA & SILVER

English & European porcelain, figurines, old silver items, fountain pens/pencils, old wind-up watches, jewellery, anything old & interesting incl. artworks.

Please phone Annette 0419219634 or Ron 0408967747

FOWLERS VACOLA
Preserving jars, Cash paid, Happy to collect. Call Matt 0434 414 435

TOOLS old tools, guitars fishing items, old model trains, cars, jewellery, Dvd/Cd. Riz 0431296741

Fertiliser

BULK Chicken Manure & Spent Mushroom 50m³ & 70m³ loads. Simmons Organic Products, 02 4964 8988/ 0428 496 312

Motor Wrecking

\$A1 abandoned and unwanted cars, vans, utes, 4x4, forklifts, trucks, etc. **100% free removal**, 7 days, fast pick up. We are local. Call Bill now
0410 788 100
\$200 - \$10,000 cash on the spot
We will beat any price!

Newcastle/Hunter Car Removal

We pick up OLD, UNWANTED, SCRAP & USED CARS, UTE'S, TRUCKS & VANS! We service Newcastle & Hunter wide 24/7!

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Add a photo for an additional \$5.
Call the Singleton Argus office 6572 2611
julie.bullock@singletonargus.com.au

Clearing Sales

Clearing Sale

ON BEHALF OF NEIL & DESRIE BRYANT
TO BE HELD AT
"ROTHRIDGE" 651 OLD NORTH ROAD,
ROTHBURY NSW 2320

SATURDAY 5th SEPT. 2020

VIEWING FROM 9:30am
SALE TO COMMENCE AT 10:30am
* Case 485 Tractor (Complete engine overhaul April 2020)
* 3 point linkage JIB * 6ft Stick Rake * 7ft Grader Blade
* Good condition steel container * Carry-All * Stock saddles x2
* Log Splitter petrol powered * 4ft 6inch Slasher * New Solar Gate Opener (New: Still in crate) * Post Hole Auger * RATO Transfer Pump * COM-PACK Cattle Crush * Heavy Duty Chains * Old Bega No3 Wood Stove in working order * Stockyard Panels x 8 (as new)
* Large Assortment of Bric-a-brac plus Jerry Cans
* 1 x Vintage Moldboard Plough * 1 x Vintage Scarifier * Large Assortment of Bric-a-brac plus Jerry Cans x 3, Milk Can, Grease Gun lever action as new, Hella Driving Lights x3, Vehicle Stands (pair), GMC Router 900w (new) + MUCH MORE

Enquiries Mike @
BRANXTON & VINEYARDS
REAL ESTATE M: 0414 757 826

Public Notices

Projects associated with the Bayswater and Liddell Power Station Sites

Notice and registration of Aboriginal interests

AGL are progressing a range of projects associated with the Bayswater and Liddell Power Station Sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works, consolidation of consents and Works associated with the retirement of Liddell Power Station and associated infrastructure and re-purposing of the site for future uses. These activities would be within the AGL landholdings located within the Muswellbrook and Singleton Local Government Areas.

As per the consultation guidelines, Jacobs, on behalf of AGL is seeking registrations of interest from Aboriginal people who hold cultural knowledge relevant to the site. The purpose of consultation with the Aboriginal community is to assist AGL Macquarie in the preparation of a cultural heritage assessment report, and to assist the Director General of Heritage NSW in their consideration of any subsequent applications.

Jacobs, on behalf of AGL, is therefore seeking to establish Registered Aboriginal Parties for all upcoming Aboriginal Heritage assessments associated with the site.

You can register in writing (email or letter) to:
Rob Cooper
AGL Senior Manager Stakeholder Engagement

c/o Clare Leever
Jacobs Engineering Group
Email: clarealeevers@jacobs.com
Level 7, 177 Pacific Highway,
North Sydney, NSW 2060

Registrations must be received by close of business
23 September 2020.

HONOUR LOVED ONES AND SHARE THEIR STORY

All notices (Death, Funeral and In Memoriam) placed in print also appear online with an accompanying Guest Book to enable family and friends from any location to share their own messages and memories with you.

To visit our Tributes page, go to our website, click on the Classifieds Tab and select "Tributes"

Connect with
Classifieds



\$5 ADS

ITEMS UNDER \$100

The Argus Invites all PRIVATE ADVERTISERS ONLY with an item for sale to the value of \$100 or under (prams, toys, furniture, books & general household items) simply fill in the coupon below and post it to us immediately. We will publish your ad in Wednesday's Argus. Maximum 12 words per ad and total value of \$100 please. (This does not include car parts, building materials, pets etc.)

PHONE	

Name:.....
Address:.....
Postcode:.....
Telephone:.....

SEND TO:
Singleton Argus Bargain Buys
P Box 312, Singleton 2330
Copy must be received by 11am Mondays

BARGAIN BUYS

AW3710256

66 Westminster Street (Lot 80 in DP 650942), Schofields, NSW Proposal Residential Subdivision - Public Notice and Registration of Interest

National Parks & Wildlife Act 1974 & Environmental Planning & Assessment Act 1979

Westclaire Property Group proposes to redevelop for residential housing Lot 80 in DP650942 that is located at 66 Westminster Street in Schofields, NSW. Future works may impact upon Aboriginal objects that are protected under the National Parks & Wildlife Act 1974 and the proposal may require approval of an Aboriginal Heritage Impact Permit under the NPW Act. In accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010), individuals or groups who hold cultural knowledge relevant to establishing the significance of potential Aboriginal objects in this landscape are invited to register their interest in participating in the Aboriginal heritage consultation and assessment process for the proposal.

Contact details are:

Dominic Steele 21 Macgregor Street Croydon, NSW, 2132
E: dsca@bigpond.net.au

c/-

Brian Drury Managing Director Westclaire Property Group
E: brian.drury@westclaire.net.au

The registration period closes on 21 September 2020

The consultation period closes on 5 October 2020

Projects associated with the Bayswater and Liddell Power Station Sites Notice and registration of Aboriginal interests

AGL are progressing a range of projects associated with the Bayswater and Liddell Power Station Sites. These include: The construction and operation of a battery energy storage system, decoupling works, Bayswater ancillary works, consolidation of consents and Works associated with the retirement of Liddell Power Station and associated infrastructure and re-purposing of the site for future uses. These activities would be within the AGL landholdings located within the Muswellbrook and Singleton Local Government Areas.

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Jacobs, on behalf of AGL, is therefore seeking to establish Registered Aboriginal Parties for all upcoming Aboriginal Heritage assessments associated with the site.

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Rob Cooper
AGL Senior Manager Stakeholder Engagement

c/o Clare Leavers
Jacobs Engineering Group
Email: clarealevers@jacobs.com
Level 7, 177 Pacific Highway,
North Sydney, NSW 2060

Registrations must be received by close of business 23 September 2020.



Call for applications – State Board in Tasmania

The National Registration and Accreditation Scheme (the National Scheme) regulates more than 740,000 registered health practitioners and over 180,000 registered students across 16 health professions. 15 health profession boards (National Boards) and the Australian Health Practitioner Regulation Agency (Ahpra) work together to deliver the National Scheme.

The primary role of the National Boards is to protect the public by registering suitably qualified and competent practitioners, dealing with notifications about registered practitioners and by developing registration standards, codes and guidelines to guide registered practitioners.

A vacancy for one practitioner member is arising on the **Tasmanian Board of the Nursing and Midwifery Board of Australia**.

The National Scheme has a commitment to increasing Aboriginal and/or Torres Strait Islander Peoples' leadership and voices. Aboriginal and/or Torres Strait Islander people are strongly encouraged to apply, as are people from rural or regional areas in Tasmania.

Appointments are made by the Minister for Health in Tasmania under the Health Practitioner Regulation National Law, as in force in each state and territory. Appointments can be for up to three years, with eligibility for reappointment.

To be eligible for appointment as a practitioner member, you must hold current registration as a nurse and/or midwife. It is expected that applicants practise and/or reside in Tasmania.

More information about the roles, eligibility requirements and the application process can be found within the online application form on Ahpra's page:

<https://www.ahpra.gov.au/National-Boards/Statutory-Appointments/Board-member-recruitment#state>

For enquiries, please contact statutoryappointments@ahpra.gov.au

Employees and contractors for Ahpra are NOT eligible for these positions.

Applications close: **5.00pm AEST, Friday 25 September 2020**

0554PK_0981



Steph Tisdell is a co-creator of new comedy *Long Black*.

Steph spins a cheeky joke

By NICK PATON



IS the world ready for Aboriginal porn? According to Ydijni comedian Steph Tisdell the answer is F...K YES!

Tisdell and Gabriel Willie (aka Bush Tucker Bunjie) have teamed up to produce a new show, and if foot fetish pics, phone sex and Aboriginal porn is your thing, then this comedy is right up your alley.

The comedy duo are the latest recipients to receive production funding through Screen Australia and Google/YouTube Australia's Skip Ahead.

Now in its sixth year, the Skip Ahead initiative supports Australian online content creators who have YouTube channels with a substantial existing subscriber base to expand their vision and create more ambitious content to grow their audience.

Their 15-minute comedy *Long Black* follows the journey of flatmates and part-time baristas Steph and Gab after their upcoming comedy show gets cancelled.

With bills to pay and big responsibilities on their shoulders, the pair realise there's probably more money in foot fetish pics and phone sex, than there is serving up skim decaf lattes.

With an eviction notice on their door, Steph and Gab set off to pursue a radical path to fame, fortune and representation in Aboriginal



Gabriel Willie (aka Bush Tucker Bunjie) has teamed up with Steph Tisdell to produce their new comedy *Long Black*.

porn. The genesis for *Long Black* came from Tisdell's stand-up set at last year's Melbourne International Comedy Festival.

"This is such a crazy project because about a year ago I was approached by someone who had just seen my set, and they told me how much they loved my Aboriginal porn joke," Tisdell said.

"The person asked me if I would be interested in taking the joke and turning into a show, or a short film, and I said, 'Yeah, absolutely,' but didn't think much of it.

"Then out of nowhere the opportunity to apply for funding presented itself and so I was put in touch with Bush Tucker Bunjie, who I absolutely love, and together we will turn what was a simple stand-up joke into a 15-minute narrative."

Tisdell said the idea for the

joke came about from her feeling that there is no bigger equaliser in the world than porn.

"Everyone else is represented in porn, and there something that caters to almost everybody, so its crazy there isn't any Aboriginal porn around, considering we've been getting f...d for so long," Tisdell said.

"And that was the joke itself, the idea that we are always so lacking in representation everywhere else, we are even underrepresented in porn!"

"And so the show is all about expanding on this concept, because I think there is just so much we can do with this space, but at the same time, it will enable us to start a much bigger conversation."

Tisdell said it is important that mob continue to turn to humour, especially during the coronavirus pandemic.

"I've never heard of a Black family who doesn't value the benefits of humour," she said.

"I've grown up with the saying 'Humour is just tragedy plus time', and that's what we mob do: We laugh at the bad things and we make humour out of the tragedies.

"As soon as you make a joke, or put something into a funny lens, then you change the perspective, and by changing that perspective, it allows you to reflect on it in a really different way."

Production on *Long Black* is in its initial stages and is set to premiere early 2021.

A.4 Submissions and responses

Table A.2: Aboriginal Community Consultation

Date	Description	Organisation	Response
3/09/2020	Invitation to register for the project	Singleton Argus advertisement	
9/09/2020	Invitation to register for the project	Koori Mail advertisement	
23/09/2020	Register for project	Jacobs (Clare Leever email)	Registered for project in response to advertisement 23/09/20
24/09/2020	Invitation to register for the project	A1 indigenous Services	Registered for project via email 10/10/2020
		Aboriginal Native Title Elders Consultants	No response
		AGA Services	Registered for project via email 01/10/2020
		Aliera French Trading	No response
		Awabakal Traditional Owners Aboriginal Corporation	Does not wish to be involved, via email 24/09/20
		Bathurst Local Aboriginal Land Council	No response
		Cacatua Culture Consultants	Registered for project via email 01/10/2020
		Corroboree Aboriginal Corporation	No response
		Crimson—Rosie	No response
		Culturally Aware	Registered for project via email 24/09/2020
		DFTV Enterprises	No response
		Deslee Talbott Consultants	No response
		Didge Ngunawal Clan	Registered for project via email 24/09/2020
		Divine Diggers Aboriginal Cultural Consultants	Registered for project via email 24/09/2020
		Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	No response
		Hunter Traditional Owner	Registered for project via email 27/09/20

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		AGA Services	Registered for project via email 01/10/2020
		Aliera French Trading	No response
		Awabakal Traditional Owners Aboriginal Corporation	Does not wish to be involved, via email 24/09/20
		Bathurst Local Aboriginal Land Council	No response
		Cacatua Culture Consultants	Registered for project via email 01/10/2020
		Corroboree Aboriginal Corporation	No response
		Crimson—Rosie	No response
		Culturally Aware	Registered for project via email 24/09/2020
		DFTV Enterprises	No response
		Deslee Talbott Consultants	No response
		Didge Ngunawal Clan	Registered for project via email 24/09/2020
		Divine Diggers Aboriginal Cultural Consultants	Registered for project via email 24/09/2020
		Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	No response
		Hunter Traditional Owner	Registered for project via email 27/09/20

Date	Description	Organisation	Response
		Hunter Valley Aboriginal Corporation	No response
		Hunter Valley Cultural Surveying	No response
		Hunters & Collectors	Registered for project via email 5/10/2020
		Indigenous Learning	No response
		Jarban & Mugrebea	Registered for project via email 25/09/20
		Jumbunna Traffic Management Group Pty Ltd	Registered for project via email 30/09/20
		Karuah Local Aboriginal Land Council	No response
		Kauma Pondee inc.	No response
		Kawul Pty Ltd trading as Wonn1 Sites	Registered for project via email 25/09/20
		Lower Hunter Aboriginal Incorporated	No response
		Lower Hunter Wonnarua Cultural Services	No response
		Lower Wonnaruah Tribal Consultancy Pty Ltd	No response
		Mayaroo	Does not wish to be involved, via email 24/09/20
		Metropolitan Local Aboriginal Land Council	No response
		Michael Green Cultural Heritage Consultant	No response
		Mindaribba Local Aboriginal Land Council	No response
		Murra Bidgee Muilangari Aboriginal Corporation	Registered by phone
		Myland Cultural & Heritage Group	No response
		Nunawanna Aboriginal Corporation	Registered for project via email 24/09/2020
		Roger Matthews Consultancy	No response
		Ungooroo Aboriginal Corporation	Registered for project via email 2/10/2020
		Wallagan Cultural Services	Registered for project by phone 28/09/20

Date	Description	Organisation	Response
		Wanaruah Local Aboriginal Land Council	No response
		Wattaka Wonnarua CC Service	Registered for project via email 27/09/20
		Widescope Indigenous Group	Registered for project via email 28/09/20
		Wonnarua Culture Heritage	No response
		Wonnarua Elders Council	No response
		Wonnarua Nation Aboriginal Corporation	
		Yarrowalk (A division of Tocomwall Pty Ltd),	Registered for project via email 28/09/20
		Yinarr Cultural Services	No response
		Carol Ridgeway- Bissett	No response
		Robert Syron	Registered for project via email 25/09/20
		Steve Talbott	No response
		Gomeroi People c/o NTSCORP	Requested mapping 24/09/20, immediately provided by email. No further response.
		Upper Hunter Wonnarua Council Inc	Registered for project by phone 12/10/20
		Kevin Duncan	No response
29/09/2020	Register for project	Jacobs (Alison Lamond email)	Registered for project via email 29/09/20
15/09/2020	register for project	Jacobs (Clare Leever email)	Registered for project via email 15/09/20
21/10/2020	Provision of Project information and draft methodology for comment	Culturally Aware	No response
		The Men's Shack Indigenous Corporation	No response
		Merrigarn	No response
		Hunters & Collectors	No response
		Kamilaroi Yankuntjatjara Working Group	Have reviewed methodology, via email 26/10/2020

Date	Description	Organisation	Response
		A1 indigenous Services	Have read methodology and support it, via email 26/10/2020
		AGA Services	No response
		Cacatua Culture Consultants	No response
		Didge Ngunawal Clan	No response
		Divine Diggers Aboriginal Cultural Consultants	No response
		Hunter Traditional Owner	Have read and understood the methodology, via email 25/10/2020
		Jarban & Mugrebea	No response
		Jumbunna Traffic Management Group Pty Ltd	No response
		Kawul Pty Ltd trading as Wonn1 Sites	No response
		Nunawanna Aboriginal Corporation	No response
		Ungooroo Aboriginal Corporation	No response
		Wallagan Cultural Services	Reviewed and approve of the methodology, via email 2/11/2020
		Wattaka Wonnarua CC Service	Agree with methodology, recommend newly identified site should be subject to further investigations, via email 26/10/2020
		Widescope Indigenous Group	Reviewed and approve of the methodology, via email 27/10/2020
		Yarrawalk (A division of Tocomwall Pty Ltd),	No response
		Robert Syron	Objected to no mention of the Guringai in methodology, via email 27/10/2020
		Upper Hunter Wonnarua Council Inc	No response

Date	Description	Organisation	Response
		Murra Bidgee Muilangari Aboriginal Corporation	Reviewed and approve of the methodology, via email 26/10/2020
		Wanaruah Local Aboriginal Land Council	No response
		Wonnarua Nation Aboriginal Corporation	No response
12/11/2020	Invite to participate in survey of Project area	Culturally Aware	Site Officer participated in Survey
		The Men's Shack Indigenous Corporation	No response
		Merrigarn	Site Officer participated in Survey
		Hunters & Collectors	No response
		Kamilaroi Yankuntjatjara Working Group	Site Officer participated in Survey
		A1 indigenous Services	No response
		AGA Services	Site Officer participated in Survey
		Cacatua Culture Consultants	Site Officer participated in Survey
		Didge Ngunawal Clan	Site Officer participated in Survey
		Divine Diggers Aboriginal Cultural Consultants	No response
		Hunter Traditional Owner	No response
		Jarban & Mugrebea	Site Officer participated in Survey
		Jumbunna Traffic Management Group Pty Ltd	Site Officer participated in Survey
		Kawul Pty Ltd trading as Wonn1 Sites	Site Officer participated in Survey
		Nunawanna Aboriginal Corporation	No response
		Ungooroo Aboriginal Corporation	Site Officer participated in Survey
		Wallagan Cultural Services	No response
		Wattaka Wonnarua CC Service	No response

Date	Description	Organisation	Response
		Widescope Indigenous Group	No response
		Yarrawalk (A division of Tocomwall Pty Ltd),	No response
		Robert Syron	No response
		Upper Hunter Wonnarua Council Inc	No response
		Murra Bidgee Muilangari Aboriginal Corporation	Site Officer participated in Survey
		Wanaruah Local Aboriginal Land Council	No response
		Wonnarua Nation Aboriginal Corporation	Site Officer participated in Survey
15/02/2021	Provision of Draft ACHAR and AAR for review	Culturally Aware	Called via phone 3/02/2021, no comment provided
		The Men's Shack Indigenous Corporation	Reviewed and approve of the ACHAR via phone, 03/02/2021
		Merrigarn	Called via phone 3/02/2021, no answer.
		Hunters & Collectors	Called via phone 3/02/2021, no answer.
		Kamilaroi Yankuntjatjara Working Group	Reviewed and approve of the ACHAR via email, 03/02/2021
		A1 indigenous Services	Reviewed and approve of the ACHAR via phone, 03/02/2021
		AGA Services	Called via phone 3/02/2021, no comment provided
		Cacatua Culture Consultants	Called via phone 3/02/2021, no comment provided
		Didge Ngunawal Clan	Reviewed and approve of the ACHAR via phone, 03/02/2021
		Divine Diggers Aboriginal Cultural Consultants	Did not call as head of organisation has died.
		Hunter Traditional Owner	Called via phone 3/02/2021, no comment provided
		Jarban & Mugrebea	Called via phone 3/02/2021, no answer.
		Jumbunna Traffic Management Group Pty Ltd	Called via phone 3/02/2021, no answer.
		Kawul Pty Ltd trading as Wonn1 Sites	Called via phone 3/02/2021, no comment provided
		Nunawanna Aboriginal Corporation	Called via phone 3/02/2021, no answer.

Date	Description	Organisation	Response
		Ungooroo Aboriginal Corporation	Reviewed and approve of the ACHAR via email, 04/02/2021
		Wallagan Cultural Services	Called via phone 3/02/2021, no answer.
		Wattaka Wonnarua CC Service	Called via phone 3/02/2021, no comment provided
		Widescope Indigenous Group	Called via phone 3/02/2021, no answer.
		Yarrowalk (A division of Tocomwall Pty Ltd),	Called via phone 3/02/2021, That area is part of section 10 of a clamant group and there is a massacre site in the area. I redirected him to email Alison Lamond with these comments and feedback as the caller (Alexandra Seifertova) has not been involved in the project.
		Robert Syron	Confirm with Ali that an email was previously sent. Extra info was adedd to report.
		Upper Hunter Wonnarua Council Inc	Called via phone 3/02/2021, no answer.
		Murra Bidgee Muilangari Aboriginal Corporation	Reviewed and approve of the ACHAR via email, 13/02/2021
		Wanaruah Local Aboriginal Land Council	Called via phone 3/02/2021, no comment provided
		Wonnarua Nation Aboriginal Corporation	Called via phone 3/02/2021, no comment provided

Appendix B. Aboriginal Archaeological Report



Liddell Battery and Bayswater Ancillary Works Project

Aboriginal Archaeological Report

IS334000_AAR | Rev 03

February 2021

AGL Macquarie Pty Ltd

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Appendix A. AHIMS Search Results

Executive Summary

AGL Macquarie Pty Limited (**AGLM**) owns and operates the Bayswater and Liddell power stations, Hunter Valley Gas Turbines and associated ancillary infrastructure. Liddell power station (**Liddell**) is approaching its end of life and is scheduled for closure in 2023. Bayswater power station (**Bayswater**) would continue to be operated through to 2035 to support the transition of the National Electricity Market (**NEM**) toward net-zero emissions and then is intended to be retired.

Jacobs, on behalf of AGLM is currently developing an Environmental Impact Statement (**EIS**) for the assessment of the Liddell Battery, Decoupling and Bayswater Ancillary Works Project (**the Project**) to facilitate the efficient, safe and reliable continuation of electricity generating works, in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. The Project is located within the Bayswater and Liddell power stations and surrounding buffer lands on the New England Highway within the Local Government Areas of Muswellbrook and Singleton.

Previous archaeological investigations within the Central Lowlands of the Hunter Valley, and the Project area in particular, have developed an understanding of traditional Aboriginal occupation within the area as well as processes of archaeological site formation. These previous assessments demonstrate that the area has been subject to past disturbance, particularly during the post-contact period, which has impacted the Aboriginal heritage of the area and probably reduced the overall number of archaeological sites.

A search of the Aboriginal Heritage Information Management System (**AHIMS**) was undertaken on 13 October 2020 covering the footprint of the Project area and a 200 metre (m) buffer zone. Seventeen previously recorded sites are present within or near the Project area, two of which are recorded as being destroyed. All sites are artefact scatters on open ground, one of which includes an area of potential archaeological deposit.

An archaeological survey was carried out on the 23 and 24 November 2020, covering all areas where impacts are proposed. On-site consultation with nominated Site Officers from the Registered Aboriginal Parties (**RAPs**) enabled the development of management and mitigation recommendations. Thirteen new sites were identified within the Project area and one previously recorded site (not able to be re-recorded). These sites consisted of isolated artefacts and artefact scatters.

Potential impacts and possible mitigation measures are outlined within the Liddell Battery and Bayswater Ancillary Works Project Aboriginal Cultural Heritage Assessment Report (**ACHAR**) (Jacobs 2020).

1. Introduction

1.1 Project background

AGL Macquarie Pty Limited (**AGLM**) owns and operates the Bayswater power stations (**Bayswater**) Liddell power stations (**Liddell**) and the Hunter Valley Gas Turbines and associated ancillary infrastructure systems that operate to produce around 23,000 gigawatt hours (**GWh**) annually, or approximately 35 per cent (%) of New South Wales' (**NSW**) electricity supply.

AGLM is seeking approval for the Liddell Battery, and Bayswater Ancillary Works (**the Project**). As a State Significant Development (**SSD**) under the *State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)* the Project is subject to Part 4, Division 4.7 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* which requires the preparation of an EIS in accordance with Secretary's Environmental Assessment Requirements (**SEARs**).

This Aboriginal Archaeological Report (**AAR**) has been developed as key component of the Aboriginal cultural heritage assessment report (**ACHAR**) in support of the Environmental Impact Statement (**EIS**) for the Project.

1.2 Project area

The Project is located within the Liddell and Bayswater Power Stations and surrounding buffer lands on the New England Highway within the Local Government Areas of Muswellbrook and Singleton (refer to **Figure 1-1**). Liddell and Bayswater are located approximately 15 kilometres (km) south-east of Muswellbrook, 25 km north-west of Singleton and approximately 165 km north-west of Sydney. The total area of the AGLM landholding is approximately 10,000 hectares (ha), including the Ravensworth rehabilitation area, Lake Liddell and surrounding buffer lands. The Project area lies within the Central Lowlands of the Upper Hunter Valley and is characterised by undulating low hills, ranging in elevation from 140 – 330 m above sea level (**ASL**).

1.3 Project Scope and objectives

AGLM are progressing plans to facilitate the efficient, safe and reliable continuation of electricity generating works from the Bayswater and Liddell site. The Project would consist of the following:

- **The Battery:** A grid connected Battery Energy Storage System (**BESS**) with capacity of up to 500 MW and 2 GWh
- **Decoupling works:** Alternative network connection arrangements for the Liddell 33 kilovolt (**kV**) switching station that provides electricity to infrastructure required for the ongoing operation of Bayswater and associated ancillary infrastructure and potential third-party industrial energy users
- **Bayswater Ancillary Works (BAW):** Works associated with Bayswater which may include upgrades to ancillary infrastructure such as pumps, pipelines, conveyor systems, roads and assets to enable maintenance, repairs, replacement or expansion
- **Consolidated consents:** A modern consolidated consent for the continued operation of Bayswater through the voluntary surrender and consolidation into this application of various existing development approvals required for the ongoing operation of AGLM assets.

Construction works associated with the Battery and Decoupling would likely involve as follows:

- Installation and maintenance of environmental controls including temporary and permanent water management infrastructure
- Establishment of a new access from Liddell access roads
- Establishment of a hardstand pad and construction laydown areas
- Cut and fill to battery compound, transformer compounds, footings and construction laydown area

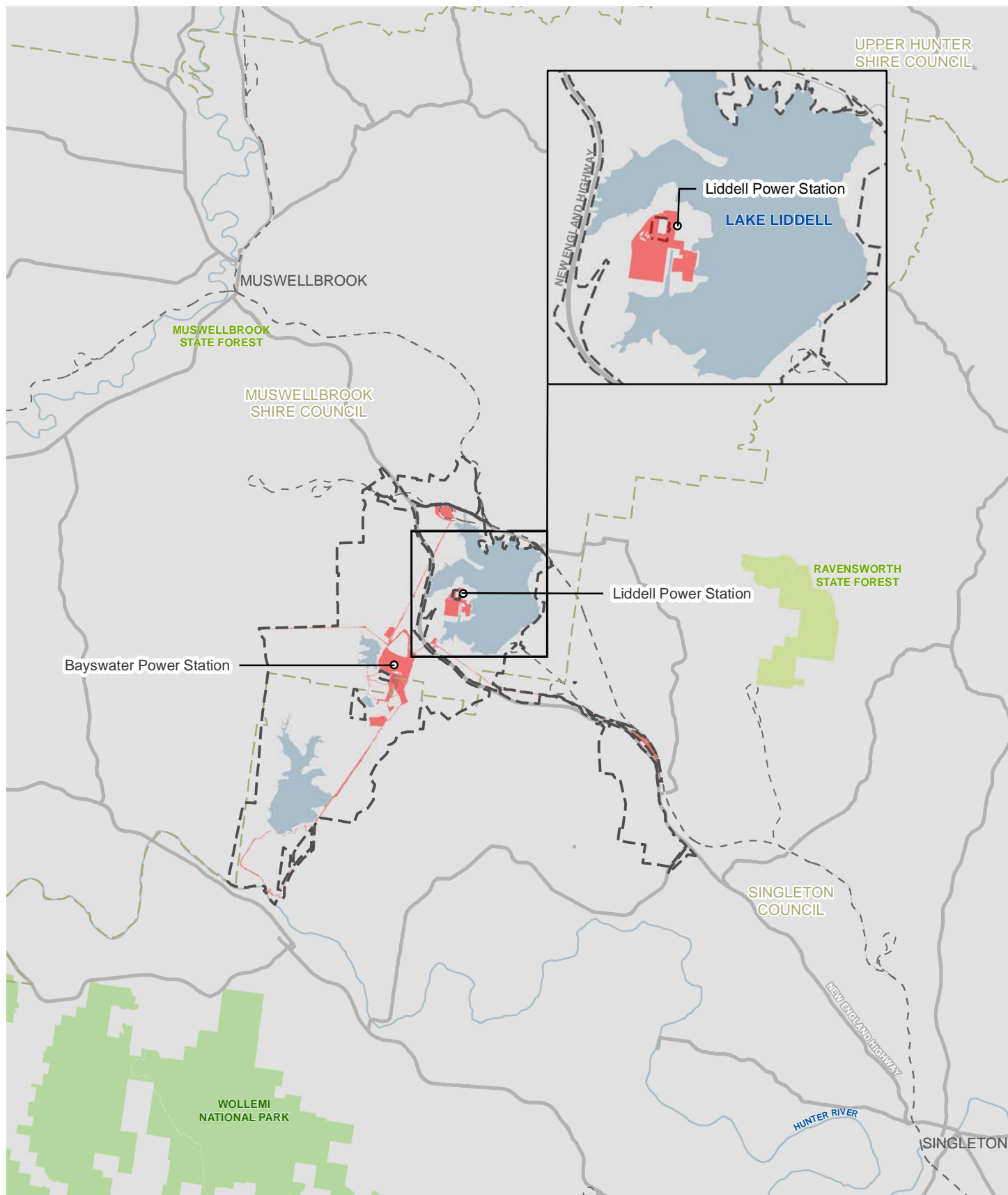
- Trenching and installation of cable from the battery to 330/33 kV transformer compounds
- Structural works to support battery enclosures, inverters, transformers, buildings and transformer compounds
- Delivery, installation and electrical fit-out of the Battery
- Delivery installation and fit out of transformers and ancillary equipment for decoupling works
- Testing and commissioning activities
- Removal of construction equipment and rehabilitation of construction areas.

A detailed description of the Project and each component is provided in Chapter 2 of the EIS.

1.4 Report scope and purpose

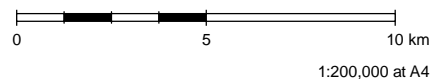
This AAR is intended to identify the potential for Aboriginal cultural heritage values and previously recorded or unknown Aboriginal objects and sites to be present within the Project area and informs the impact assessment contained within the associated ACHAR. As some locations within the Project area have no physical impacts (consolidation of existing consents) or impacts limited to the extent of previous disturbance (maintenance, deconstruction or demolition of existing equipment) they were not subject to detailed assessment (including pedestrian survey) as a part of this report.

The AAR documents the survey methodology and outcomes only and is not intended to assess potential impacts. The impact assessment is contained in the associated ACHAR.



Legend

- Project area
- State forests
- National parks
- AGL owned land
- LGA boundary
- Railway
- Road
- Waterway
- Waterbody



Data sources

Jacobs 2020
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Service and Innovation Aug 2020
AGL 2019
GDA94 MGA56

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Figure 1- 1 Project locality

1.5 Investigators and contributions

This report was authored by:

- Alison Lamond (Senior Archaeologist, Jacobs). Alison holds a Bachelor of Arts (Honours) in Australian Prehistoric and Historical Archaeology and a Bachelor of Science in Geology and Geophysics from the University of Sydney and has over ten years' experience as an archaeologist and cultural heritage advisor.
- Andy Roberts (Senior Consultant, Jacobs). Andy holds a Bachelor of Arts (Australian Prehistory and Archaeology), and a Master of Letters by thesis (Archaeology) from the University of New England. Andy has over 25 years of experience as an archaeologist and cultural heritage advisor.

The report was reviewed by:

- Oliver Macgregor (Senior Archaeologist, Jacobs). Oliver holds a PhD in Archaeology and Palaeoanthropology from the Australian National University and has over ten years' experience as an archaeologist.

2. Previous Archaeological Investigations

Previous archaeological investigations within the Central Lowlands of the Hunter Valley, and the Project area in particular, have allowed for an understanding of traditional Aboriginal occupation within the area as well as the process of deposition. These previous assessments demonstrate that the area has been subject to past disturbance, particularly during the post-contact period, which has probably impacted the Aboriginal heritage of the area and reduced the overall number of sites. Their findings are as follows:

Table 2-1: Previous relevant archaeological investigations within the Project area

Reference	Location	Summary
The Electricity Commission of New South Wales (1979)	Mount Arthur	One of the first archaeological investigations of the project area was carried out between 1976-1979 as part of the Mount Arthur Project. Dyall surveyed three mining sites and found artefacts in three small areas of open ground. In 1979, the electricity commission of NSW in relation to the Bayswater Power Station project concluded that the only Aboriginal sites within the area were located within the Saltwater Creek reservoir area. Salvage of the artefacts prior to flooding was recommended.
Dyall (1980)	Bayswater Colliery	An archaeological survey was carried out by Dyall (1980) south of the Bayswater Colliery. Three sites on the banks of Saddlers creek were recorded. The sites were scatters of flaked stone artefacts, including cores and backed artefacts. The artefacts were made from chert, rhyolite and quartz.
Dyall (1981a)	Mount Arthur	South of Mount Arthur, an archaeological survey was carried out by Dyall (1981a) and resulted in the recording of 24 open sites along Saltwater and Saddlers Creeks. The sites were stone artefact scatters, two of which contained more than 500 artefacts. Artefacts recorded included backed artefacts, ground stone axes, choppers and grindstones.
Dyall (1981b)	Mount Arthur	Aboriginal sites recorded during surveys of the Mount Arthur Coal Lease area were investigated by Dyall (1981b). The report records a number of sites along the banks of Saltwater creek. One scatter of stone artefacts recorded covered more than one acre (0.4 hectares), extending up to 100m from the creek bank. The report also records 27 axe grinding grooves on a sandstone shelf. A large majority of sites recorded are open artefact scatters and are located adjacent to the creek.
Hughes (1981)	Bayswater Colliery	Hughes (1981) carried out a survey of a proposed extension to the Bayswater Colliery, recording nine Aboriginal sites. The sites were open artefact scatters, six of which are located on creek lines.
Koettig & Hughes (1985)	Plashett Reservoir and Mount Arthur	A survey of the Plashett Reservoir identified 86 sites consisting of stone artefacts, concentrated on creeklines (in particular Saltwater Creek). Very few sites were recorded on hillslopes, ridges or upper portions of creeklines.
Koettig (1992)	Bayswater – Liddell area	As a part of the Assessment of cultural heritage in the Hunter Valley surveys were undertaken visiting known sites and identifying new sites. Four new sites were recorded near Plashett Reservoir and seven new sites in the Bayswater and Liddell areas.
Pacific Power (1992)	Bayswater Ash Disposal	Pacific Power carried out a survey of a proposed slurry pipeline and water storage pond within the Bayswater Ash Disposal Project. Though the area was assessed as highly modified, six sites were identified: five artefact scatters and one isolated artefact. The sites were identified as outside the proposed area of impact and as such avoidance and protection were

Reference	Location	Summary
		recommended. Subsequent test excavation in the area of the proposed work identified an absence of artefacts in subsurface deposits.
Pacific Power (1993)	Bayswater Power Station	Bayswater Power Station was investigated as part of the Fly Ash Disposal in Ravensworth No.2 Mine Void and Mine Rehabilitation project. The assessment found two Aboriginal open artefacts scatter sites and an isolated Aboriginal artefact.
Umwelt Australia (1997)	Bayswater No. 3 mining lease	The southern section of the Bayswater No. 3 mining lease was surveyed, and 36 sites consisting of 28 open artefact scatters and eight isolated artefacts were recorded. The majority of sites were located adjacent to watercourses, namely Saddlers Creek and its tributaries. Sites were located on the watercourses' banks, as well as on elevated ground such as upper slopes and ridge tops adjacent to the watercourses. Artefacts included retouched flakes and cores, and one hammerstone.
McCardle Cultural Heritage Pty Ltd (2007)	Bayswater Power Station	An assessment was undertaken of the Bayswater Power Station as part of the Bayswater Power Station River Intake Project. An isolated mudstone flake was identified however due to the extensive levels of past disturbance it was deduced that other possible sites would have been previously destroyed.
AECOM (2009)	Bayswater Liddell Power Generation complex	An archaeological assessment of the Bayswater Liddell Power Generation complex was carried out and identified 47 Aboriginal sites. All sites were open artefact scatters and isolated artefacts. It was noted that flat areas associated with Saltwater Creek and its tributaries contained surface sites and potential for associated potential archaeological deposit (PAD), while elevated landforms and hillslopes were landforms with low archaeological sensitivity.
AECOM (2017)	Bayswater Ash Dam Overland Water Pipeline	An archaeological assessment was conducted at Bayswater Ash Dam Overland Water Pipeline. No surface artefacts were identified during the inspection. A search of the AHIMS identified a total of 102 sites outside the pipeline's footprint. These 102 sites included artefact scatters (n.78), isolated artefacts (n.15), sites destroyed under the condition of an AHIP (n.8) and a single modified tree. Sites mainly consisted of artefacts identified on exposed ground surfaces.
AECOM (2018)	Bayswater Brine Concentrator Decant Basin	A preliminary Aboriginal heritage assessment for proposed electrical works modifications at the Bayswater Brine Concentrator Decant Basin. This search identified 113 Aboriginal archaeological sites (two sites were classified as "destroyed") within the project area.
Jacobs (2017)	Golden Highway Aboriginal Cultural Heritage Assessment	The archaeological assessment identified a total of ten archaeological sites or potential archaeological deposits (PADs) at Ogilvies Hill to the south of the study area. On three artefact scatters a surface collection was undertaken and a reburial of collected artefacts was positioned nearby.
Jacobs (2017)	Golden Highway Aboriginal Cultural Values Assessment	This assessment identified strong ongoing connections to the Proposal area as well as strong interests in the manner in which those places are managed. Knowledge holders expressed a strong ongoing cultural knowledge of customary lore specific to cultural sites within or adjacent to the Proposal area. A number of sites of cultural significance were identified within the immediate vicinity of the Golden Highway corridor (to the south of the study area).

Reference	Location	Summary
Jacobs (2019)	Bayswater Water and other Associated Operational Works Project (WOAOW)	An Aboriginal cultural heritage assessment was undertaken for activities within the Bayswater Power Station site including areas located within the current Project area. The assessment identified 37 Aboriginal sites including isolated artefacts, artefact scatters and PAD. The isolated artefacts and artefact scatters ranged from low to moderate significance. Test excavations were proposed in areas of PAD.
AECOM (2020)	WOAOW Project Aboriginal cultural heritage assessment	Further Aboriginal cultural heritage assessment in the form of test excavation was undertaken for Bayswater power station works. 19 PAD areas were subject to test excavation. As a result of these investigations it was determined that the project included 23 valid sites including 10 PADs All sites have the recommended mitigation measure of community collection.

2.1 Predictive model for the Project area

The aim of the archaeological desktop review is to:

- Identify any known Aboriginal heritage sites or Aboriginal cultural places with potential to be impacted by the Project
- Identify areas within the Project area where there are likely to be previously unknown Aboriginal heritage sites with potential to be impacted by the Project.

The desktop assessment was designed to fulfil the requirements 1-4 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).

2.1.1 Methodology

The preparation of current heritage and spatial data relating to the Project area included:

- A search and review of the AHIMS
- Heritage data from previous archaeological assessments, including areas of PAD, Aboriginal heritage sites and Aboriginal cultural places
- Heritage data from previous archaeological assessments
- Aerial imagery.

2.1.2 Database searches

Jacobs carried out a search of the AHIMS on 13 October 2020. The footprint of the Project area and a 200m buffer zone was used as the search area.

Fifty six previously recorded sites are present within 200m of the Project area. Eight of these are within 20 m the Project area (two are recorded as being destroyed) as shown as highlighted grey in **Table 2.2**. All sites are artefact scatters on open ground. One artefact scatter also includes potential archaeological deposit.

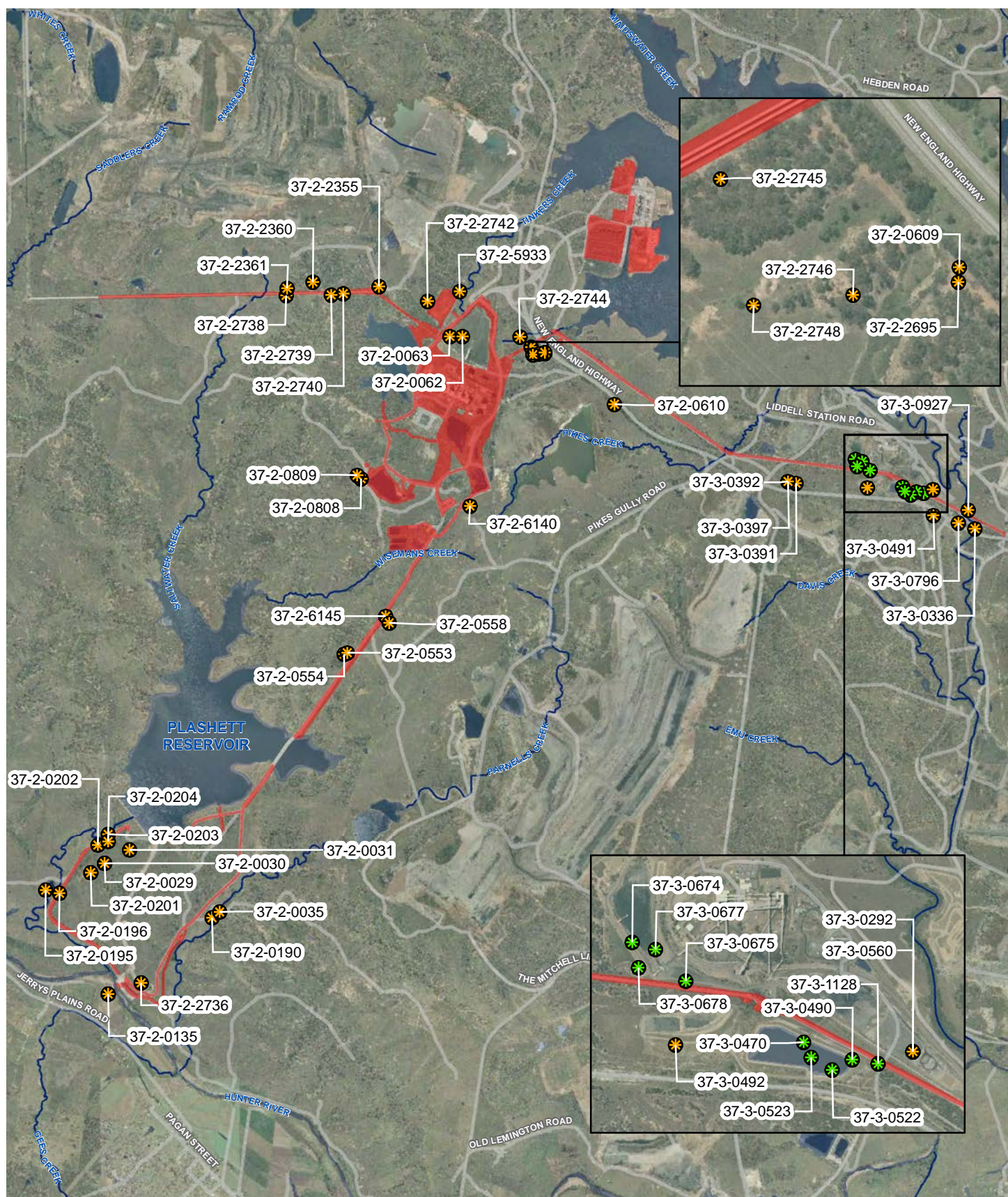
The list of AHIMS site records is provided in **Appendix A**.

Figure 2-1 details the location and extent of Aboriginal sites listed on the AHIMS within and in proximity to the Project area.

Table 2.2: AHIMS sites within 200 metres of the Project Area

AHIMS ID	Site name	Site status	Site type
37-2-0029	Saltwater Creek	Valid	Artefact Scatter
37-2-0030	Saltwater Creek; Saltwater Creek West Bank	Valid	Artefact Scatter
37-2-0031	Saltwater Creek	Valid	Grinding Groove
37-2-0035	Ponds Creek; Parnell's Creek	Valid	Artefact Scatter
37-2-0062	Tinkers Creek; Liddell	Valid	Artefact Scatter
37-2-0063	Liddell; Tinkers Creek	Valid	Artefact Scatter
37-2-0135	Jerry's Plains	Valid	Burial
37-2-0190	Ponds Creek	Valid	Artefact Scatter
37-2-0195	Saltwater Creek; No.1	Valid	Artefact Scatter
37-2-0196	Saltwater Creek; No.2	Valid	Artefact Scatter
37-2-0201	Saltwater Creek; No.7	Valid	Artefact Scatter
37-2-0202	Saltwater Creek; No.9	Valid	Artefact Scatter
37-2-0203	Saltwater Creek; No.10	Valid	Artefact Scatter
37-2-0204	Saltwater Creek; No.11	Valid	Artefact Scatter
37-2-0553	P6; Plashett	Valid	Artefact Scatter
37-2-0554	P7; Plashett	Valid	Artefact Scatter
37-2-0558	P11; Plashett	Valid	Artefact Scatter
37-2-0609	Ravensworth Open Cut; BAD 1	Valid	Artefact Scatter
37-2-0610	Ravensworth Open Cut; BAD 2	Valid	Artefact Scatter
37-2-0808	P13	Valid	Artefact Scatter
37-2-0809	P14	Valid	Artefact Scatter
37-2-2355	Delpha D15	Valid	Artefact Scatter
37-2-2360	Delpha D20	Valid	Artefact Scatter
37-2-2361	Delpha D21	Valid	Artefact Scatter
37-2-2695	B.A.D 1 (Jerrys Plains)	Valid	Artefact Scatter
37-2-2736	Magen Pump Station	Valid	Artefact Scatter and PAD
37-2-2738	Liddell EW 2	Valid	Artefact Scatter
37-2-2739	Liddell EW 3	Valid	Isolated Find
37-2-2740	Liddell EW 4	Valid	Isolated Find
37-2-2742	Liddell EW 6	Valid	Artefact Scatter
37-2-2744	Liddell EW 8	Valid	Artefact Scatter
37-2-2745	Liddell EW 9	Valid	Isolated Find
37-2-2746	Liddell EW 10	Valid	Artefact Scatter
37-2-2748	Liddell EW 12	Valid	Isolated Find
37-2-5933	BA-IA1-19	Valid	Artefact Scatter
37-2-6140	BAYS AS09	Valid	Artefact Scatter
37-2-6145	BAYS AS06	Valid	Artefact Scatter
37-3-0292	Nard 8, same as 37-3-0560	Valid	Artefact Scatter
37-3-0336	Rail Facility 1	Valid	Artefact Scatter
37-3-0391	Carrington Mine CM 43	Valid	Artefact Scatter
37-3-0392	Carrington Mine CM 44, same as 37-3-0397	Valid	Artefact Scatter
37-3-0397	Carrington Mines CM 44, same as 37-3-0392	Valid	Artefact Scatter
37-3-0470	Nard 13	Destroyed	Artefact Scatter

AHIMS ID	Site name	Site status	Site type
37-3-0490	NARDELL -N1	Destroyed	Artefact Scatter
37-3-0491	NARDELL N2	Valid	Artefact Scatter
37-3-0492	NARDELL N4	Valid	Artefact Scatter
37-3-0522	Nard 11	Destroyed	Artefact Scatter
37-3-0523	Nard 12	Destroyed	Artefact Scatter
37-3-0560	Nard 8, same as 37-3-0292	Valid	Artefact Scatter
37-3-0674	Newpac Stockpile OS 1	Destroyed	Artefact Scatter
37-3-0675	Newpac Stockpile OS 2	Destroyed	Artefact Scatter
37-3-0677	Newpac Stockpile IF 2	Destroyed	Isolated Find
37-3-0678	Newpac Stockpile IF 3	Destroyed	Isolated Find
37-3-0796	Liddell EW 13	Valid	Isolated Find
37-3-0927	REA3	Valid	Artefact Scatter
37-3-1128	REA256	Destroyed	Artefact Scatter



Legend

Project area AHIMS

Destroyed

Valid

0 1 2 km

1:76,000 at A4

N

Data sources

Jacobs 2020
NSW Spatial Services 2019
OEH 2020

Service Layer Credits:
© Department of Customer Service 2020

GDA94 MGA56



Figure 2-1 AHIMS search results for the proposed project area

3. Predictive modelling

Predictive modelling is used to determine the archaeological sensitivity of particular landforms within the Project area. The predictive model used to identify areas of archaeological sensitivity for this desktop assessment is based on a 'land system' or 'archaeological landscape' model of site location. This type of modelling enables the prediction of site location based on known patterns of site distribution in similar landscape regions or archaeological landscapes.

The predictive model was developed based on:

- A review of previous models developed for the area
- An assessment of the results of the previous archaeological assessments reviewed in **Section 2** above
- The interpretation of the distribution patterns of known sites in the Project area
- A study of previous impacts to the Project area and the potential effects of these impacts on the archaeological record.

The following specific predictive points are noted for each of the landscape (physiographic) regions traversed by the Project:

- Elevated landforms adjacent to ephemeral waterways possess high archaeological potential
- The most common site type will be surface and sub-surface scatters of stone artefacts
- The most commonly occurring raw material will be indurated mudstone followed by silcrete
- Other site types that may present in the landscape are quarries, grinding grooves and scarred trees
- Within the road corridor surface and sub-surface deposits are likely to be heavily disturbed and may contain areas of imported fill
- Sub-surface archaeological deposit is most likely to be within 200 m of a water source (river or creek)
- Ridgelines and hills will have lower density of subsurface and surface artefacts but may be of higher cultural significance to the Wonnarua people.

Sensitivity ratings for the predictive model shown in **Table 3.1** reflect the likelihood for archaeological sites to occur within each category, as well as an indicator of the potential significance of the sites. For example, a high rating indicates areas with these specific landscape characteristics (sometimes called landforms) are predicted to have a high potential for the discovery of archaeological sites and these sites are more likely to be of higher significance.

Table 3.1: Predictive model based on identification of landscapes with archaeological sensitivity

Landscape region	Specific landscape characteristics within the broad landscape units	Sensitivity rating	Issues relating to assigning sensitivity ratings
Lower slopes	Banks of ephemeral and permanent waterways	High	Sites of higher sensitivity in these landform units. The higher the stream order the more complex the site characteristics. Junctions of streams tend to be foci of cultural activity.
Ridge lines and upper slopes of hills	Upper slopes and crests of ridges/spurs	Moderate	Some sites are recorded within this landform unit. Sites are likely to be surface with thin deposits.
Mid slopes and shoulders	Mid slopes of ridges/spurs greater than 200 m from water.	Low	Some sites of low –moderate significance located in these areas.

3.1.1 Expected site types within the Project area

The predictive model indicates that certain site types are more likely to be prevalent in the landscape in the Region. The survival, degree of preservation or intactness will vary dependent on historical and current land use and the nature of the site. It is noted that the Project area is heavily disturbed as a result of its use as a coal fired power station since the 1970's which will reduce the chances of site preservation. The predictive model indicates the following sites maybe in the landscape:

- Open camp sites (artefact scatters): are the most likely sites to have survived in the archaeological record. They are scatters of stone artefacts with little associated food residue such as shell and bone. Since larger camp sites would have been associated with permanent water sources, the most likely places for these camp sites will be on terraces or low, flat spurs adjacent to and above swamps or permanent creeks. The majority of artefact scatters found within the Upper Hunter contain less than five artefacts occurring at low density and are located close to drainage lines (AECOM 2012). The majority of stone artefacts identified in the Project area are manufactured from silcrete or silicified volcanic tuff, which are both locally available materials (Dyall 1981).
- Scarred and carved trees: Scarred trees are identified by the purposeful removal of bark for use in the manufacture of artefacts such as containers, shields and canoes. The bark was also used for the construction of shelters. Carved trees also exhibit evidence of purposeful removal of bark (and wood), but differ from scarred trees in that geometric patterns and figures are cut into the tree. Although scarred/carved tree sites have been noted in the region, clearance of old growth timber has resulted in a low potential for this site type to be present.
- Grinding grooves: Within the Upper Hunter, sandstone exposures in watercourses were often used for shaping or sharpening ground stone axes (Kuskie 1997). This activity would often result in clearly observable grooves in the sandstone.
- Bora/Ceremonial sites: These sites are usually identified as mounded earth rings which were used for ceremonial activities. The nature of these sites makes them particularly susceptible to impact. These sites are often known only from the oral traditions of local Aboriginal groups.
- Natural/mythological/ritual sites: These sites may not exhibit any physical or archaeological evidence, and their identification is derived from local Aboriginal tradition and oral history. These sites often have mythological associations and are associated with ceremonial activity in the past. These sites are sometimes prominent landmarks, such as mountains, rocky outcrops or headlands. Where such landmarks occur outside the Project area, they may still be relevant as cultural markers from perspectives within the Project area.
- Burial sites: Burials are most commonly found in soft sandy, alluvial deposits. This tends to be the case because such conditions facilitate interment (i.e. the soil is lighter and more easily dug). There are currently no known burials located within the Project area.
- Waterholes or wells: Waterholes or wells can be any natural or excavated water retaining feature of either historic or prehistoric significance. In order to be considered as an archaeological site, there should be some evidence of modification or use of the site.

4. Archaeological Survey

4.1 Survey aims

The aim of the archaeological survey was to completely survey the Project area where impacts are proposed and identify any archaeological objects, or areas with the potential to contain archaeological objects (**PADs**) including the inspection of any previously identified Aboriginal heritage sites were able to be located.

4.2 Timing and personnel

The archaeological survey was carried out on the 23 and 24 November 2020, by the same personnel. Details of fieldwork activities and the participation of nominated Site Officers are provided in **Table 4.1**.

Table 4.1: Archaeological survey personnel

Fieldwork Representative	Organisation
Diedre Perkins	Culturally Aware
Georgina Berry	Wonnarua Nation Aboriginal Corporation
Arthur Fletcher	Kawul Pty Ltd trading as Wonn1 Sites
Allen Paget	Ungooroo Aboriginal Corporation
Serina Forscutt	Merrigarn
Ashely Sampson	AGA Services
George Sampson	Cacatua Culture Consultants
Adam King	Didge Ngunawal Clan
David Horton	Jarban & Mugrebea
Craig Archibald	Jumbunna Traffic Management Group Pty Ltd
Kody Mcutchen-King	Murra Bidgee Muilangari Aboriginal Corporation
Jamie Carroll	Kamilaroi Yankuntjatjara Working Group
Neil Cooke	AGLM
Arianna Henty	AGLM
Todd Fuller	AGLM
Alison Lamond (archaeologist)	Jacobs
Andy Roberts (archaeologist)	Jacobs

4.3 Survey methodology

The field survey systematically investigated the areas proposed to be impacted by the Project. Due to the size of the Project area and known past disturbance, the survey concentrated on areas that would be impacted by the Project beyond the extent of previous disturbance. These areas were broken up into seven survey units as shown on **Figure 4-1**. These survey units were surveyed on foot by a team of archaeologists and Aboriginal representatives.

Areas that would have minimal or negligible impacts from the Project were visited in vehicles and on-site consultation with nominated Site Officers from the RAPs was carried out to determine if there was need for further pedestrian survey. Areas that have been previously disturbed such as the former heavy equipment

assembly area, Bayswater operational associated with conveyor areas, lime slurry lagoon, lime softening plant, coal stockyards and River Road areas, were not subject to pedestrian survey but were sighted by RAPs to confirm prior disturbance and that no further survey is required.

The survey investigated the currently proposed impact areas in full. No sub-sampling of these areas was employed. Areas that were assessed by field teams as having no potential for archaeological material to be present, for example because of previous impacts and ground disturbance, were not surveyed by foot. The decision to exclude areas in this way was made in the field, through a consensus of all field team members as outlined above.

The ground survey team consisted of two archaeologists as well as Aboriginal representatives (see **Table 4.1**). The field survey aimed to locate Aboriginal objects and areas of PAD, these being areas with the potential to contain subsurface archaeological material.

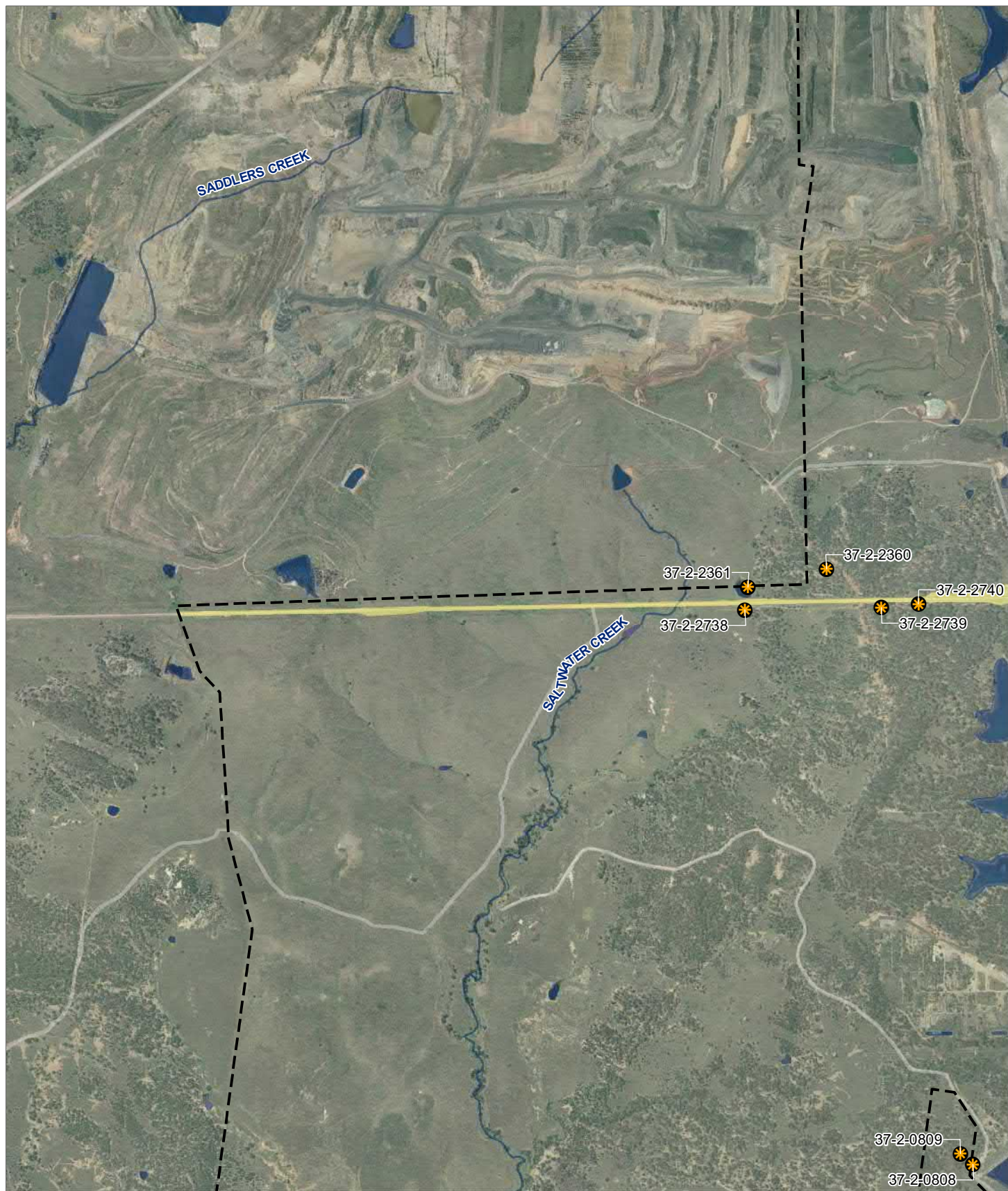
Where archaeological sites were encountered, the following attributes were recorded:

- Site location (single point for isolated artefacts, or as a boundary drawn around larger sites such as artefact scatters)
- Site type
- Landform context
- Vegetation type
- Land use
- Categories of features and artefacts present on the site
- Orientation/aspect of the site
- Observations on individual stone artefacts: stone material type; artefact type; platform surface; platform type; termination type; cross-section category; length, width and thickness in millimetres
- Photographs of the site and individual site features/artefacts will be taken as judged necessary by the field team
- Any other comments or information as judged relevant by the field team.

Any previously recorded sites within the footprint of the Project (including previously recorded sites in areas sufficiently close to the Project area to be at risk of inadvertent impact) were searched for during the survey. Where found, these sites were recorded following the same procedure as newly identified sites.

The survey also recorded land disturbance, survey coverage variables (ground exposure and archaeological visibility) and landform types across the Project area.

Data was captured using iPad notebooks, handheld GPS, and compact digital camera. Standard measuring tools such as tape measures and callipers were used.



Legend

Project area

The Bayswater Ancillary Works footprint

AGL owned land

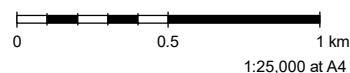
AHIMS sites

Valid

Road

Waterway

Waterbody



Data sources

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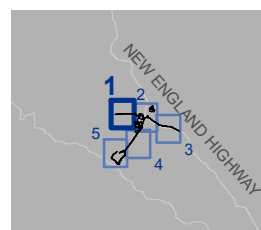
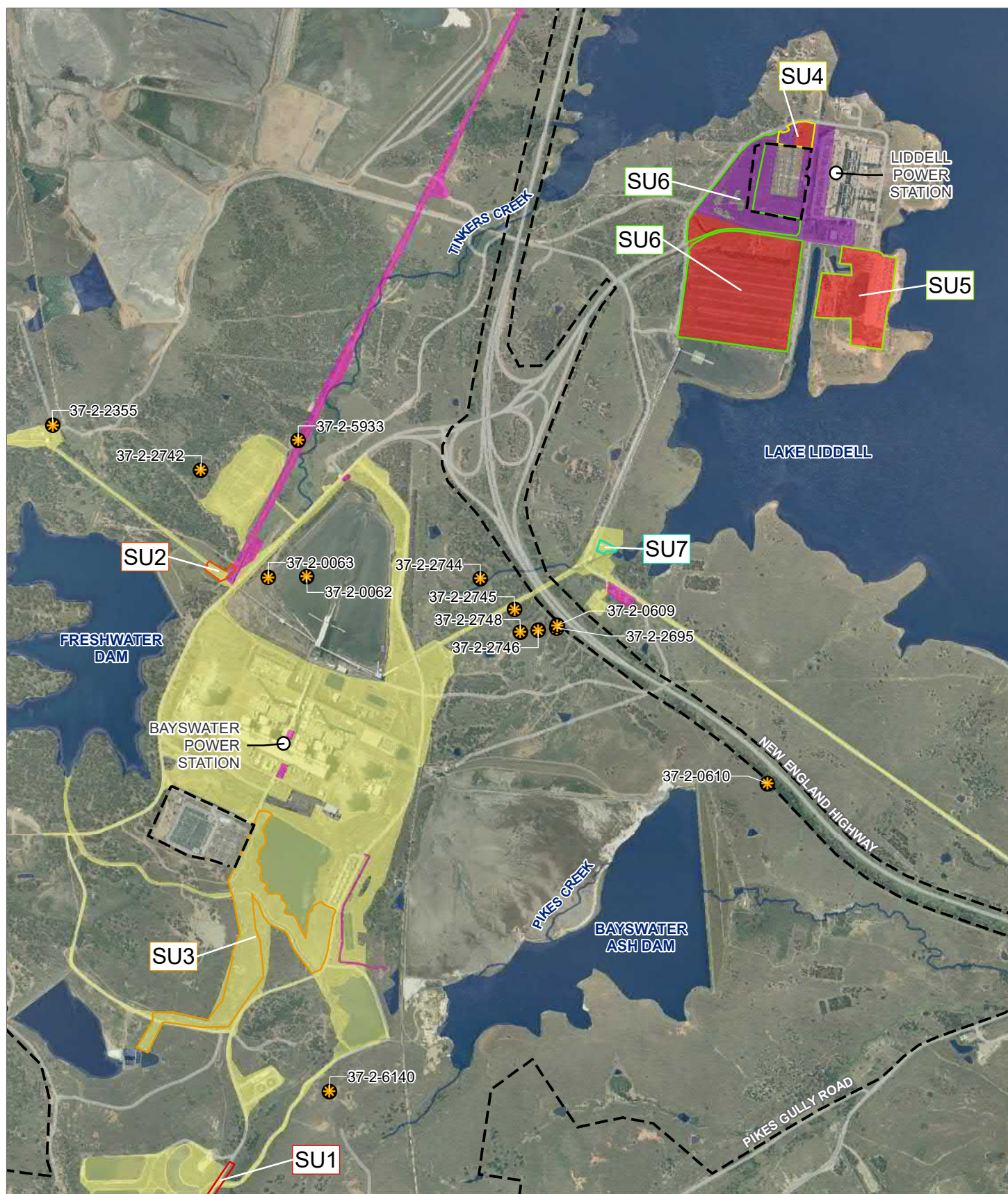


Figure 4 - 1 Survey units



Legend

Project area

- The Bayswater Ancillary Works footprint
- The Battery footprint
- The Decoupling footprint
- Consolidated consent
- AGL owned land

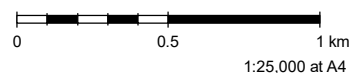
AHIMS sites

- Valid

Survey units

- SU1
- SU2
- SU3
- SU4
- SU5
- SU6
- SU7

- Road
- Waterway
- Waterbody



Data sources

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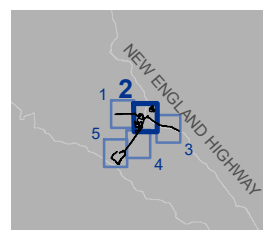
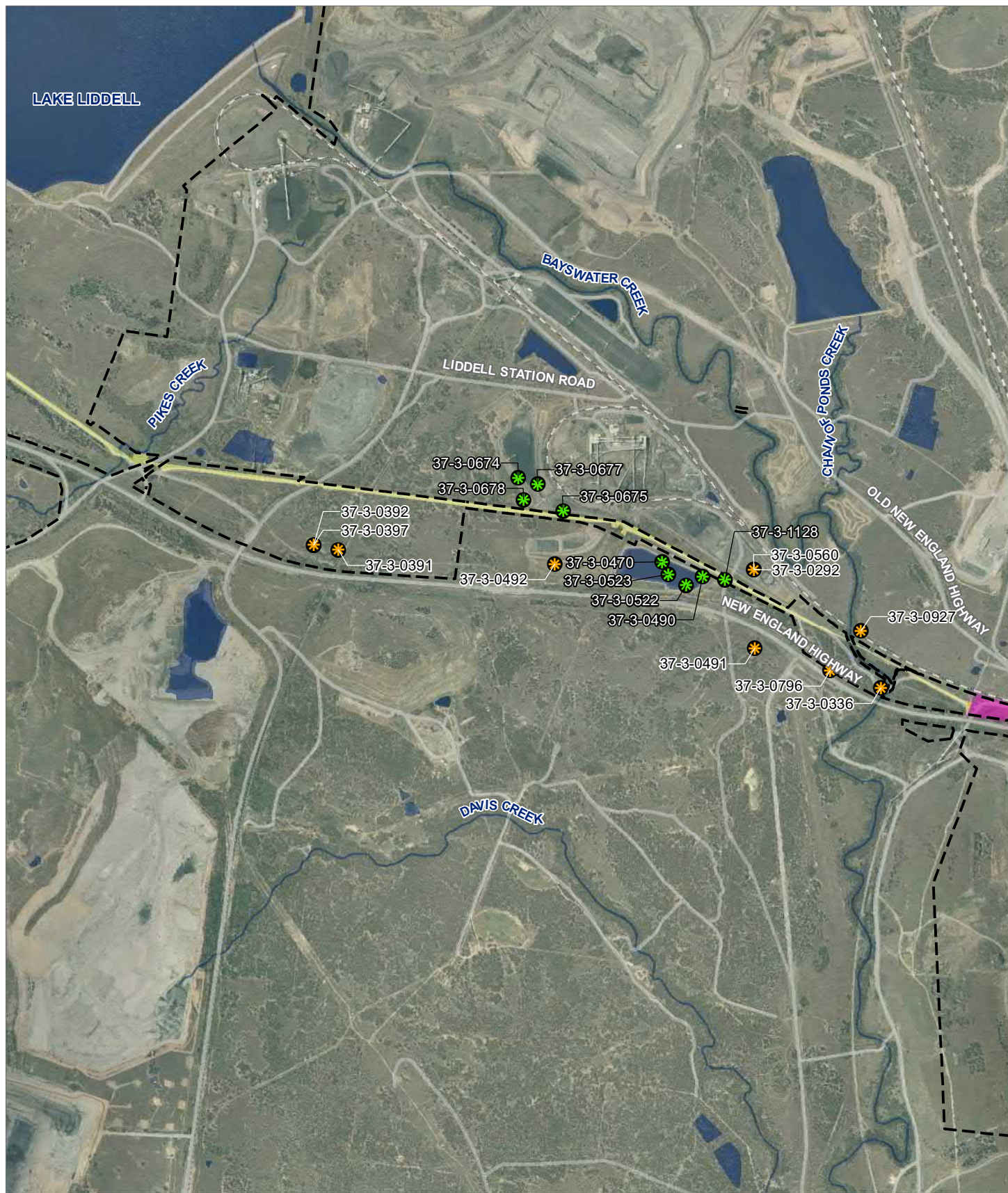


Figure 4 - 1 Survey units



Legend

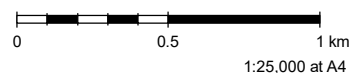
Project area

- The Bayswater Ancillary Works footprint
- Consolidated consent
- AGL owned land

AHIMS sites

- Valid
- Destroyed

- Railway
- Road
- Waterway
- Waterbody



Data sources

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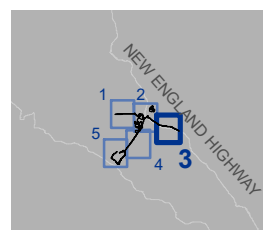


Figure 4 - 1 Survey units



Legend

Project area

The Bayswater Ancillary Works footprint

AGL owned land

AHIMS sites



Valid

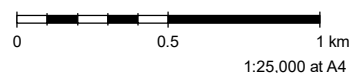
Survey units

SU1

Road

Waterway

Waterbody



Data sources

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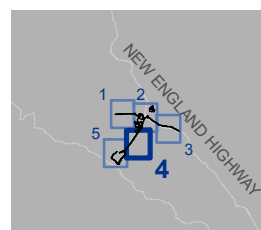
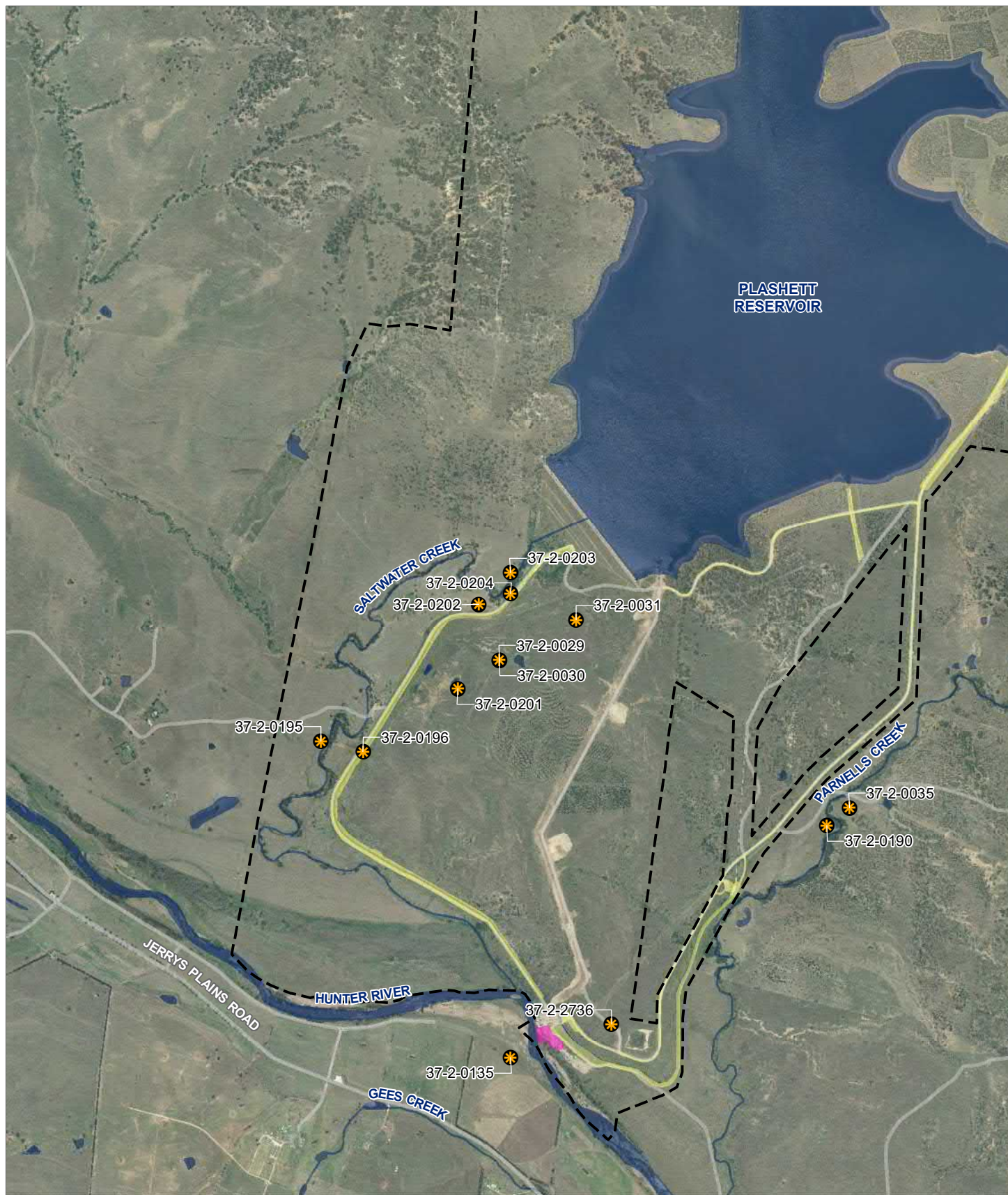


Figure 4 - 1 Survey units



Legend

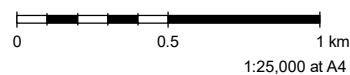
Project area

- The Bayswater Ancillary Works footprint
- Consolidated consent
- AGL owned land

AHIMS sites

- Valid

- Road
- Waterway
- Waterbody



Data sources

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Figure 4 - 1 Survey units

4.4 Survey Results

The results of the survey are provided below. Maps showing the location and extent of survey transects and newly identified Aboriginal sites can be found in **Figure 4-1** and **Figure 4-2**. Details of all Aboriginal sites are provided in **Section 5**. A summary of the survey coverage and effective survey coverage is provided in **Table 4.2**.

4.4.1 Survey unit 1: Liddell to Jerrys Plains High pressure water pipeline

Survey Unit 1 (SU1) follows the existing Liddell to Jerrys Plains high pressure water pipeline. It passes through a landform of low rolling hills with low-gradient slopes crossing multiple tributaries of Wisemans creek. The survey corridor includes the formed gravel access road. The area has been previously cleared, with a mixture of native and introduced grasses and thistles limiting visibility (refer to **Image 4.1**). General ground surface visibility was 0%, with high visibility within erosion scours on previous access track. Ten new sites (Liddell to Jerrys Plains Pipeline sites, refer to **Section 5.1**) and one previously recorded site (37-2-6145, refer to **Section 5.2**) were identified within this survey unit.



Image 4.1. SU1 at start of survey, view to the north.

4.4.2 Survey Unit 2: MA1B Conveyor Shortening

Survey Unit 2 (SU2) is located within the highly modified conveyor corridor which extends to the north west then west of Bayswater. The current landforms consist of high gradient slopes and a modified drainage channel (**Image 4.2**). The survey corridor includes the existing conveyor structure, a bitumen service road and concrete drains. There was no surface visibility due to dense grass cover as well as hardstand surfaces. No Aboriginal sites were identified within this survey unit.



Image 4.2. SU2 modified landforms.

4.4.3 Survey Unit 3: Brine Pipeline

Survey Unit 3 (SU3) follows an existing pipeline from the Brine Decant Basin to Bayswater. It passes through a landform of low rolling hills with low-gradient slopes crossing an ephemeral drainage line. The survey corridor includes a graded access road. The area has been previously cleared, with a mixture of native and introduced grasses and thistles limiting visibility (refer to **Image 4.3**). General ground surface visibility was 0%, with high visibility within the access track and its cut. Two new sites (Brine Pipeline AS 1 and AS2, refer to **Section 5.1**) were identified within this survey unit.



Image 4.3. SU3 at start of survey, view to the east.

4.4.4 Survey Unit 4: North side of Electrical Switchyard

Survey Unit 4 (SU4) is located on a modified slope immediately adjacent to the existing switchyard of Liddell. The survey area stretches from the electrical switch yard to the sealed access road and includes a gravel access track and above ground pipeline (refer to **Image 4.4**). The area is previously cleared with a mixture of native and introduced grasses. General visibility was 10% with high visibility within erosion scours and an ant nest. No Aboriginal sites were identified within this survey unit.



Image 4.4. SU4 modified slope between switch yard and access road, view to the west.

4.4.5 Survey Unit 5: Liddell Battery Option – Solar Array

Survey Unit 5 (SU5) is located on the site of the Liddell solar array. The ground surface within the area has been highly modified for the construction on the solar array. The entire area consists of a modified gravel pad, the south western half of which is located within a cut and the north eastern portion of which is located on fill (refer to **Image 4.5**). General visibility was 0% with due to introduced gravels. No Aboriginal sites were identified within this survey unit.



Image 4.5. SU5 southern end located within cut, view to the east.

4.4.6 Survey Unit 6 Liddell Battery Option - Non-process development land

Survey Unit 6 (SU6) includes an area used to store equipment no longer in use (refer to **Image 4.6**) and land surrounding the Liddell power station (**Image 4.7**). The ground surface within the area has been highly modified. Visibility was low as a result of bitumen, introduced gravels, equipment and grass. No Aboriginal sites were identified within this survey unit.



Image 4.6. SU6 disused equipment storage



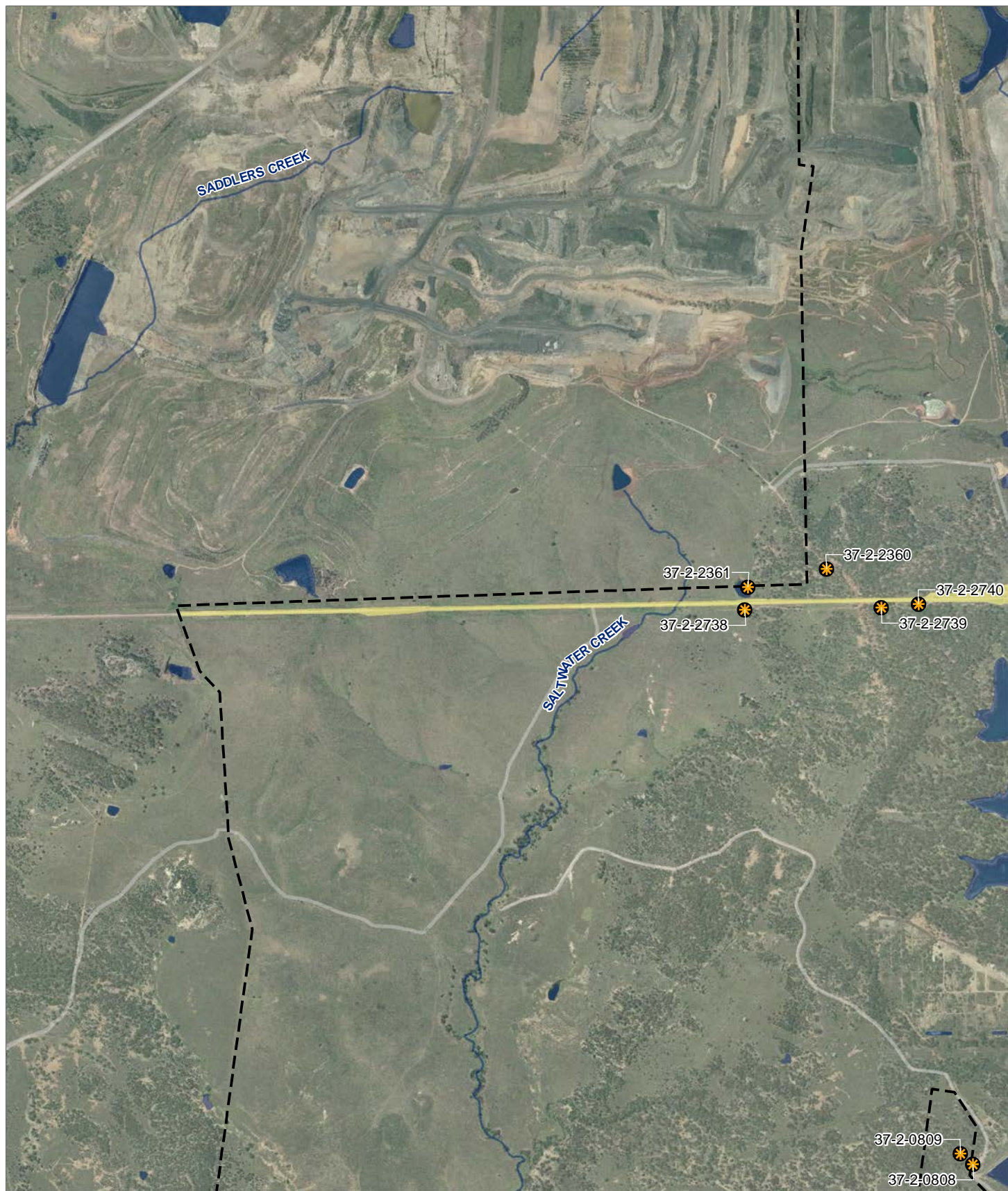
Image 4.7. SU6 to Liddell

4.4.7 Survey Unit 7: Conveyor M1

Survey Unit 7 (SU7) is located within the footprint of the existing conveyor footprint. The survey corridor includes the conveyor and formed gravel access road (refer to **Image 4.8**). The area has been previously cleared, with a mixture of native and introduced grasses and introduced gravels limiting visibility. One new site (Liddell M1 Conveyor AS1, refer to **Section 5.1**) was identified adjacent to this survey unit on a bund behind the electrical substation building.



Image 4.8. SU7 at start of survey, view to the southwest.



Legend

Project area

The Bayswater Ancillary Works footprint

AGL owned land

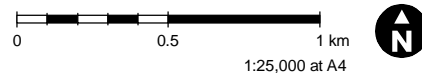
AHIMS sites

Valid

Road

Waterway

Waterbody



Data sources

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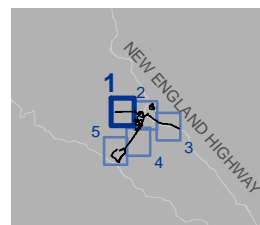
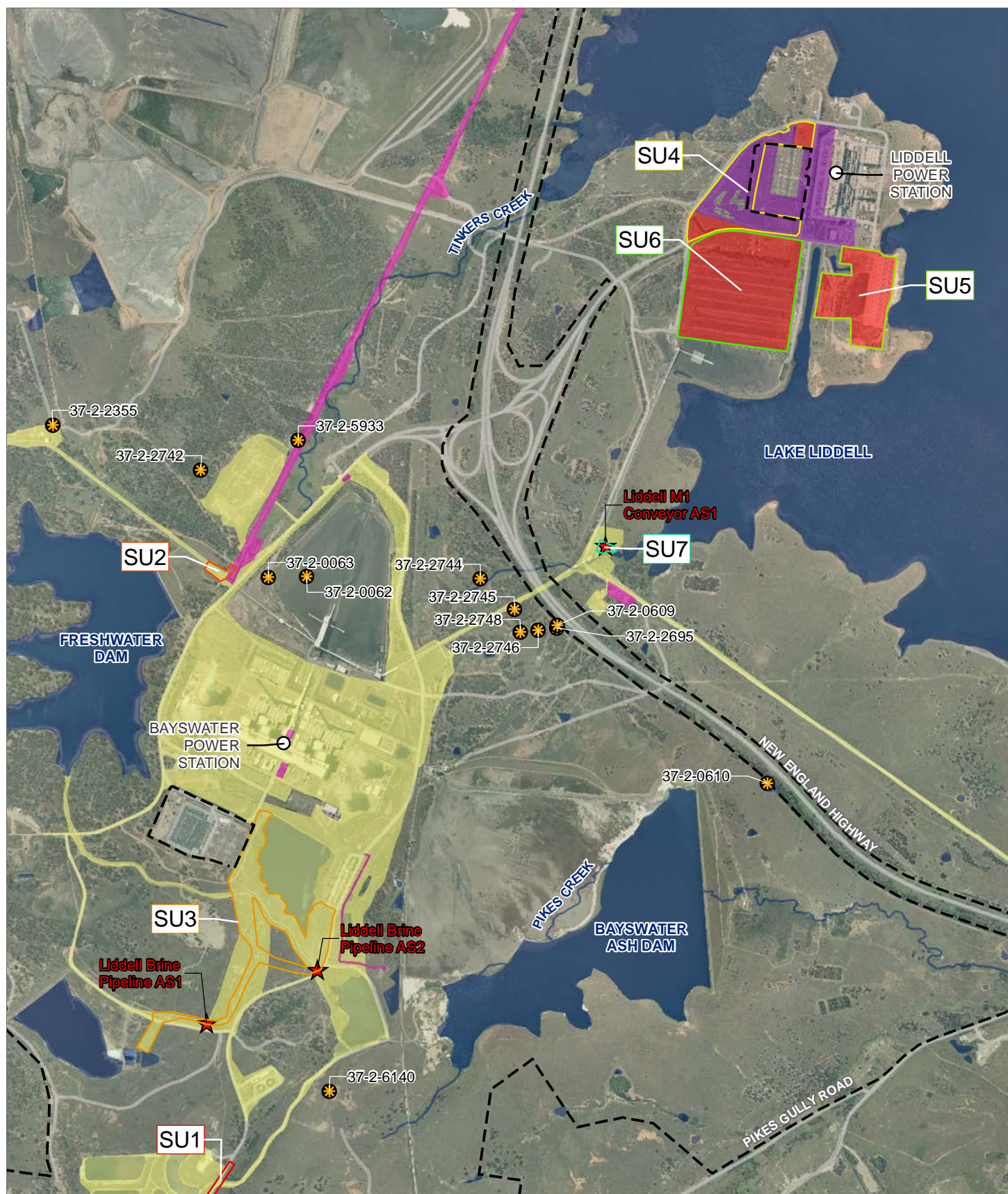


Figure 4 - 2 Results of survey



Legend

Project area

- The Bayswater Ancillary Works footprint
- The Battery footprint
- The Decoupling footprint
- Consolidated consent
- AGL owned land

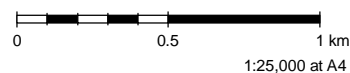
AHIMS sites

- Valid
- Newly identified site

Survey units

- SU1
- SU2
- SU3
- SU4
- SU5
- SU6
- SU7

- Road
- Waterway
- Waterbody



Data sources

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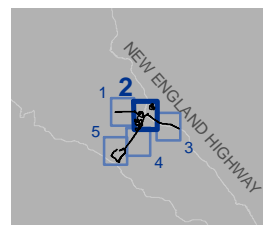
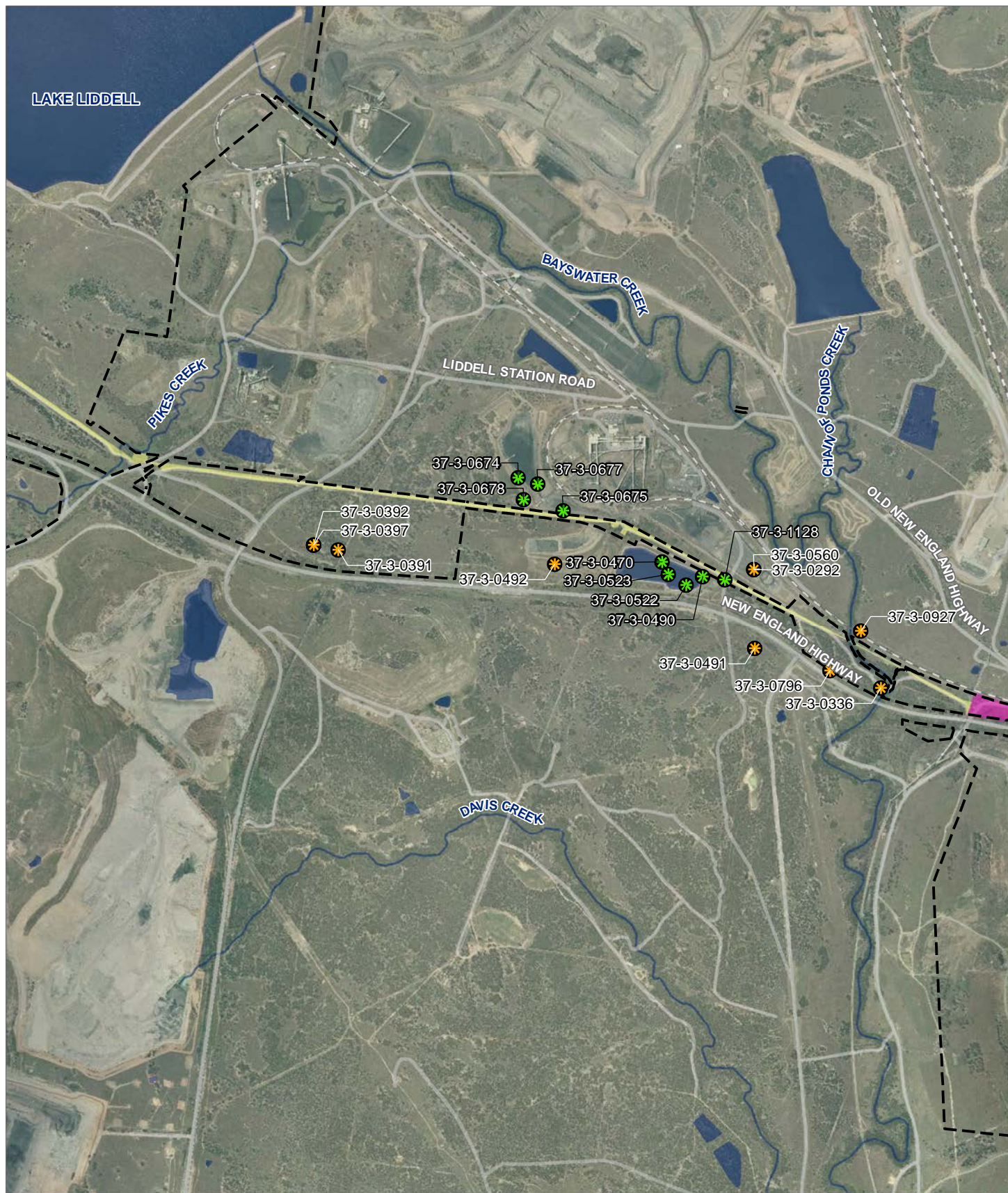


Figure 4 - 2 Results of survey



Legend

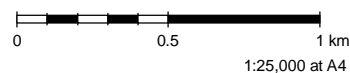
Project area

- The Bayswater Ancillary Works footprint
- Consolidated consent
- AGL owned land

AHIMS sites

- Valid
- Destroyed

- Railway
- Road
- Waterway
- Waterbody



Data sources

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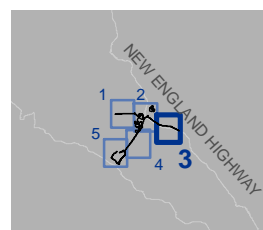


Figure 4 - 2 Results of survey

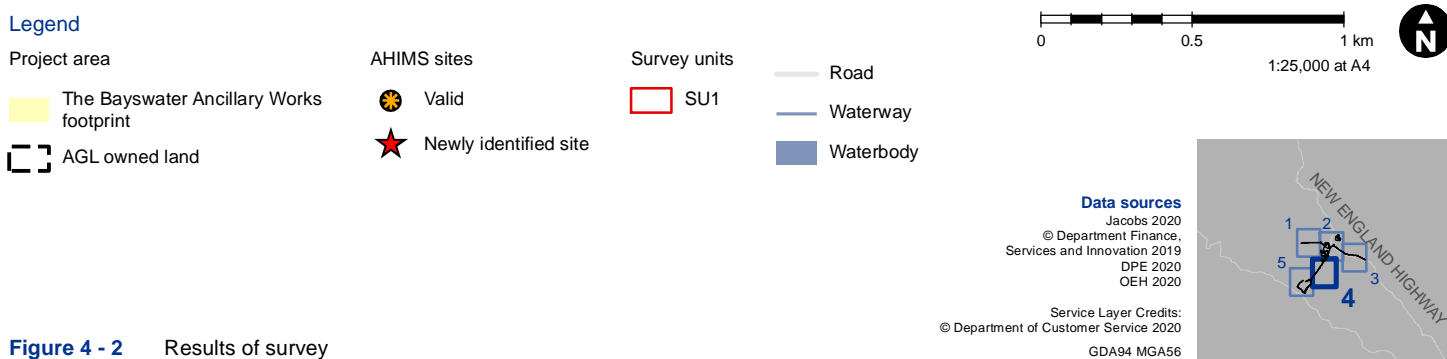
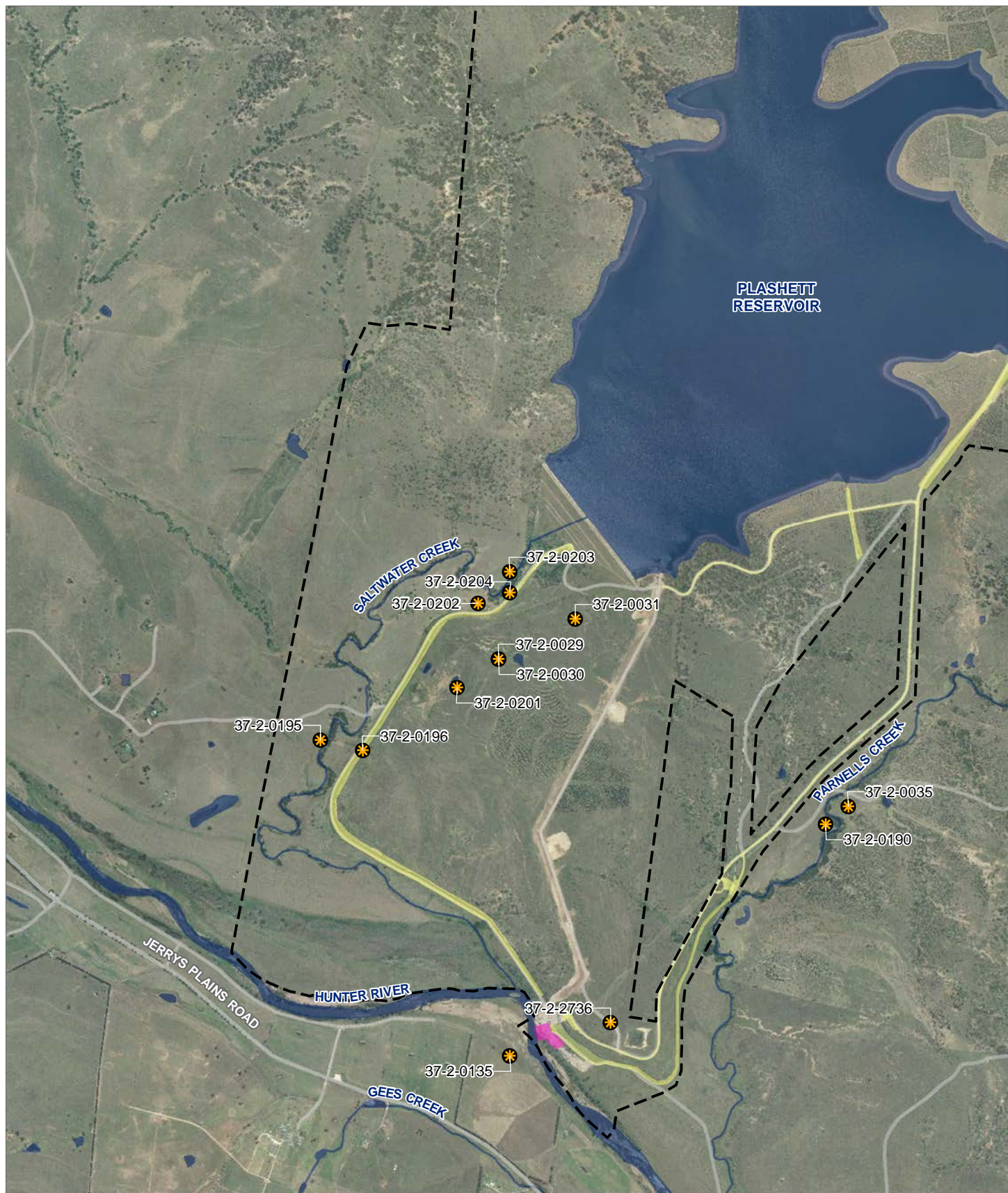


Figure 4 - 2 Results of survey



Legend

Project area

The Bayswater Ancillary Works footprint

Consolidated consent

AGL owned land

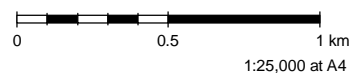
AHIMS sites

Valid

Road

Waterway

Waterbody



Data sources

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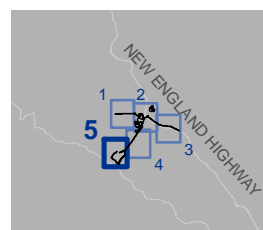


Figure 4 - 2 Results of survey

Table 4.2: Survey coverage

Survey Unit	Landform	Survey Unit area (sq m)	Visibility (%)	Exposure (%)	Effective coverage area (sq m)	Effective coverage (%)
SU1	Low rolling hills (slopes, crests and drainage lines)	240,100	0.1	10	24	0.04
SU2	Modified	6,850	0	0	0	0
SU3	Low rolling hills (slopes, crests and drainage lines)	197,000	0.1	20	39	0.02
SU4	Modified slope	16,800	10	15	251	1.5
SU5	Modified	120,400	0	0	0	0
SU6	Modified	388,700	1	5	194	0.05
SU7	Modified	3,600	2	2	1.4	0.04

5. Aboriginal Archaeological Sites

The single previously recorded Aboriginal archaeological site within the survey unit was visited and assessed as to its current condition (refer to **Section 5.2**). All new sites identified during the survey were recorded in detail (refer to **Section 5.1**) and full site records were submitted to AHIMS for inclusion in the register.

5.1 Newly identified Archaeological Sites

5.1.1 Liddell Jerrys Plains Pipeline IS1 (37-2-6280)

The site is located on a crest on an eroded access track within the easement of an existing high pressure water pipeline (**Image 5.1**). The mudstone flaked piece (**Image 5.2**) was identified within a scour eroded to clay; the general visibility was limited with dense vegetation of native and introduced grasses. The area has an outlook to the south and southeast. The artefacts have potentially been subject to movement as a result of the construction of the pipeline or erosion.



Image 5.1. Across site area, view to the south



Image 5.2. Mudstone flaked piece

5.1.2 Liddell Jerrys Plains Pipeline IF2 (37-2-6281)

The site is located on the upper slope within a large exposure eroded to clay (**Image 5.3**). The silcrete flake (**Image 5.4**) was identified within a scour eroded to clay the general visibility was limited native and introduced grasses. The area has an outlook to the south and southeast.



Image 5.3. Across site area in foreground, Liddell Jerrys Plains Pipeline AS3 (37-2-6279) in distance, view to the northeast



Image 5.4. Silcrete flake

5.1.3 Liddell Jerrys Plains Pipeline AS3 (37-2-6279)

The site is located on the upper slope within a large exposure eroded to clay (**Image 5.5**). The site consists of six artefacts of silcrete and mudstone and one porcellanite (**Image 5.6**). The general visibility surrounding the erosion scour was limited with native and introduced grasses. The area has an outlook to the south and southeast.



Image 5.5. Across site area, view to the north.

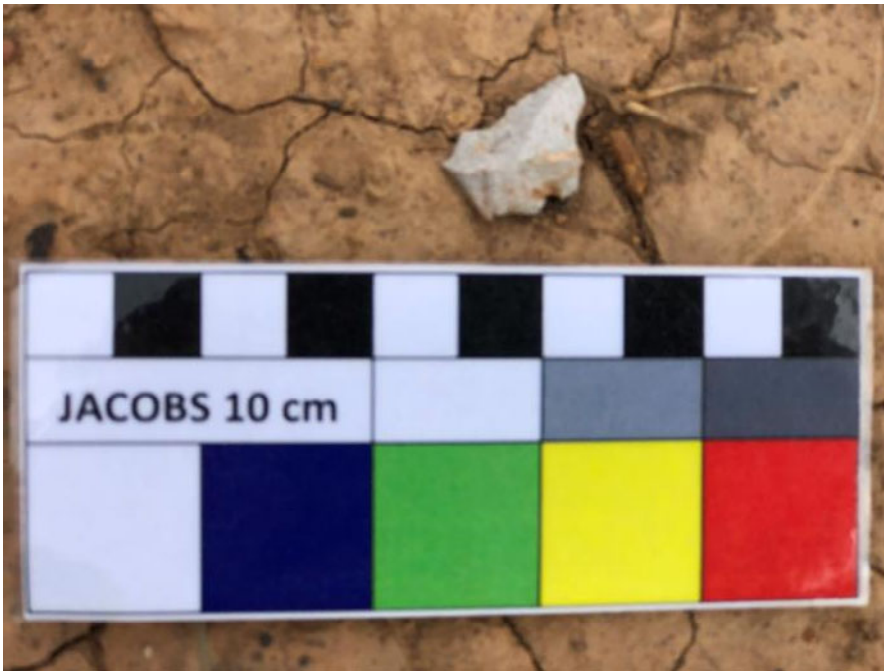


Image 5.6 Porcellanite artefact

5.1.4 Liddell Jerrys Plains Pipeline IF4 (37-2-6291)

The site is located on a crest within a large exposure (**Image 5.7**) within an existing high pressure water pipeline easement. The silcrete broken flake (**Image 5.8**) was identified within a scour eroded to clay, the general visibility was limited with native and introduced grasses. The area has an outlook in all directions.



Image 5.7. Across site area, view to the north northeast.



Image 5.8. Silcrete broken flake

5.1.5 Liddell Jerrys Plains Pipeline AS5 (37-2-6290)

The site is located on the lower slope above a minor ephemeral drainage line (**Image 5.9**). The site consists of two mudstone flakes (**Image 5.10**) and was identified within an area of erosion with thinner vegetation. The general visibility was limited, with native and introduced grasses. The site is located on the opposite side of the drainage line to Liddell Jerrys Plains Pipeline AS6 (37-2-6289) (**Section 5.1.6**).



Image 5.9. Across drainage line to site area, view to the southwest



Image 5.10. Mudstone Flake

5.1.6 Liddell Jerrys Plains Pipeline AS6 (37-2-6289)

The site is located on a lower slope of medium gradient, approximately 20 m from an ephemeral drainage line (**Image 5.11**). The site consists of an edge ground and flaked basalt axe and a quartzite flake (**Image 5.12**) and was identified within a small scour (2m by 2m) eroded to clay. The general visibility was limited with native and introduced grasses. The area has an outlook to the southwest. The site is located on the opposite side of the drainage line to Liddell Jerrys Plains Pipeline AS5 (37-2-6290) (**Section 5.1.5**).



Image 5.11. Across site area, view to the northeast



Image 5.12. Quartzite flake and basalt axe

5.1.7 Liddell Jerrys Plains Pipeline IF7 (37-2-6287)

The site is located on the upper slope within a large exposure eroded to clay (**Image 5.13**). The mudstone broken flake (**Image 5.14**) was identified within a scour eroded to clay while the general visibility was limited with native and introduced grasses. The area has an outlook to the south and southeast.



Image 5.13. Across site area, view to the south



Image 5.14. Mudstone broken flake

5.1.8 Liddell Jerrys Plains Pipeline IF8 (37-2-6288)

The site is located on the crest within an exposure within an existing high pressure water pipeline easement (**Image 5.15**). The mudstone flake piece (**Image 5.16**) was identified within a scour eroded to clay. The general visibility was limited with native and introduced grasses. The area has an outlook to the north and east.



Image 5.15. Across site area, view to the northeast



Image 5.16. Mudstone flaked piece

5.1.9 Liddell Jerrys Plains Pipeline AS9 (37-2-6286)

The site is located on the crest near the slope break within an exposure near an electricity tower (**Image 5.17**). The silcrete broken retouched flake (**Image 5.18**) and mudstone flaked piece were identified within a scour (5m by 1m) eroded to clay, while the general visibility was limited with native and introduced grasses. The area has an outlook to the south.



Image 5.17. Across site area, view to the west southwest



Image 5.18. Silcrete broken retouched flake

5.1.10 Liddell Jerrys Plains Pipeline AS10 (37-2-6283)

The site is located on the lower slope within a large exposure in the existing high pressure water pipeline easement near the boundary fence (**Image 5.19**). The seven silcrete and mudstone artefacts were identified within a scour eroded to clay. An example of one of the artefacts is shown in **Image 5.20**. The general visibility was limited with native and introduced grasses. The area has an outlook to the east.



Image 5.19. Across site area, view to the south southeast.



Image 5.20. Silcrete core

5.1.11 Brine Pipeline AS1 (37-2-6285)

The site is located on a heavily eroded upper slope above a graded access track (**Image 5.21**) within the wider survey transect associated with the current brine concentrator return pipeline. Three mudstone artefacts (**Image 5.22**) were identified. The artefacts were not in situ, as they were located within material thrown up by a grader. The general visibility around the track was limited with native and introduced grasses. The area has an outlook to the north.



Image 5.21. Across site area, view to the south



Image 5.22. Mudstone artefacts

5.1.12 Brine Pipeline AS2 (37-2-6282)

The site is located on the modified lower slope within a large exposure eroded to clay (**Image 5.23**). The area was modified through the construction of the existing brine pipeline. The five mudstone artefacts (**Image 5.24**) were identified within an erosion scour adjacent to the existing brine pipeline. General visibility was limited by grass cover.

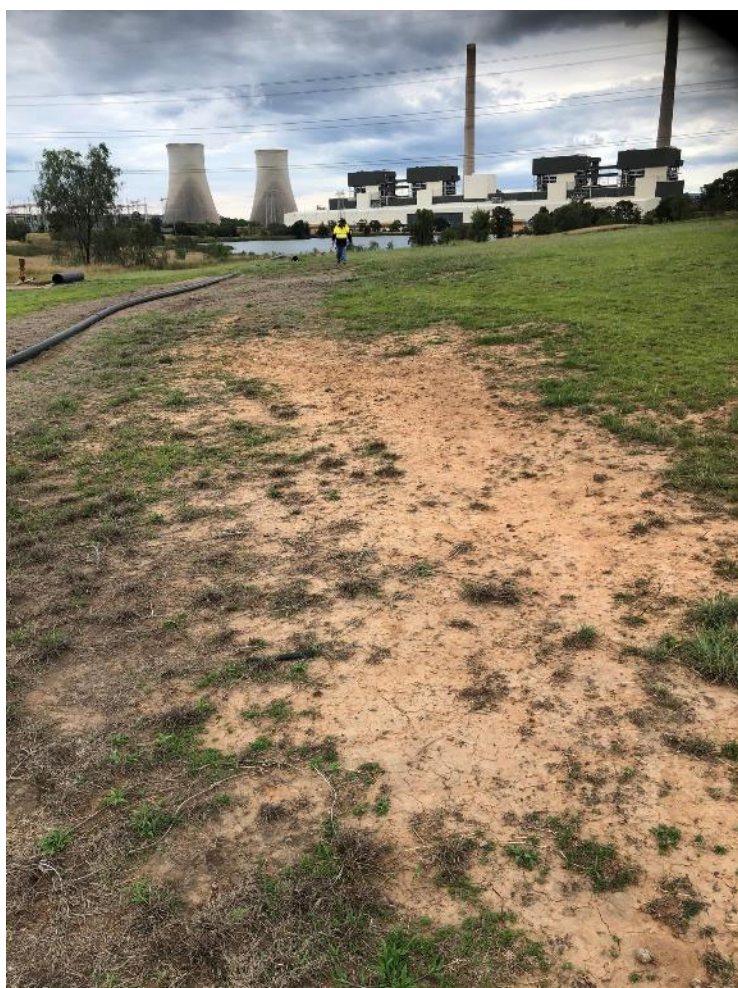


Image 5.23. Across site area, view to the north



Image 5.24. Mudstone artefacts

5.1.13 Liddell M1 Conveyor AS1 (37-2-6284)

The site is located on a modified landform, on a bund behind the M1 Conveyor electrical substation (**Image 5.25**). The area was clearly disturbed as part of the substation construction creating a bund. The six mudstone artefacts including a core rejuvenation flake (**Image 5.26**) were identified on the clay of the exposed bund. However general visibility was limited with native and introduced grasses. The artefacts in the bund are not in situ however the less disturbed land to the north east is potentially archaeologically sensitive which is outside of the Project area.



Image 5.25. Across site area, view to the south west.



Image 5.26. Mudstone artefacts

5.2 Previously Recorded site

5.2.1 37-2-6145 BAYS AS06 (37-2-6145)

This site was previously identified as an artefact scatter associated with an ephemeral drainage line east of the Liddell Jerrys Plains Pipeline during survey in 2019 (Jacobs 2019). No artefacts were identified within the area of the previously recorded site location during this survey (**Image 5.27**). The area did have reduced ground surface visibility during this survey as a result of native and introduced grasses.



Image 5.27. Across 37-2-6145 site area (note the fence line is the boundary of the survey unit)

6. Summary

Previous archaeological assessments within the Project area and vicinity have identified a large number of sites including artefact scatters, and potential archaeological deposits. These sites are often located near water sources, particularly on elevated landforms. The long post-contact history of development in the area has resulted in destruction of a large number of sites.

A search of the AHIMS database was undertaken on 13 October 2020 of the footprint of the Project area (refer to **Appendix A**) and included a 200m buffer zone. Seventeen previously recorded sites are within proximity to, or within the Project area, two of which are recorded as being destroyed. All sites are artefact scatters on open ground and one artefact scatter also includes PAD.

The following specific predictive points are noted for the landforms within the Project area:

- Elevated landforms adjacent to ephemeral waterways possess high archaeological potential
- The most common site type will be surface and sub-surface scatters of stone artefacts
- The most commonly occurring raw material will be indurated mudstone followed by silcrete
- Other site types that may be present in the landscape where not heavily disturbed are quarries, grinding grooves and scarred tree
- Within road corridors, surface and sub-surface deposits are likely to be heavily disturbed and may contain areas of imported fill
- Where present, sub-surface archaeological deposit is most likely to be within 200 m of a water source (river or creek)
- Ridgelines and hills will have lower density artefact deposit and surface artefacts but may be of higher cultural significance to Aboriginal people.

The archaeological surveys were conducted on the 23 and 24 November 2020 respectively, covering all areas within the Project area where impacts are proposed. On-site consultation with nominated Site Officers from the RAPs contributed to the development of management and mitigation recommendations, including recommendations for any further assessment (refer to the Aboriginal Cultural Heritage Assessment). Thirteen new sites were identified within the Project area, and one previously recorded site was re-visited yet not located during survey. These sites consisted of isolated finds and artefact scatters and are detailed in **Table 6.1**.

Table 6.1: Aboriginal Sites Summary Table

Site Name	Site Type	Survey Unit
Liddell Jerrys Plains Pipeline IS1 (37-2-6280)	Artefact Scatter	SU1
Liddell Jerrys Plains Pipeline IF2 (37-2-6281)	Isolated Find	SU1
Liddell Jerrys Plains Pipeline AS3 (37-2-6279)	Artefact Scatter	SU1
Liddell Jerrys Plains Pipeline IF4 (37-2-6291)	Isolated Find	SU1
Liddell Jerrys Plains Pipeline AS5 (37-2-6290)	Artefact Scatter	SU1
Liddell Jerrys Plains Pipeline AS6 (37-2-6289)	Artefact Scatter	SU1
Liddell Jerrys Plains Pipeline IF7 (37-2-6287)	Isolated Find	SU1
Liddell Jerrys Plains Pipeline IF8 (37-2-6288)	Isolated Find	SU1
Liddell Jerrys Plains Pipeline AS9 (37-2-6286)	Artefact Scatter	SU1
Liddell Jerrys Plains Pipeline AS10 (37-2-6283)	Artefact Scatter	SU1

Site Name	Site Type	Survey Unit
BAYS AS06 (37-2-6145)	Artefact Scatter	SU1
Liddell Brine Pipeline AS1 (37-2-6285)	Artefact Scatter	SU3
Liddell Brine Pipeline AS2 (37-2-6282)	Artefact Scatter	SU3
Liddell M1 Conveyor AS1 (37-2-6284)	Artefact Scatter	SU7

Site significance, potential impacts and possible mitigation measures are detailed in the Liddell Battery and Ancillary Works Aboriginal Cultural Heritage Assessment Report (Jacobs 2020).

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Appendix A. AHIMS Search Results

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0397	Carrington Mines CM 44, same as 37-3-0392	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	ASRSYS					Permits		
37-3-0391	Carrington Mine CM 43	AGD	56	312022	6412566	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Mrs.Angela Besant					Permits		
37-3-0392	Carrington Mine CM 44, same as 37-3-0397	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	103364
	Contact	Recorders	Mrs.Angela Besant					Permits		
37-2-0609	Ravensworth Open Cut;BAD 1;	AGD	56	308400	6414450	Open site	Valid	Artefact : -	Open Camp Site	2688,4525
	Contact	Recorders	Doctor.Susan McIntyre-Tamwoy					Permits		
37-2-0610	Ravensworth Open Cut;BAD 2;	AGD	56	309400	6413700	Open site	Valid	Artefact : -	Open Camp Site	2688,4525
	Contact	Recorders	Doctor.Susan McIntyre-Tamwoy					Permits		
37-3-0336	Rail Facility 1	AGD	56	314600	6411910	Open site	Valid	Artefact : -	Open Camp Site	103364
	Contact	Recorders	Mr.Matthew Barber					Permits		
37-2-0808	P13;	AGD	56	305750	6412630	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	David Bell,Doctor.Jo McDonald					Permits		
37-2-0554	P7;Plashette;	AGD	56	305500	6410100	Open site	Valid	Artefact : -	Open Camp Site	2238
	Contact	Recorders	Margrit Koettig					Permits		
37-2-0558	P11;Plashette;	AGD	56	306150	6410550	Open site	Valid	Artefact : -	Open Camp Site	2238
	Contact	Recorders	Margrit Koettig					Permits		
37-2-0809	P14;	AGD	56	305690	6412680	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	David Bell,Doctor.Jo McDonald					Permits		
37-2-0190	Ponds Creek;	AGD	56	303600	6406300	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0195	Saltwater Creek;No.1;	AGD	56	301200	6406700	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0201	Saltwater Creek;No.7;	AGD	56	301850	6406950	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0202	Saltwater Creek;No.9;	AGD	56	301950	6407350	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0203	Saltwater Creek;No.10;	AGD	56	302100	6407500	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0204	Saltwater Creek;No.11;	AGD	56	302100	6407400	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	ASRSYS					Permits		
37-2-0029	Saltwater Creek;	AGD	56	302047	6407085	Open site	Valid	Artefact : -	Open Camp Site	310
	Contact	Recorders	ASRSYS					Permits		

Report generated by AHIMS Web Service on 13/10/2020 for Alison Lamond for the following area at Search using shape-file IS334000_SearchAreaAHIMS_20201013_v2.SHP with a buffer of 0 meters. Additional Info : ACHAR. Number of Aboriginal sites and Aboriginal objects found is 56

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-2-0030	Saltwater Creek;Saltwater Creek West Bank; Contact	AGD	56	302047	6407085	Open site	Valid	Artefact : - Permits	Open Camp Site	310
37-2-0031	Saltwater Creek; Contact	AGD	56	302410	6407275	Open site	Valid	Grinding Groove : - Permits	Axe Grinding Groove	310
37-2-0035	Ponds Creek;Parnell's Creek; Contact	AGD	56	303707	6406385	Open site	Valid	Artefact : - Permits	Open Camp Site	310
37-2-0135	Jerry's Plains; Contact	AGD	56	302100	6405200	Open site	Valid	Burial : - Permits	Burial/s	313
37-2-0063	Liddell;Tinkers Creek; Contact	AGD	56	307027	6414679	Open site	Valid	Artefact : - Permits	Open Camp Site	4525
37-2-5933	BA-IA1-19 Contact	GDA	56	307170	6415342	Open site	Valid	Artefact : - Permits		
37-3-0490	NARDELL -N1 Contact	AGD	56	313754	6412440	Open site	Destroyed	Artefact : - Permits		
37-3-0491	NARDELL N2 Contact	AGD	56	314000	6412100	Open site	Valid	Artefact : - Permits		103364
37-3-0492	NARDELL N4 Contact	AGD	56	313050	6412500	Open site	Valid	Artefact : - Permits		103364
37-3-0470	Nard 13 Contact	AGD	56	313560	6412510	Open site	Destroyed	Artefact : - Permits	1362,1363	
37-3-0560	Nard 8, same as 37-3-0292 Contact	GDA	56	313998	6412486	Open site	Valid	Artefact : - Permits		
37-3-0522	Nard 11 Contact	AGD	56	313675	6412400	Open site	Destroyed	Artefact : - Permits	1414	
37-3-0523	Nard 12 Contact	AGD	56	313590	6412450	Open site	Destroyed	Artefact : - Permits	1414	
37-2-0553	P6;Plashette; Contact	AGD	56	305550	6410120	Open site	Valid	Artefact : - Permits	Open Camp Site	2238
37-2-2740	Liddell EW 4 Contact	GDA	56	305491	6415308	Open site	Valid	Artefact : 1 Permits		101420
37-2-2742	Liddell EW 6 Contact	GDA	56	306707	6415201	Open site	Valid	Artefact : 2 Permits		101420
37-2-2744	Liddell EW 8 Contact	GDA	56	308036	6414684	Open site	Valid	Artefact : 2 Permits		101420

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-2-2745	Liddell EW 9	GDA	56	308197	6414538	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-2-2738	Liddell EW 2	GDA	56	304665	6415282	Open site	Valid	Artefact : 2		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-2-2739	Liddell EW 3	GDA	56	305315	6415291	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-2-2746	Liddell EW 10	GDA	56	308310	6414439	Open site	Valid	Artefact : 3		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-2-2748	Liddell EW 12	GDA	56	308225	6414430	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-3-0796	Liddell EW 13	GDA	56	314359	6412006	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd <u>Permits</u>							
37-3-0674	Newpac Stockpile OS 1	GDA	56	312877	6412922	Open site	Destroyed	Artefact : 2		99846
	<u>Contact</u> Searle	<u>Recorders</u>	Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag <u>Permits</u> 2385							
37-3-0675	Newpac Stockpile OS 2	GDA	56	313091	6412766	Open site	Destroyed	Artefact : 4		99846
	<u>Contact</u> Searle	<u>Recorders</u>	Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag <u>Permits</u> 2385							
37-3-0677	Newpac Stockpile IF 2	GDA	56	312971	6412892	Open site	Destroyed	Artefact : 1		99846
	<u>Contact</u> Searle	<u>Recorders</u>	Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag <u>Permits</u> 2385							
37-3-0678	Newpac Stockpile IF 3	GDA	56	312903	6412819	Open site	Destroyed	Artefact : 1		99846
	<u>Contact</u> S Scanlon	<u>Recorders</u>	Austral Archaeology Pty Ltd - Liverpool,OzArk Environmental and Heritage Manag <u>Permits</u> 2385							
37-2-2355	Delpah D15	GDA	56	306003	6415415	Open site	Valid	Artefact : -		
	<u>Contact</u> Searle	<u>Recorders</u>	Mr.Giles (dup ID#12832) Hamm <u>Permits</u>							
37-2-2360	Delpah D20	GDA	56	305054	6415475	Open site	Valid	Artefact : -		
	<u>Contact</u> Searle	<u>Recorders</u>	Mr.Giles (dup ID#12832) Hamm <u>Permits</u>							
37-2-2361	Delpah D21	GDA	56	304680	6415390	Open site	Valid	Artefact : -		102616
	<u>Contact</u> Searle	<u>Recorders</u>	Mr.Giles (dup ID#12832) Hamm <u>Permits</u>							
37-2-0196	Saltwater Creek;No.2;	AGD	56	301400	6406650	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Unknown Author <u>Permits</u>							
37-2-0062	Tinkers Creek;Liddell;	AGD	56	307210	6414682	Open site	Valid	Artefact : -	Open Camp Site	4525
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
37-2-2695	B.A.D 1 (Jerrys Plains)	GDA	56	308400	6414450	Open site	Valid	Artefact : -		2683
	<u>Contact</u>	<u>Recorders</u>	Doctor.Susan McIntyre-Tamwoy <u>Permits</u>							
37-2-2736	Maggen Pump Station	GDA	56	302579	6405370	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : 1		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : IS334000

Client Service ID : 542209

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Mr.Rick Bullers							
37-3-1128	REA256	GDA	56	313859	6412438	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited - Individual users,Ms.Alison Lamond							
37-3-0292	Nard 8; same as 37-3-0560	GDA	56	313998	6412486	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart,OzArk Environmental and Heritage Management,Miss.Stephanie Rusder							
37-3-0927	REA3	GDA	56	314506	6412193	Open site	Valid	Artefact : -		103364
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited - Individual users							
37-2-6140	BAYS AS09	GDA	56	307318	6412247	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Jacobs Group (Australia) Pty Ltd - North Sydney,Miss.Alexandra Seifertova							
37-2-6145	BAYS AS06	GDA	56	306099	6410662	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Jacobs Group (Australia) Pty Ltd - North Sydney,Miss.Alexandra Seifertova							

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