APPENDIX 6

Aboriginal Cultural Heritage Assessment

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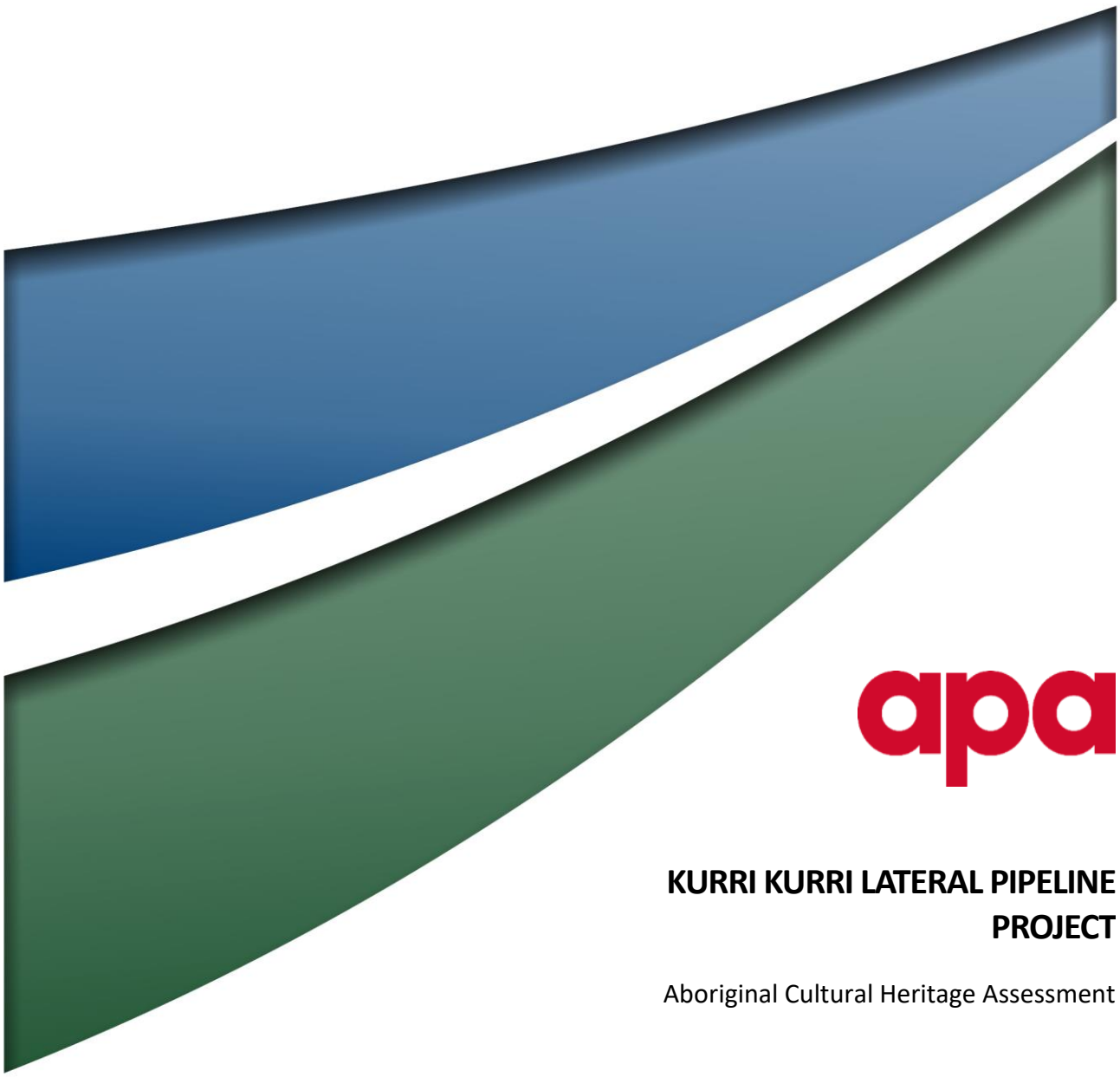

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KURRI KURRI LATERAL PIPELINE PROJECT

Aboriginal Cultural Heritage Assessment

FINAL

March 2022

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Aboriginal Cultural Heritage Assessment

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
APA Group

Project Director: Paul Douglass
Project Manager: Marion O'Neil
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Report No. 21450/R07
Date: March 2022

Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt and APA Group would like to acknowledge the traditional custodians of the area and pay respect to their cultural heritage, beliefs and continuing relationship with the land.

Umwelt and APA Group would also like to acknowledge the post-contact experiences of Aboriginal people who have attachment to the study area and surrounds.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Nicola Roche	8 March 2022	Nicola Roche	8 March 2022

Executive Summary

Snowy Hydro Limited is developing a gas-fired peaking power station, referred to as the Hunter Power Project (HPP), at the site of the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri. The HPP will provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP was approved, subject to conditions, by the Secretary of the Department of Planning, Industry and Environment (DPIE) on 17 December 2021.

APA Group (APA) has been engaged by Snowy Hydro Limited to develop a gas supply solution for the HPP. APA has proposed the Kurri Kurri Lateral Pipeline Project (the Project) as the gas supply solution for the HPP.

The Project would require approval under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The HPP has been designated as critical State Significant Infrastructure (SSI) under the *EP&A Act*, and an environmental impact statement (EIS) has been submitted for that project. The Minister for Planning and Public Spaces made an order declaring the HPP to be critical SSI on 16 December 2020. The KKLP is included as a component of the critical SSI determination for the HPP. The Project would therefore require development consent under Part 5, Division 5.2 of the EP&A Act.

Umwelt has been engaged by APA Group to prepare an Aboriginal Cultural Heritage Assessment (ACHA) which will form part of the Environmental Impact Statement (EIS) for the Project. This assessment has been prepared in accordance with the requirements of the Planning Secretary's Environmental Assessment Requirements (SEARs) for the Project, *National Parks and Wildlife Act 1974*, *National Parks and Wildlife Regulation 2019* (NPW Regulation), the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011), with all consultation undertaken in accordance with Clause 60 of the NPW Regulation and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010a)(the consultation requirements), as documented in **Appendix A**. The ACHA incorporates required archaeological technical information in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010c)(the Code of Practice).

The Project comprises a transmission pipeline of approximately 20.1 kilometres (km) in length, a compressor station at the termination of the transmission pipeline, an interconnect pipeline of approximately 1.3 km in total length, a storage pipeline of approximately 24 km in total length and adelivery station to receive gas from the storage pipeline prior to delivery of gas to the HPP.

The proposed alignment of the transmission pipeline would commence at the existing Sydney to Newcastle Pipeline near Black Hill, approximately 15 km northwest of Newcastle and terminate at the proposed Hunter Power Project (HPP) approximately 2 km north of Kurri Kurri. The compressor station and high-pressure storage pipeline are required as part of the Project as the SNP does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP.

The study area for the purposes of this assessment has been defined as the Project's combined construction footprint (approximately 103 ha) with an allowance of a 5 metre (m) buffer.

- In accordance with current requirements and expectations, consultation with Aboriginal parties regarding the proposal was undertaken in accordance with the relevant aspects of Clause 60 of the NPW Regulation and the *Aboriginal cultural heritage consultation requirements for proponents*. The registered Aboriginal parties for the ACHA are:
- A1 Indigenous Services
- Aboriginal Native Title Consultants
- Corroboree Aboriginal Corporation
- Culturally Aware
- Didge Ngunawal Clan
- Jumbunna Traffic Management Group Pty Ltd
- Kawul Pty Ltd trading as Wonn1 Sites
- Lower Hunter Aboriginal Incorporated
- Mayaroo
- Mindaribba LALC
- Nukara Indigenous Culture & Heritage
- Tocomwall Pty Ltd
- Ungooroo Aboriginal Corporation
- Widescope Indigenous Group
- Woka Aboriginal Corporation
- Wonnarua Nation Aboriginal Corporation.

The registered Aboriginal parties were consulted regarding the methodology for the ACHA and representatives of the registered Aboriginal parties participated in the survey of the study area. The registered Aboriginal parties also reviewed the draft ACHA and responses were received from five registered Aboriginal parties. Two parties (Culturally Aware and Mayaroo) advised that they had no comments to make at this stage. The remaining three parties (Kauwal/Wonn 1, Widescope Indigenous Group and Corroboree Aboriginal Corporation) provided agreement with the draft ACHA and did not request any changes or modifications.

Based on a review of available information, there are 28 Aboriginal heritage sites previously recorded within or in proximity to the study area, including 26 artefact sites and two PADs. These sites are registered as remaining valid. However, based on a review of the relevant archaeological reports and the fact that AHIMS lists many of these sites as having been subject to an AHIP, many have been subject to test excavation, partial or complete salvage. Based on the environmental and archaeological context of the Assessment Area, predictions were made regarding the likely type, nature and distribution of additional sites within the study area.

These predictions were used to inform the survey of the study area, which was conducted by two archaeologists and registered Aboriginal party representatives from 18 to 21 October 2021. During the survey, 11 previously recorded sites were reinspected and nine new sites (comprising two artefact scatters and seven isolated artefacts) were recorded. Nine areas of Potential Archaeological Deposit were recorded, of which three were assessed as having moderate to high archaeological potential, four as moderate potential and one as moderate to low potential. The remainder of the study area was assessed as having low archaeological potential either as a result of the extent of disturbance or because it comprises landforms that would have been used in a transitory manner by Aboriginal people rather than being suitable for occupation.

It is recognised that the archaeological potential of these landforms could be clarified by the completion of test excavations under the provisions of the Code of Practice. However, as discussed throughout this report, the specific location of the excavation footprints within the study area will be determined during and post-EIS assessment as consultation, design and construction planning is further developed. On this basis, it is not possible to determine a defined excavation footprint within which impacts are certain to occur, which would in turn inform test excavation locations. Undertaking test excavation at this stage would risk impacting archaeological deposits that may not be subject to impacts associated with the project. Similarly, if the project does not receive planning approval, undertaking test excavation as part of the ACHA would result in impacts to cultural heritage that are not warranted. This approach was the subject of consultation with Heritage NSW. On Heritage NSW confirmed in writing on 21 December 2021 that this approach was acceptable.

In relation to scientific significance, the identified stone artefact scatters and isolated artefacts are identified as having low value for rarity, representativeness, educational potential and integrity. Artefact scatters and isolated artefacts are a common site type in the local area and well represented in the archaeological record. These sites are located on private land holdings and are inaccessible to the general public, thereby limiting their educational potential. All surface artefacts have been subject to disturbance and are unlikely to retain integrity. These sites are therefore assessed as having low archaeological potential.

The assessment of significance for areas of archaeological potential is inherently difficult as any such assessment can only be based on the nature of the evidence that the area may contain. For this reason, the assessment of significance of areas of archaeological potential remains a provisional assessment of potential significance only and is linked almost entirely to the research potential of the site. That is, areas of moderate archaeological potential have a provisional assessment of moderate archaeological significance and areas of moderate-high archaeological potential have a provisional assessment of high archaeological significance.

No further commentary on the social/cultural value of the recorded sites, areas of archaeological potential or study area as a whole were provided by the registered Aboriginal parties in response to the draft ACHA. . However, based on in-field comments, it is assumed that all sites and areas of archaeological potential are of cultural value to the registered Aboriginal parties, as is the landscape in which the study area is located.

In relation to project impacts, of the recorded sites, three are associated with areas of identified PAD that are located within the impact footprint (being TH-PAD-01 and TH-PAD-01 Extension, Woods Gully and KKLP PAD1 and Hydro PAD1). In summary:

- three sites will not be impact by the project (KKLP IA2, KKLP IA5 and KKLP AS2)

- five sites will be subject to partial impact/may extend into impact footprint (37-6-3071, 38-4-0376, 38-4-0959, 38-4-1008 and 38-4-0339)
- the remaining sites and the nine identified areas of PAD (of which three are associated with recorded sites) are located within the proposed impact footprint.

Project design has not been finalised and there may be some flexibility in the location of disturbance within the study area. However, for the purposes of this assessment it is assumed that all sites and PADs within the impact footprint will be subject to impact.

The following recommendations have been developed in consideration of in-field and ongoing consultation with the registered Aboriginal parties and in light of the outcomes of the archaeological context of the region, the potential impacts of the project, current cultural heritage legislation and the nature and extent of archaeological sites and areas of archaeological potential identified within the study area.

- The Proponent should ensure that all employees and contractors are aware that it is an offence under Section 86 of the NPW Act to harm or desecrate an Aboriginal object unless that harm has been subject to approval as part of the necessary approvals process.
- An Aboriginal cultural heritage management plan for the Project should be developed in consultation with the registered Aboriginal parties. It should include measures that will be implemented for:
    - Avoidance of sites KKLP IA2, KKLP IA5 and KKLP AS2, including establishing appropriate fencing/site demarcation prior to the commencement of construction where there is a risk of incidental impact and ensuring ongoing protection during construction and operation.
    - Impacts to sites and areas of archaeological potential that cannot be practically avoided. This will include the provision of methodologies for the completion of the recommended mitigation activities, as referenced in **Table E1.1**. This may include community collection and/or excavation.
    - Protocols to be followed in the instance that additional ground disturbance works are required outside the study area. This will include requirements for further survey and assessment of any such works.
    - The management of any new Aboriginal archaeological sites that may be identified during these inspections or over the course of construction or operational activities.
    - The management of Aboriginal skeletal remains should any be identified within the construction or operational activities for the project.
    - Monitoring and reporting on the effectiveness of these measures and the outcomes of any approved mitigation works.
    - Ensuring that all staff and contractors working on the project receive Aboriginal cultural heritage awareness training and are informed of their obligations to comply with the requirements of the Aboriginal cultural heritage management plan.

Table E1.1 Recommendations by site/area of archaeological potential

Sites	Proposed Management Strategy	Requirements
KKLP IA2 KKLP IA5 KKLP AS2	Avoid impacts	Where incidental impacts may occur due to works in proximity, establish appropriate fencing/site demarcation prior to the commencement of construction and ensure ongoing protection during construction and operation
37-6-3063 37-6-3071 37-6-3872 38-4-0338 38-4-0376 38-4-0959 38-4-1008 38-4-1997 38-4-0410 37-6-1653 (alt) 37-6-1652 KKLP IA1 KKLP IA3 KKLP IA4 KKLP AS1 KKLP PAD1-6	Minimise impacts (in instance that final design demonstrates that impacts to sites can be fully or partially avoided)	Where impacts can be fully or partially avoided, establish appropriate fencing/site demarcation of the site/area (or portion thereof that is not being impacted) prior to the commencement of construction and ensure ongoing protection during construction and operation
37-6-3063 37-6-3071 37-6-3872 38-4-0338 38-4-0376 38-4-0959 38-4-1008 38-4-1997 38-4-0410 37-6-1653 (alt) 37-6-1652 KKLP IA1 KKLP IA3 KKLP IA4 KKLP AS1 KKLP PAD1-6	Where impacts cannot be avoided at final design phase	Community collection of artefacts (**Section 11.1**) Archaeological excavation (**Section 11.2**)

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1.0 Introduction

Snowy Hydro Limited (Snowy Hydro) is developing a gas-fired peaking power station, referred to as the Hunter Power Project (HPP), at the site of the former Hydro Australia Pty Ltd (Hydro) aluminium smelter at Kurri Kurri. The HPP aims to provide up to 750 megawatts (MW) of 'on-demand' electricity to supplement Snowy Hydro's generation portfolio with dispatchable capacity when the needs of electricity consumers are highest. The HPP was granted approval by the Secretary of Department of Planning, Industry and Environment (DPIE) in December 2021 and the Commonwealth Minister for Environment in February 2022.

APA Group (APA) has been engaged by Snowy Hydro to develop a gas supply solution for the HPP. APA has proposed the Kurri Kurri Lateral Pipeline (KKPL) Project (the Project) as the gas supply solution for the HPP.

The Project would require approval under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The HPP has been designated as critical State Significant Infrastructure (SSI) under the *EP&A Act*, and an environmental impact statement (EIS) has been submitted for that project. The Minister for Planning and Public Spaces made an order declaring the HPP to be critical SSI on 16 December 2020. The KKLP is included as a component of the critical SSI determination for the HPP. The Project would therefore require development consent under Part 5, Division 5.2 of the EP&A Act.

Umwelt (Australia) Pty Limited (Umwelt) has been engaged by APA Group to prepare an Aboriginal Cultural Heritage Assessment (ACHA) which will form part of the Environmental Impact Statement (EIS) for the Project. This assessment has been prepared in accordance with the requirements of the Planning Secretary's Environmental Assessment Requirements (SEARs) for the Project, *National Parks and Wildlife Act 1974*, *National Parks and Wildlife Regulation 2019* (NPW Regulation), the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011), with all consultation undertaken in accordance with Clause 60 of the NPW Regulation and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010a)(the consultation requirements), as documented in **Appendix A**. The ACHA incorporates required archaeological technical information in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010c)(the Code of Practice).

A draft of this report was provided to the registered Aboriginal parties for review and comment and includes the outcomes of all consultation undertaken with registered Aboriginal parties throughout the project. Registered Aboriginal parties were asked to provide information on the cultural significance of the area and any sites located for inclusion in the final ACHA report. All information provided by registered Aboriginal parties is presented in **Section 2.0**.

1.1 Project Overview

The Project comprises the following primary components:

- A buried, steel, medium diameter (up to DN350), medium pressure (up to 6.9 megapascal (MPag)) transmission pipeline of approximately 20.1 km in length to provide a gas supply from the existing Sydney to Newcastle Pipeline (SNP), via receipt and delivery facilities, to the HPP site.
- A compressor station at the termination of the transmission pipeline to boost gas pressure prior to transfer to a storage pipeline.

- A buried, steel, medium diameter (up to DN350), high pressure (up to 15.3 MPag) interconnect pipeline of approximately 1.3 km in total length, providing an interface between the compressor station, storage pipeline and delivery station.
- A buried, steel, large diameter (up to DN1050), high pressure (up to 15.3 MPag) storage pipeline of approximately 24 km in total length downstream of the compressor station with approximately 70 terajoules (TJ) of useable gas storage ready to supply the HPP.
- A delivery station to receive gas from the storage pipeline and control temperature, pressure and flow rate prior to delivery of gas to the HPP.

A schematic outlining the relationship of these project components is provided in **Figure 1.1**.

The proposed alignment of the transmission pipeline would commence at the existing SNP near Black Hill, approximately 15 km northwest of Newcastle and terminate at the proposed Hunter Power Project (HPP) approximately 2 km north of Kurri Kurri, as shown on **Figure 1.2**. The compressor station and high-pressure storage pipeline are required as part of the Project as the SNP does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP.

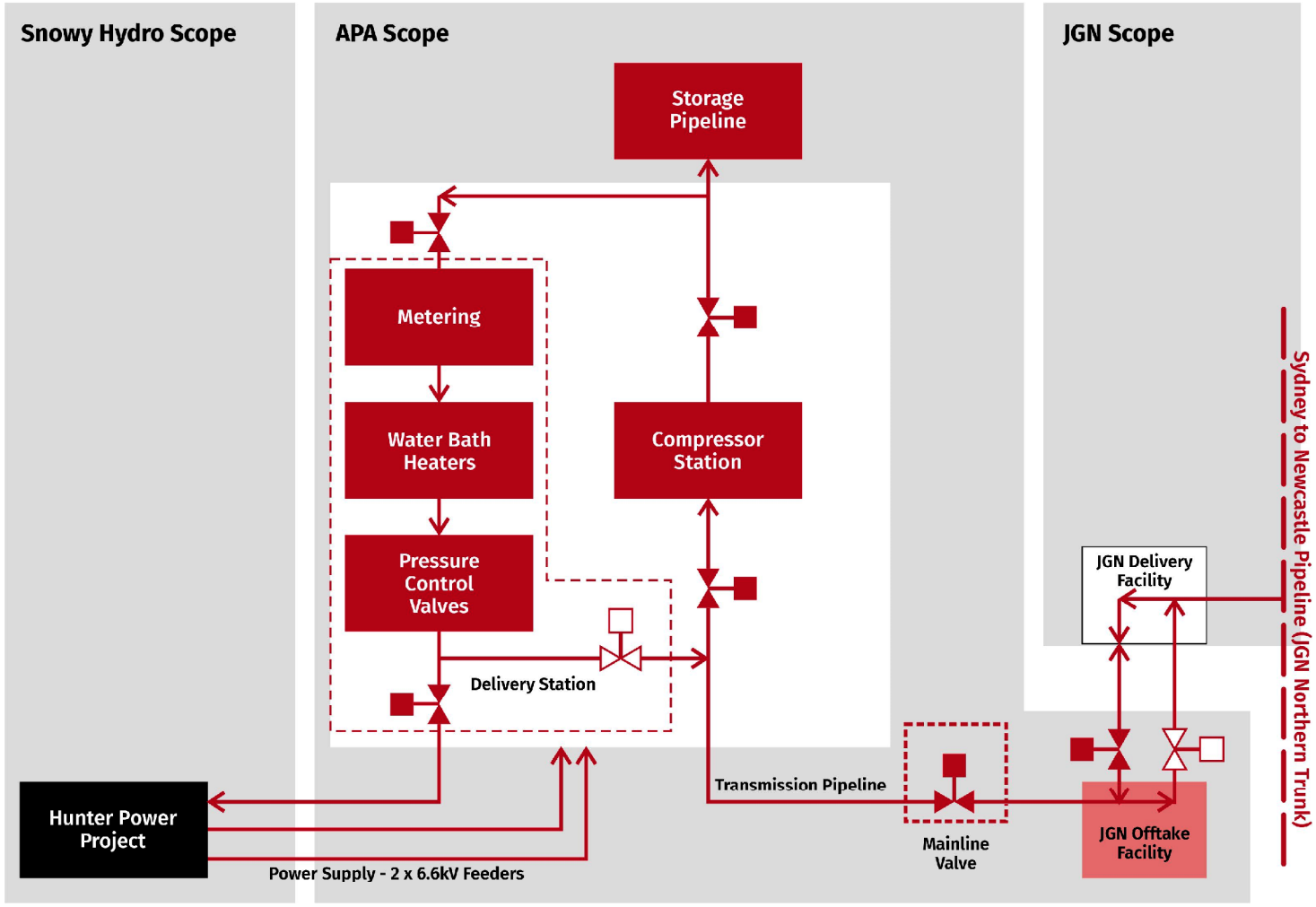
The study area for the purposes of this assessment has been defined as the Project's combined construction footprint (approximately 103 ha) with an allowance of a 5 m buffer as depicted in **Figure 1.2**. The buffer is included to allow for flexibility in final project design.

The combined construction footprint incorporates:

- The construction footprint for both the transmission and storage pipelines
- Extra workspaces required for construction of the transmission pipeline for truck turnarounds, vegetation storage, horizontal directional drilling (HDD) entry and exit locations, horizontal bore entry and exit locations, watercourse crossing workspaces and line pipe storage areas
- Access tracks to provide access to the construction footprint
- Construction footprints for the offtake facility, compressor station and delivery station.

The Project, including the ancillary surface facilities, would be designed, constructed, commissioned and operated in accordance with Australian Standards 2885 (AS 2885 - a suite of standards outlining requirements for gas and petroleum pipelines which are designed, constructed and operated in Australia) and licenced under the *Pipelines Act 1967*.

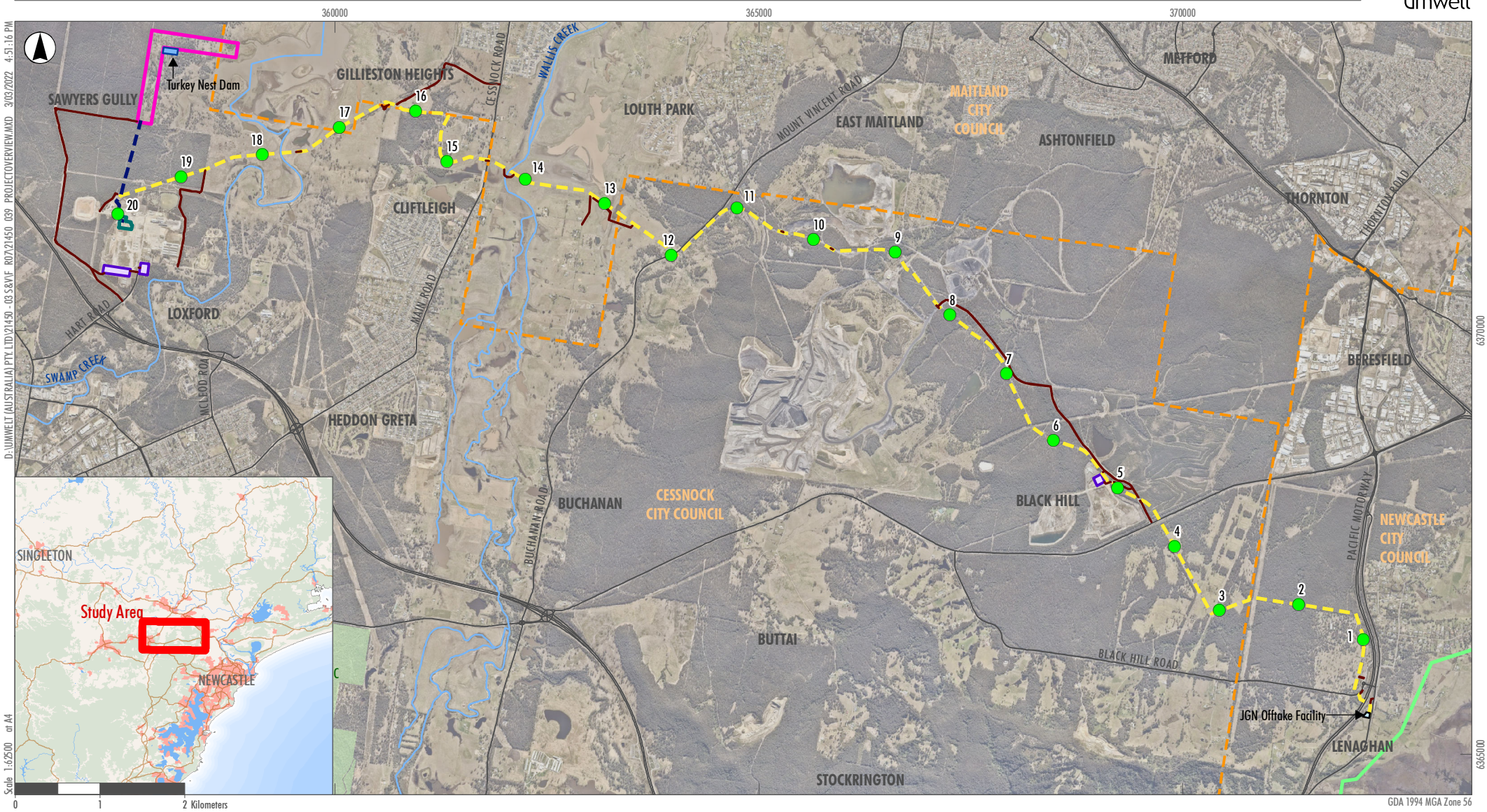
Construction is planned to commence during Q4 2022 with a gas supply to the HPP provided during Q4 2023. The HPP is planned to be operational by the end of 2023.



Note: Not to Scale

FIGURE 1.1

Relationship of Project Components



Legend

- Transmission Pipeline Alignment
- Interconnect Pipeline
- Sydney to Newcastle Pipeline (JGN Northern Trunk)
- Local Government Area Boundary
- Kilometre Point
- Compressor and Delivery Station
- Pipe Laydown Areas
- Storage Pipeline
- Turkey Nest Dam
- JGN Offtake Facility
- NSW Conservation Estates
- Access Tracks
- Roads
- Watercourses

FIGURE 1.2

Project Location

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

1.2 Objectives of this Assessment

The primary objective of this ACHA is to ensure that the Aboriginal cultural values of the study area are appropriately documented and assessed with reference to the approach specified in the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011), the consultation requirements and with the Code of Practice.

It is acknowledged that Aboriginal people are the primary determinants of the cultural significance of their heritage. This ACHA is prepared to ensure that the information provided by registered Aboriginal parties is documented and presented in a manner that informs decision making on the management of Aboriginal cultural heritage within the study area, whilst ensuring that the required archaeological information is also appropriately documented.

The completion of this assessment is intended to address requirements established in the SEARs issued 23 July 2021 which state that the EIS for the Project must include, *"an assessment of the Aboriginal heritage values and likely Aboriginal heritage (cultural and archaeological) impacts of the project in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)"* (refer to **Section 1.3.1.1**).

1.3 Statutory Context

In New South Wales, the relevant statutory controls for the protection of Aboriginal cultural heritage are the *National Parks and Wildlife Act 1974* (NPW Act) and the EP&A Act. Details of how the legislation applies to the KKLP project is outlined below.

1.3.1 Environmental Planning and Assessment Act 1979

The EP&A Act regulates development activity in NSW and defines the requirements of State Significant Development (SSD) and State Significant Infrastructure (SSI). In accordance with the provisions of the EP&A Act, the KKLP has been designated SSI.

It is noted that Division 5.23 (1)(d) of the EP&A Act specifies that it is not necessary to obtain an Aboriginal heritage impact permit (AHIP) under Section 90 of the NPW Act (refer to **Section 1.3.2**) for designated SSI projects. Projects approved as SSI under the EP&A Act are subject to conditions of approval and (where relevant) Aboriginal cultural heritage is addressed by appropriate conditions and requirements outlined in the SEARs.

1.3.1.1 Planning Secretary's Environmental Assessment Requirements

As noted above, the SEARs for the project were issued on 23 July 2021 and included Aboriginal cultural heritage as a key issue. The SEARs specify the following.

An assessment of the Aboriginal heritage values and likely Aboriginal heritage (cultural and archaeological) impacts of the project in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010), and documented in an Aboriginal Cultural Heritage Assessment Report (ACHAR). The ACHAR must:

1. document the significance of cultural heritage values for Aboriginal people who have a cultural association with the land and be prepared in consultation with the local Aboriginal community in accordance with *Aboriginal Cultural* Heritage *Consultation Requirements for Proponents* (DECCW, 2010)

2. include results of a surface survey (and test excavations, if required) undertaken by a qualified archaeologist to inform the need for targeted test excavation to better assess the integrity, extent, distribution, nature, and overall significance of the archaeological record, and

3. demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes, including mitigation measures and procedures for accidental finds at any stage of the project.

This ACHA has been developed to address the SEARs.

1.3.2 National Parks and Wildlife Act 1974

Heritage NSW (Department of Premier and Cabinet) is primarily responsible for regulating the management of Aboriginal cultural heritage in NSW under the NPW Act. The NPW Act is accompanied by the *National Parks and Wildlife Regulation 2019* (the Regulation) and a range of codes and guides including the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011), the consultation requirements and the Code of Practice (DECCW 2010b).

The NPW Act defines an Aboriginal object as:

> *...any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales.*

Under Section 84 of the NPW Act, an Aboriginal Place must be declared by the Minister as a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture. Section 86(4) of the NPW Act states that a person must not harm or desecrate an Aboriginal Place.

In accordance with Section 86(1) of the NPW Act, it is an offence to harm or desecrate a known Aboriginal object, whilst it is also an offence to harm an Aboriginal object under Section 86(2). Harm to an object or place is defined as any act or omission that:

- *destroys, defaces or damages an object or place, or*
- *in relation to an object – moves the object from the land on which it had been situated, or*
- *is specified by the regulations, or*
- *causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),*

but does not include any act or omission that:

- *desecrates the object or place (noting that desecration constitutes a separate offence to harm), or*
- *is trivial or negligible, or*
- *is excluded from this definition by the regulations.*

Section 87 (1) of the NPW Act specifies that it is a defence to prosecution under Section 86(1) and Section 86 (2) if the harm or desecration of an Aboriginal object was authorised by an AHIP and the activities were carried out in accordance with that AHIP. As noted above, it is not necessary to obtain an AHIP under Section 90 of the NPW Act for designated SSI projects.

Section 87 (2,4) also establishes that it is a defence to prosecution under Section 86(2) (the strict liability offence) if due diligence is exercised to reasonably determine that the activity or omission is a low impact act or omission. The NPW Regulation specifies that compliance with the due diligence code is taken to constitute due diligence in determining whether a proposed activity will harm an Aboriginal object. The Regulation identifies that compliance with the Code of Practice (DECCW 2010b) is excluded from the definition of harm.

1.3.3 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) provides protection for heritage within NSW. The Heritage Act provides protection of historic places, structures, relics, moveable objects and landscapes of significance. The Heritage Act also affords protection to Aboriginal places of State heritage significance included on the State Heritage Register (SHR) or subject to an Interim Heritage Order. This assessment does not comprise an assessment in accordance with the provisions of the Heritage Act. The outcomes of the historical heritage assessment for the project are documented in a separate report (Umwelt 2021a).

1.3.4 Native Title Act 1993 (Commonwealth)

The *Native Title Act 1993* (NT Act) recognises that Aboriginal people have rights and interests to land and waters which derive from their traditional laws and customs. Native Title may be recognised in places where Indigenous people continue to follow their traditional laws and customs and have maintained a link with their traditional country. It can be negotiated through a Native Title Claim, Indigenous Land Use Agreement (ILUA) or future act agreements.

A search of the National Native Title Register on 11 August 2021 found no registered Native Title claims or Indigenous Land Use Agreements within the study area or surrounds.

1.4 Report Authorship

This report has been prepared by Stephanie Howden (Umwelt Archaeologist) and reviewed by Nicola Roche (Umwelt Manager, Cultural Heritage). Drafting input was provided by Umwelt's drafting team.

During the process of the development of this report, information relevant to the assessment of Aboriginal cultural heritage values within the Modification Area was provided by representatives of registered Aboriginal parties who participated in the survey. Correspondence and comments provided by Aboriginal parties are reviewed in **Section 2.0**.

2.0 Aboriginal Party Consultation

Consultation with Aboriginal parties is an integral part of identifying and assessing the significance of Aboriginal objects and/or places and determining and carrying out appropriate strategies to mitigate impacts upon Aboriginal heritage. In accordance with current requirements and expectations, consultation with Aboriginal parties regarding the modification was undertaken in accordance with the relevant aspects of Division 2, Clause 60 of the NPW Regulation and the consultation requirements. The documentation of the outcomes of Aboriginal party consultation in this report reflects the requirements of the *Guide to investigating assessing and reporting on Aboriginal Cultural Heritage in NSW*.

2.1 Identification of Registered Aboriginal Parties

Notifications were developed and the registration of Aboriginal parties for the Project was completed in accordance with now Part 5, Division 2 Clause 60 of the Regulation (refer to **Appendix A**) and summarised in **Table 2.1**. As a result of the Project notification and registration process, 16 Aboriginal parties registered an interest in ongoing consultation regarding the Project. These parties are:

- A1 Indigenous Services
- Aboriginal Native Title Consultants
- Corroboree Aboriginal Corporation
- Culturally Aware
- Didge Ngunawal Clan
- Jumbunna Traffic Management Group Pty Ltd
- Kawul Pty Ltd trading as Wonn1 Sites
- Lower Hunter Aboriginal Incorporated
- Mayaroo
- Mindaribba LALC
- Nukara Indigenous Culture & Heritage
- Tocomwall Pty Ltd
- Ungooroo Aboriginal Corporation
- Widescope Indigenous Group
- Woka Aboriginal Corporation
- Wonnarua Nation Aboriginal Corporation.

Table 2.1 Summary of Aboriginal party consultation for KKLP Project

Date	Type of Consultation	Organisation	Response
25 June 2021	Provision of letter (via email) requesting identification of Aboriginal parties with cultural knowledge/interest in the Project area	Cessnock City Council	Email received 13/07/2021 with list of Aboriginal parties (as contacted below).
		Maitland City Council	No response received.
		Newcastle City Council	No response received.
		National Native Title Tribunal	Email received 8/07/2021 advising no registered Native Title Claim.
		Hunter Local Land Services	Email forwarded to Senior Land Services Officer on 28/6/2021. No further response.
		NTSCORP Ltd	No response received.
		Heritage NSW	Email received 28/06/2021 with list of Aboriginal parties. All identified parties were contacted, as detailed below
		Office of the Registrar	No response received.
		Mindaribba Local Aboriginal Land Council	Email received 13/07/2021 with list of Aboriginal parties. Registered an interest in the project.
26 June 2021	Public advertisement providing notification of assessment and opportunity to register interest for consultation.	Newcastle Herald	Woka Aboriginal Corporation registered an interest in the project via email on 14/07/2021
14 June 2021	Provision of letter (via email or post where email unavailable) to identified Aboriginal parties requesting registrations of interest	A1 Indigenous Services	Registered an interest in the project via email on 15/07/2021.
		Corroboree Aboriginal Corporation	Registered an interest in the project via email on 14/07/2021.
		Kawul Pty Ltd trading as Wonn1 Sites	Registered an interest in the project via email on 15/07/2021.
		Lower Hunter Aboriginal Incorporated	Registered an interest in the project via email on 29/07/2021.
		Michael Green Cultural Heritage Consultant	No response received.
		Wattaka Wonnarua CC Service	No response received.
		Widescope Indigenous Group	Registered an interest in the project via email on 14/07/2021
		Didge Ngunawal Clan	Registered an interest in the project via email on 17/07/2021.
		Yinarr Cultural Services	No response received.

Date	Type of Consultation	Organisation	Response
		Awabakal Traditional Owners Aboriginal Corporation	No response received.
		Kevin Duncan	No response received.
		Awabakal & Guringai Pty Ltd	No response received.
		Awabakal Descendants Traditional Owners	No response received.
		Sharon Hodgetts	No response received.
		Murra Bidgee Mullangari Aboriginal Corporation	No response received.
		Lower Hunter Wonnarua Cultural Services	No response received.
		Wonnarua Elders Council	No response received.
		Crimson-Rosie	No response received.
		Steve Talbott	No response received.
		AGA Services	No response received.
		Cacatua Culture Consultants	No response received.
		Myland Cultural & Heritage Group	No response received.
		Deslee Talbott Consultants	No response received.
		Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	No response received.
		Tocomwall Pty Ltd	Email received from Danny Franks registering an interest in the project on 7/7/2021 (prior to RAP notifications being sent out).
		Aliera French Trading	No response received.
		Indigenous Learning	No response received.
		D F T V Enterprises	No response received.
		Jarban & Mugrebea	No response received.
		Wonnarua Culture Heritage	No response received.
		Kauma Pondee Inc.	No response received.
		Hunter Valley Cultural Surveying	No response received.

Date	Type of Consultation	Organisation	Response
		Ungooroo Aboriginal Corporation	Registered an interest in the project via email on 20/07/2021.
		Wonnarua Nation Aboriginal Corporation	Registered an interest in the project via email on 15/07/2021.
		Culturally Aware	Registered an interest in the project via email on 14/07/2021.
		Hunter Traditional Owner	No response received.
		Lower Wonnarua Tribal Consultancy Pty Ltd	No response received.
		Wallagan Cultural Services	No response received.
		Nunawanna Aboriginal Corporation	No response received.
		Mindaribba Local Aboriginal Land Council	Registered an interest in the project via email on 13/07/2021.
		Mayaroo	Registered an interest via email on 17/07/2021.
		Arwarbukarl Cultural Resource Association, Miromaa Aboriginal Language and Technology Centre	No response received.
		Aboriginal Native Title Consultants	Registered an interest in the project via email on 14/07/2021.
		Hunters & Collectors	No response received.
		Jumbunna Traffic Management Group Pty Ltd	Registered an interest in the project by phone on 20/07/2021.
		Roger Matthews Consultancy	Roger advised by phone that he was asked to be removed from the database and he wasn't interested in receiving any further information on the project.
		B-H Heritage Consultants	No response received.
		Kyle Howie	No response received.
		Trudy Smith	No response received.
		Yvette and Jackson	No response received.
		Tamara Towers	No response received.
		Nur-Run-Gee Pty Ltd	Advised not registering for the project via email on 14/07/2021.
		Mur-Roo-Ma Inc.	Advised not registering for the project via email on 15/07/2021.
		Worimi Traditional Owners Indigenous Corporation	No response received.

Date	Type of Consultation	Organisation	Response
		Nukara Indigenous Culture and Heritage	Olivia Connors registered an interest in the project via email on 14/07/2021 .
		Ron Smith	No response received.
29/07/21 (letter) 25/08/20212/08/2021 and 8/09/2021 (follow up)	Methodology Letter Sent to the representative Aboriginal Parties with EOI for fieldwork. Follow up emails/phone calls also made	A1 Indigenous Services	
		Aboriginal Native Title Consultants	EOI received
		Corroboree Aboriginal Corporation	Email response agreeing with the proposed methodology received EOI received
		Culturally Aware	EOI received
		Didge Ngunawal Clan	EOI received
		Jumbunna Traffic Management Group Pty Ltd	
		Kawul Pty Ltd trading as Wonn1 Sites	EOI received
		Lower Hunter Aboriginal Incorporated	
		Mayaroo	
		Mindaribba LALC	
		Nukara Indigenous Culture & Heritage	EOI received
		Tocomwall Pty Ltd	EOI received
		Ungooroo Aboriginal Corporation	
		Widescope Indigenous Group	Email response agreeing with the proposed methodology received EOI received
		Woka Aboriginal Corporation	Email response agreeing with the proposed methodology received EOI received
		Wonnarua Nation Aboriginal Corporation	EOI received
18-21/10/21	In-field consultation during survey	Culturally Aware	Refer to Section 2.4.
		Tocomwall	
		Wonn1	

Date	Type of Consultation	Organisation	Response
24/01/2022	Draft ACHA provided to registered Aboriginal parties for review and comment. ACHA provided by email with opportunity to request hard copy	A1 Indigenous Services	
		Aboriginal Native Title Consultants	
		Corroboree Aboriginal Corporation	
		Culturally Aware	
		Didge Ngunawal Clan	
		Jumbunna Traffic Management Group Pty Ltd	
		Kawul Pty Ltd trading as Wonn1 Sites	Hard copy requested. Email received 17/2 providing support for the ACHA
		Lower Hunter Aboriginal Incorporated	
		Mayaroo	
		Mindaribba LALC	
		Nukara Indigenous Culture & Heritage	
		Tocomwall Pty Ltd	
		Ungooroo Aboriginal Corporation	Hard copy requested.
		Widescope Indigenous Group	
		Woka Aboriginal Corporation	
		Wonnarua Nation Aboriginal Corporation	
28/02/2022	Email sent notifying RAPs who had not yet responded of extension to closing date for comments and providing additional opportunity to comment	A1 Indigenous Services	
		Aboriginal Native Title Consultants	
		Corroboree Aboriginal Corporation	Email received 28/02 identifying that Corroboree agree with the assessment
		Culturally Aware	Email received 4/3 identifying no issues with draft ACHA at this stage
		Didge Ngunawal Clan	
		Jumbunna Traffic Management Group Pty Ltd	
		Lower Hunter Aboriginal Incorporated	

Date	Type of Consultation	Organisation	Response
		Mayaroo	Emails received 1/2 and 2/2 requesting hard copy of final report but no comments on draft report
		Mindaribba LALC	
		Nukara Indigenous Culture & Heritage	
		Tocomwall Pty Ltd	
		Ungooroo Aboriginal Corporation	
		Widescope Indigenous Group	Email received 28/2 stating that draft ACHA had been reviewed and is supported
		Woka Aboriginal Corporation	
		Wonnarua Nation Aboriginal Corporation	

2.2 Notification and Consultation Regarding Assessment Methodology

A letter providing information regarding the proposed modification and incorporating a draft methodology for the assessment was originally provided to all registered Aboriginal parties on 29 July 2021, with follow up on 25 August 2021. It was requested that all registered Aboriginal parties provide comment on the proposed assessment methodology. Copies of all communication regarding the draft methodology are provided in full in **Appendix A** and summarised in **Table 2.1**.

Corroboree Aboriginal Corporation, Widescope Indigenous Group and Woka Aboriginal Corporation responded by email noting agreement with the proposed methodology. No objections to the proposed methodology were received.

2.3 Aboriginal Party Participation in Survey

The survey of the study area was undertaken between 18 and 21 October 2021 with the Aboriginal party representatives listed in **Table 2.2**.

Table 2.2 Aboriginal Party Participation in Survey

Date	Organisation	Name
18-19 October 2021	Culturally Aware	Tara Roberts
20-21 October 2021	Culturally Aware	Georgina Berry
18-20 October 2021	Tocomwall	Mary Franks
18-29 October 2021	Wonn1	Arthur Fletcher
20-21 October 2021	Wonn1	Suzie Worth

2.4 Outcomes of In-field Consultation

This section documents specific feedback received from Aboriginal party representatives during the survey.

During the survey, the Aboriginal party representatives indicated that, based on their experience, the low elevation footslopes bordering swamp formations typically contain sub-surface artefacts. There was general agreement on the identification of areas of archaeological potential. Similarly, there was general agreement with the definition of site boundaries and areas of substantial landscape modification.

2.5 Consultation regarding the Draft Assessment

A copy of the draft ACHA was originally provided to all registered Aboriginal parties on 24 January 2022 with an invitation to review and comment on all aspects of the document. An extension to the period for comment was subsequently provided.

Responses were received from five registered Aboriginal parties. Two parties (Culturally Aware and Mayaroo) advised that they had no comments to make at this stage. The remaining three parties (Kauwal/Wonn 1, Widescope Indigenous Group and Corroboree Aboriginal Corporation) provided agreement with the draft ACHA and did not request any changes or modifications.

3.0 Environmental Context

The decisions that people make regarding such things as where they live, the range of resources they use, and other aspects of daily life may be influenced by the environment in which they live. The preservation and visibility of sites is also affected by environmental factors such as vegetation cover, past land-use, and disturbance. A review of the environmental context of the study area is therefore integral to considerations of site visibility, preservation, and occurrence within the study area.

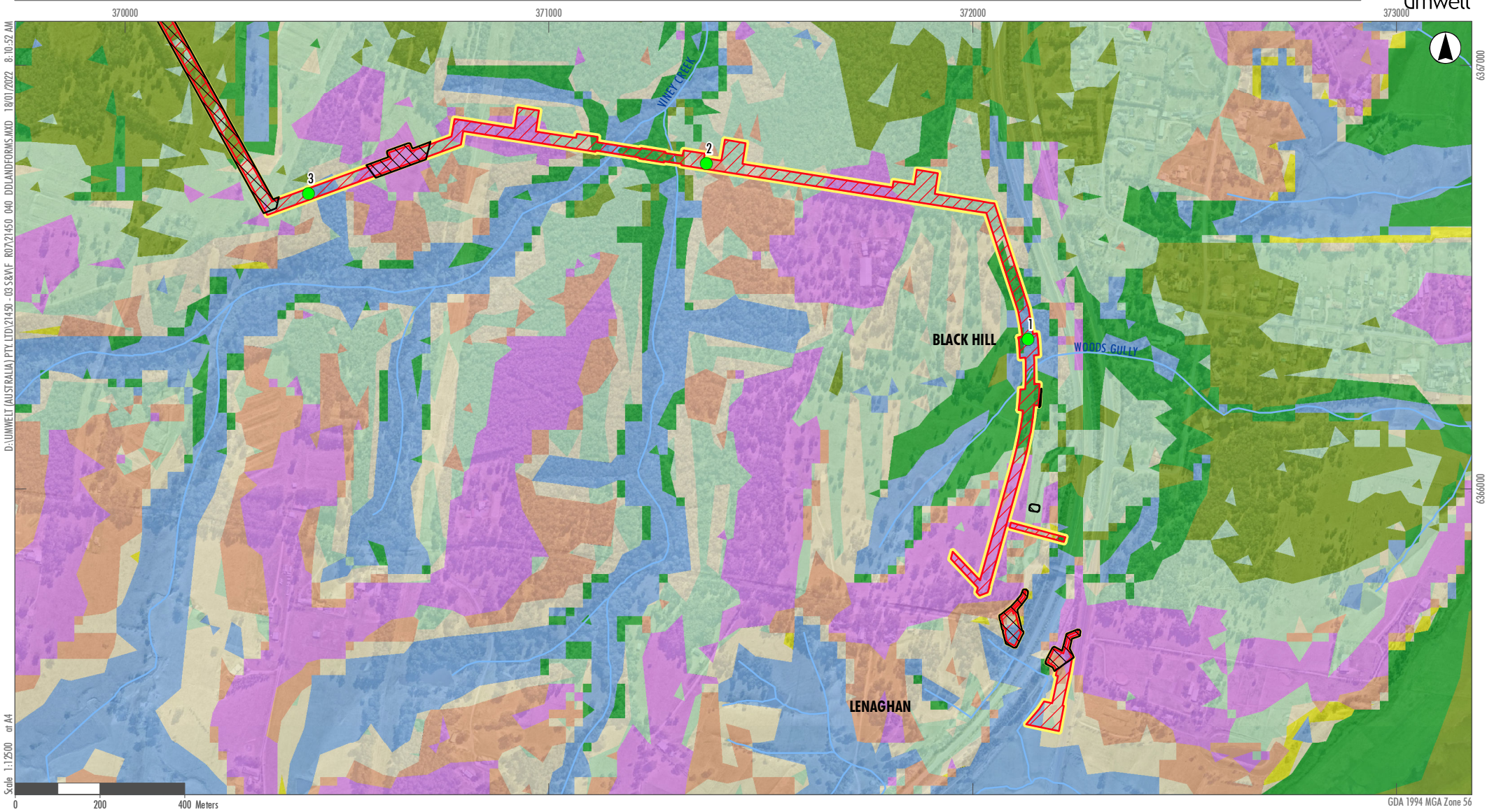
This section provides a summary of key environmental information and discusses the implications of this information for the archaeological evaluation of the study area.

3.1 Landforms and Hydrology

For the purposes of this ACHA, the study area has been divided into landform types based on slope and geomorphic classification and disturbance types. A range of landforms have been identified across the study area (refer to **Figure 3.1** to **Figure 3.6** and **Table 3.1**), with slopes and flats being the most common. Gently inclined and moderately inclined slopes are the most dominant slope types, however there are instances of steeply inclined slopes across the area that may be susceptible to slope wash and erosion where the topsoil is exposed. Other key landform elements identified include crests and disturbed terrain (heavily impacted as a result of historical land use activities, as discussed in **Section 3.1**).

Table 3.1 Landform Types

Landform Types	Area in ha (% total)
Flat	23.55
Ridge/crests	13.97
Spur	5.99
Footslopes	12.78
Valley	7.82
Drainage Lines/watercourses	1197.08 (Length in m)
Disturbed Terrain	21.67
Slopes comprising:	
Gently inclined	21.02
Moderately inclined	14.74
Steep slopes	0.14
TOTAL	**121.68**



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep

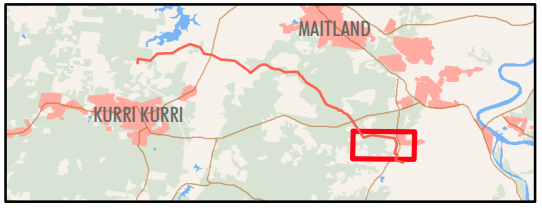
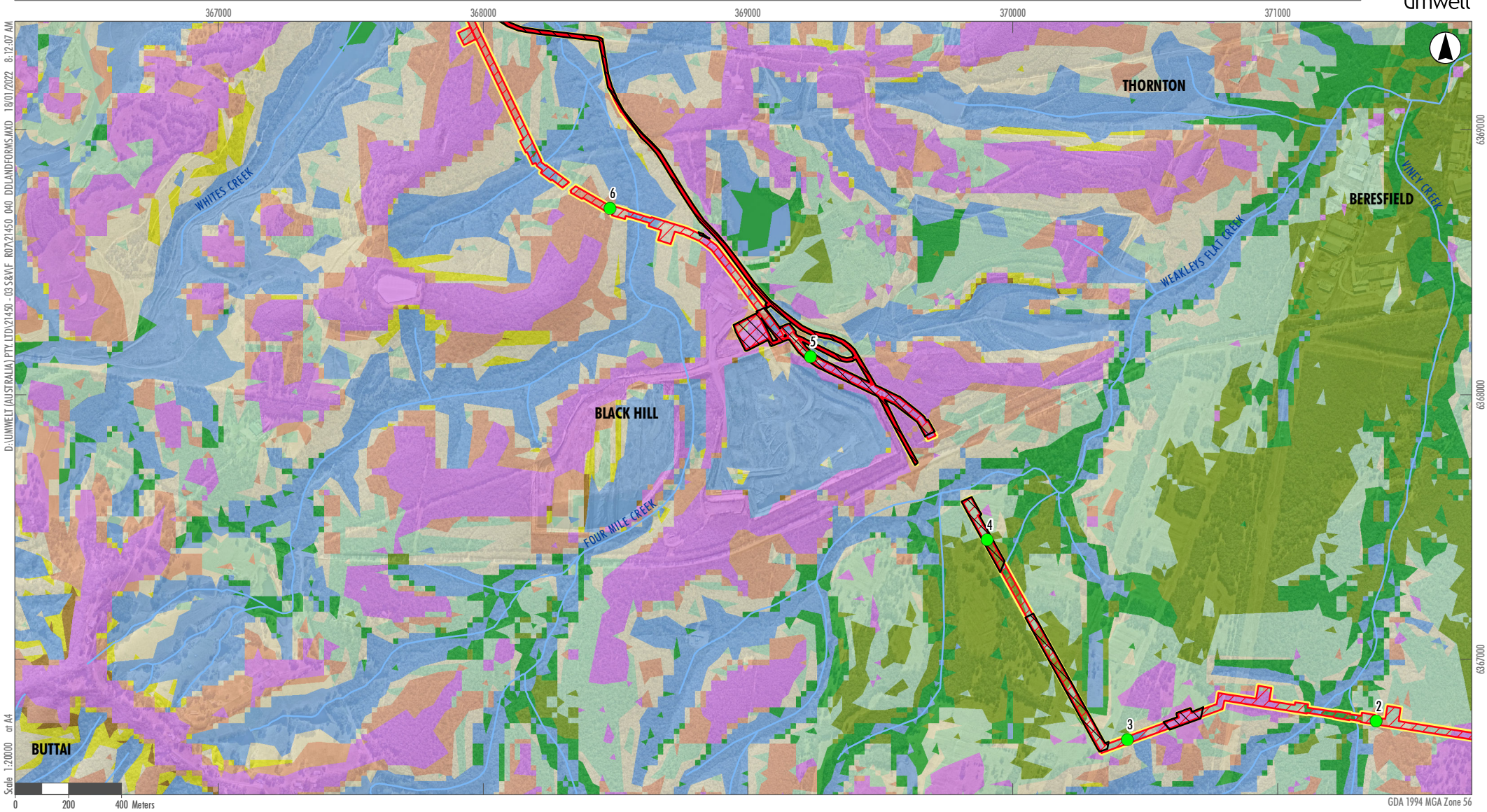


Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

FIGURE 3.1

Landforms Within the Study Area (Part 1)



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep
- Very Steep - Precipitous Slopes

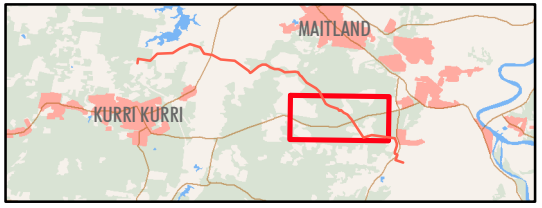
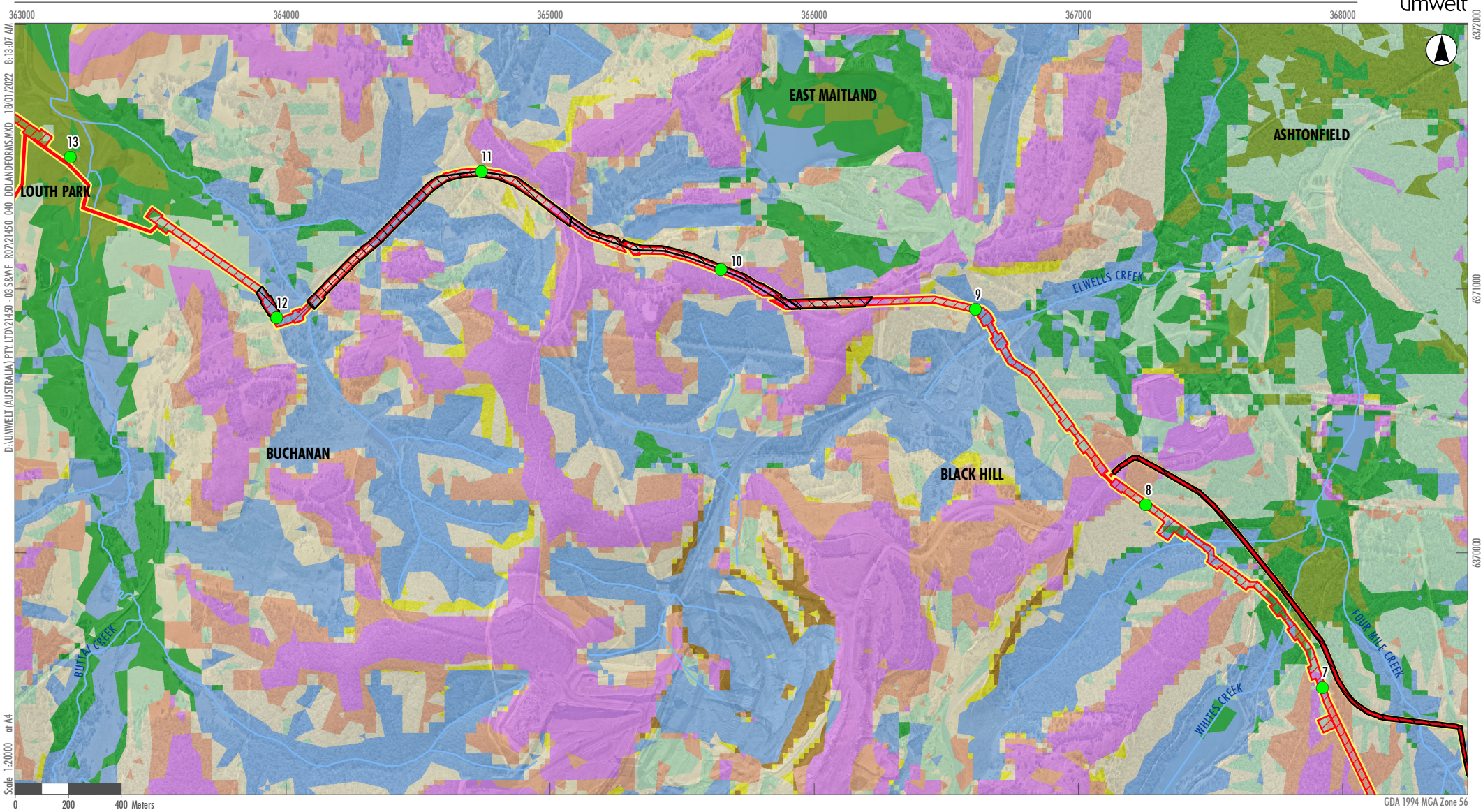


FIGURE 3.2

Landforms Within the Study Area (Part 2)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep
- Very Steep - Precipitous Slopes

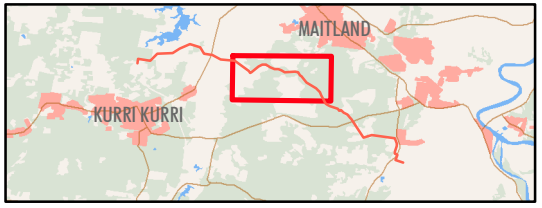
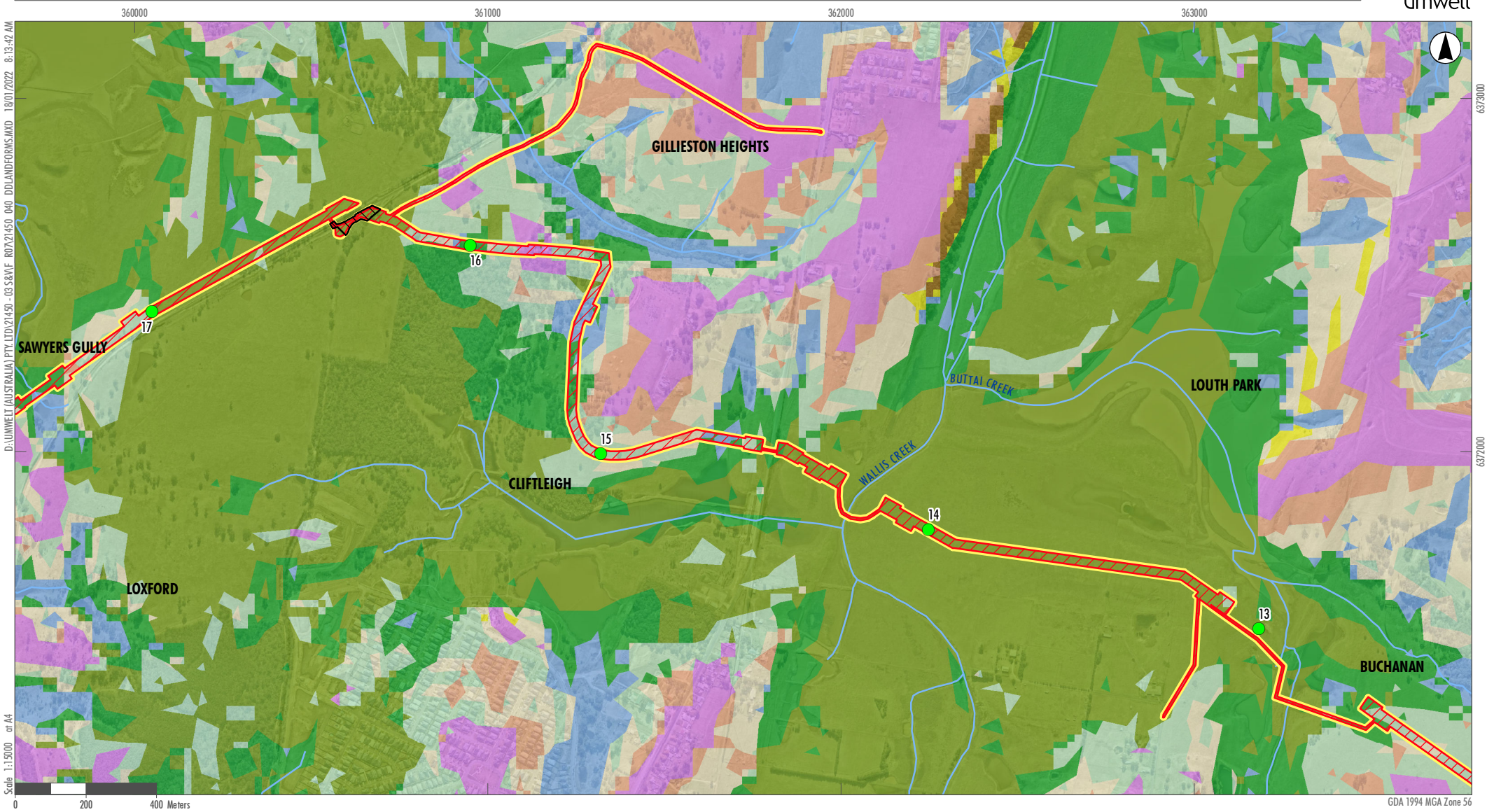


FIGURE 3.3

Landforms Within the Study Area (Part 3)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep
- Very Steep - Precipitous Slopes

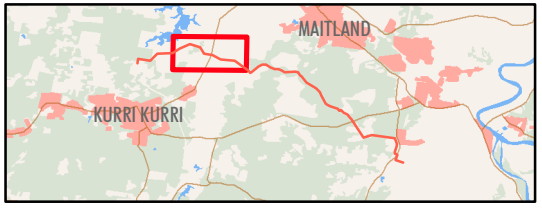
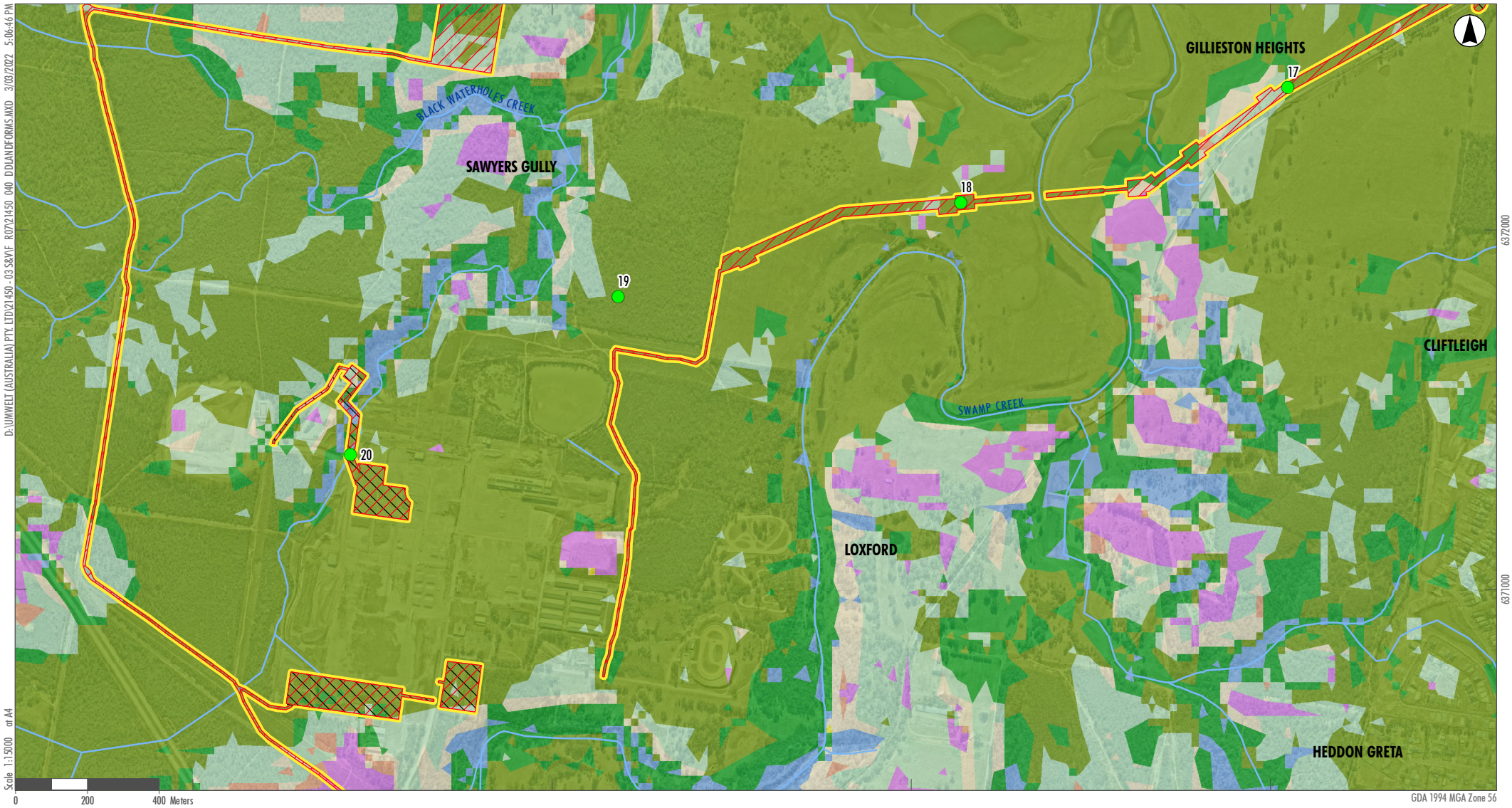


FIGURE 3.4

Landforms Within the Study Area (Part 4)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep

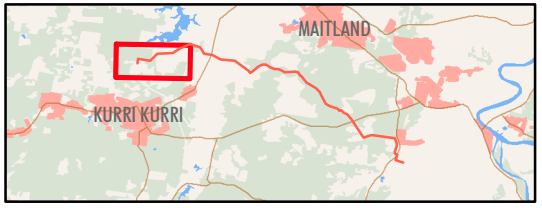
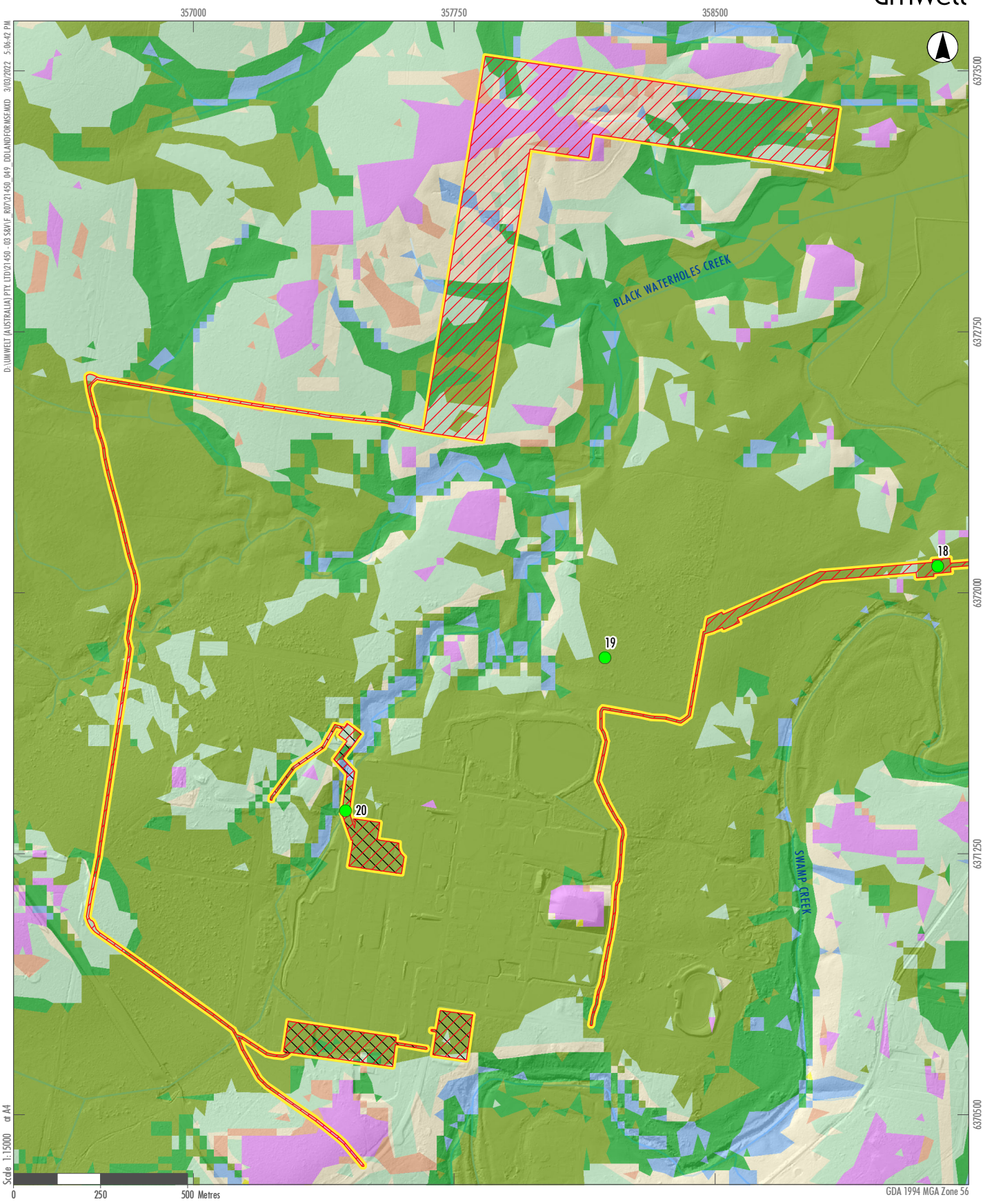


FIGURE 3.5

Landforms Within the Study Area (Part 5)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- Disturbed Terrain
- Kilometre Point
- Watercourses

Landform

- Ridge/Crest
- Spur
- Valley
- Flat
- Footslopes

Slope Level

- Gently Inclined
- Moderately Inclined
- Steep

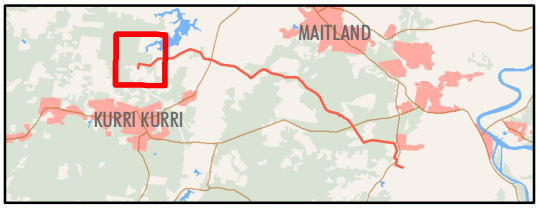


FIGURE 3.6

Landforms Within the Study Area (Part 6)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

The study area is within the broader Hunter River catchment. Key watercourses associated with the study area are discussed below.

- The eastern portion of the study area is bordered by Woods Gully, which in turn feeds into Hexham Swamp which is located less than 1 km to the east of the eastern end of the study area.
- Viney Creek and Weakleys Flat Creek intersect the eastern end of study area and then flow into Woodbury Swamp approximately 4 km north-east of the study area. Based on the catchment area and the nature of these creeks they would have provided a semi-reliable source of water in this area.
- Four Mile Creek and Elwells Creek intersect the study area between John Renshaw Drive and Buttai. Four Mile Creek flows to Four Mile Swamp approximately 5 km north-north-east of the study area. Four Mile Creek would have provided a semi-reliable source of water in this area.
- Buttai Creek and associated swamp formation, which forms part of the Wallis Creek floodplain are present in the portion of study area between Main Road (also known as Cessnock Road) and Buchanan Road (also known as Mount Vincent Road). The study area also intersects the main channel of Wallis Creek and includes the low-lying portion of the Wallis Creek floodplain known as Testers Hollow. Wallis Creek and the associated swamp formations would have provided reliable water in this area.
- Swamp Creek and Black Waterholes Creek intersect the study area at its western end. Both of these watercourses flow into the Wentworth Swamps immediately to the north of the study area. In this area, Swamp Creek is a relatively reliable water source. Black Waterholes Creek may not have been suitable for consumption along its main channel due to contamination from stagnant vegetation (which gave the creek its name). However, the Wentworth Swamps certainly provided reliable freshwater and associated resources (Umwelt 2019:135-136).

In relation to Hexham Swamp, Umwelt (2002:3.7-3.8) reviewed the evolution of this area over time based on the geomorphic information. Prior to 10 000BP (before present), Hexham Swamp would have been an open bay subject to marine influences. From the period of sea level stabilisation approximately 6500BP, Hexham Swamp formed an estuary lined with areas of sandy shore. However, over the last 2000 years, waterborn deposition of floodplain sediments has changed the nature of Hexham Swamp. This would have been reflected in variation between estuarine and freshwater wetlands across the swamp over time, with freshwater wetlands becoming more common in the last 2000 years but areas of brackish/estuarine wetlands present up until the construction of floodgates modified the nature of the swamp even further. On this basis, Hexham Swamp would have provided different ranges of resources dependent on conditions at the time and may not always have provided regular freshwater prior to the last 2000 years. In this period, freshwater would have been most easily accessed from spurs along the edges of main creek valleys flowing into the swamp. In relation to the current study area, the section bordering Woods Gully at the eastern extent of the study area meets this description.

3.2 Geology and Soils

The proposed transmission pipeline crosses several underlying geological units. The Jemena Gas Network (JGN) offtake facility and the majority of the transmission pipeline is within the Tomago Coal Measures from the eastern end of study area to Buttai Creek. There are also two minor alluvial deposits where Weakleys Flat Creek tributaries cross the study area. The western portion of the study area crosses Quaternary deposits associated with Buttai Creek, Wallis Creek and Swamp Creek. The transmission pipeline also crosses the Rutherford formation, Farley Formation, Greta Coal Measures, Mulbring Siltstone

and Branxton Formation which occur adjacent to the Quaternary deposits associated with Buttai, Wallis and Swamp Creeks. The storage pipeline, interconnect pipeline, compressor station and delivery station fall within the Rutherford Formation and the Quaternary deposits associated with Black Waterholes Creek. The geology associated with these deposits and the potential uses as an Aboriginal resource are defined in **Table 3.2** and mapped on **Figure 3.7** and **Figure 3.8**.

Table 3.2 Geological Characteristics

Geological Unit	Characteristics	Aboriginal Resource
Tomago Coal Measures	Shale, mudstone, sandstone, tuff, coal	Mudstone and tuff of suitable quality may have been used as raw material for flaked stone implements.
Greta Coal Measures	Sandstone, shale, conglomerate coal	Due to the proximity to a reliable water source, exposed sandstone may have been used to grind and shape implements such as axes and adzes.
Quaternary	Gravel, sand, silt, clay	Clay may have been used for a range of purposes including manufacture of artefacts and waterproofing
Dalwood Group (Upper) Rutherford Formation	Mudstone, conglomeratic sandstone, sandstone, shale	Due to the proximity to a reliable water source, exposed sandstone may have been used to grind and shape implements such as axes and adzes. The conglomeratic sandstone would not be suitable for grinding. Mudstone of suitable quality may have been used as raw material for flaked stone implements.
Dalwood Group (Upper) – Farley Formation	Sandstone, siltstone, mudstone, shale, conglomerates, tuff, basalt, erratics	Due to the proximity to a reliable water source, exposed sandstone may have been used to grind and shape implements such as axes and adzes. Basalt of suitable quality may have been utilised for implements such as axes and adzes. Mudstone and tuff of suitable quality may have been used as raw material for flaked stone implements.
Maitland Group – Branxton Formation	Sandstone, siltstone, tillitic conglomerate	Due to the proximity to a reliable water source, exposed sandstone may have been used to grind and shape implements such as axes and adzes.
Maitland Group – Mulbring Siltstone	interbedded sandstone and siltstone	Due to the proximity to a reliable water source, exposed sandstone may have been used to grind and shape implements such as axes and adzes.

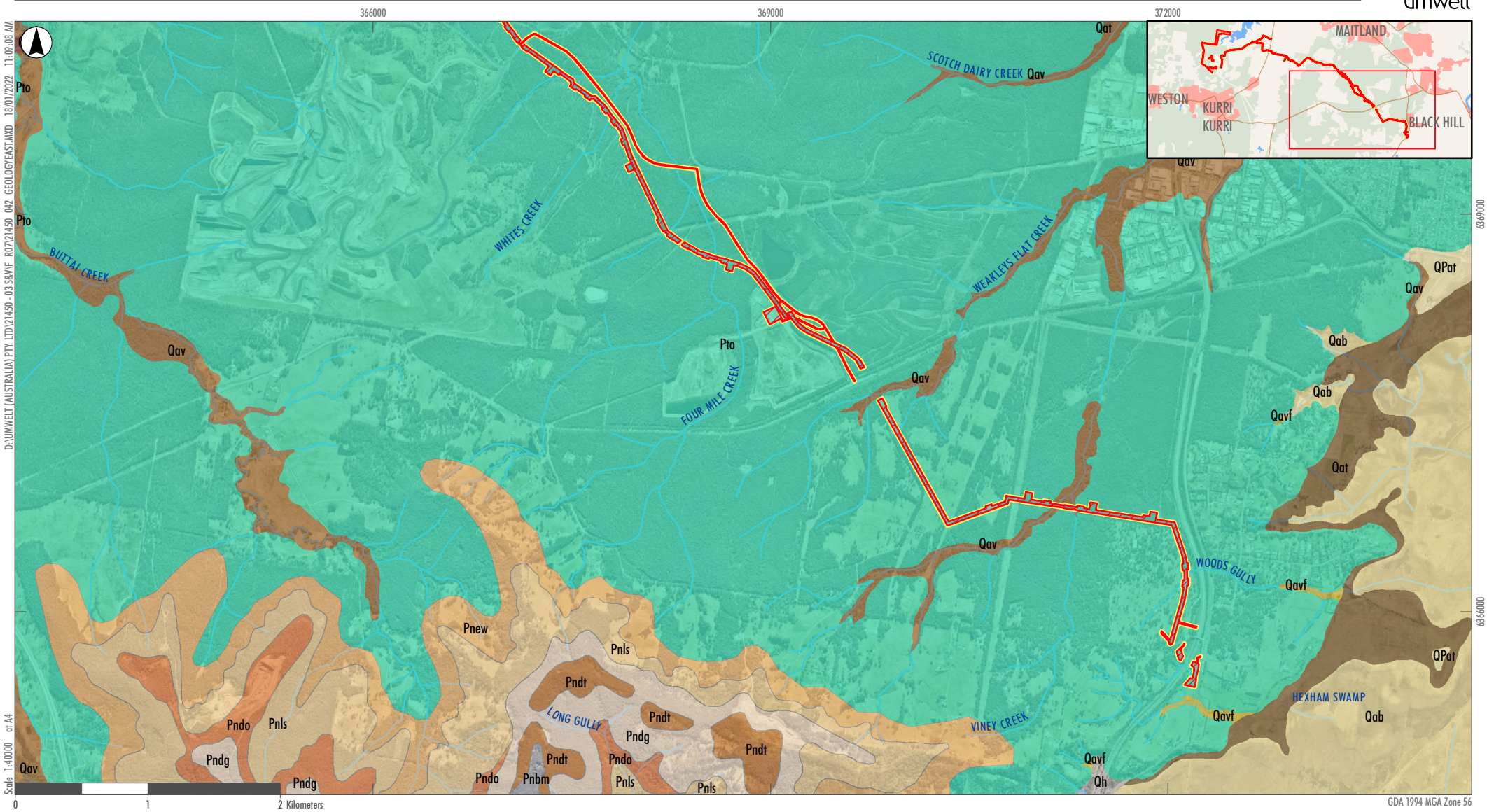
Of these geological resources, reference is made in the archaeological literature to the use of tuff sourced from Hexham Swamp (including a potential source at Woods Gully, which intersects the current study area), tuff sourced from Nobbys Headland at Newcastle (reportedly lighter in colour) as well as mudstone sourced from the Hunter River and silcrete from the Hunter River and as outcropping material or gravel floats at Beresfield and Woodberry Swamp (refer to Umwelt 2002:8.09-8.10 for discussion).

The study area traverses a number of different soil landscapes, as shown in **Figure 3.9** and **Figure 3.10**. These are reviewed in **Table 3.3** below with reference to their depth and characteristics. Across much of the study area, the depth of topsoil is variable, with some shallow soils and some very deep (typically associated with areas of alluvial deposit). Topsoil depth is relevant to considerations of archaeological potential as archaeological deposits are typically limited to the upper soil horizons.

Table 3.3 Soil landscapes within the study area

Soil Landscape	Landscape description	Soil Description	Characteristics
Transmission Pipeline (East to West)			
Beresfield	Residual landscape. Undulating low hills and rises on Permian sediments. Slope gradients 3-15%, local relief to 50m, elevation 20-50m. Partially cleared tall open forest.	Crests – Moderately deep (<120cm), moderately well to imperfectly drained Yellow Podzolic Soils, Brown Podzolic Soils and brown Soloths. Upper-slopes – moderately deep (<120cm), well-drained Red Podzolic Soils and red Soloths. Mid-slopes – moderately deep (<120cm), moderately well to imperfectly drained brown Soloths and yellow Soloths Lower-slopes – deep (>200cm), imperfectly to poorly drained Yellow Podzolic Soils, yellow Soloths and Gleyed Podzolic Soils	High foundation hazard, water erosion hazard, Mine Subsidence District, seasonal waterlogging, high run-on localised lower slopes, highly acid soils of low fertility
Shamrock Hill	Erosional landscape. Rolling low hills on Permian sediments. Slopes are 10-15%. Elevation 40-90m, local relief up to 60m. Uncleared tall open-forest.	Shallow to moderately deep (<120cm), well-drained Yellow Podzolic Soils and Red Podzolic Soils, some moderately deep (>80cm), imperfectly drained yellow Soloths on mid-slopes and some shallow (<50cm), rapidly drained Bleached Loams.	Water erosion hazard, Mine Subsidence District, localised steep slopes, strongly acid soils of low fertility.
Disturbed terrain	Level plain to hummocky terrain, extensively disturbed by human activity including complete disturbance, removal or burial of soil. Original vegetation completely cleared.	Highly variable.	Site dependant.
Wallis Creek	Alluvial landscape. Narrow (<500m) to moderately broad (1,000m), level to gently undulating floodplains on Quaternary alluvium. Slopes 0-3%, elevation to 20m, local relief up to 2m. Cleared tall open-forest.	Deep (>200cm), well to imperfectly drained Alluvial Soils and Silicious Sands on floodplains with some imperfectly to poorly drained, deep (>200cm) Alluvial Soils on backswamps and ox-bows.	Flooding, permanently high watertables, high run-on, high stream bank erosion hazard, ground water pollution hazard, non-cohesive soils of low fertility.
Bolwarra Heights	Erosional Landscape. Rolling low hills on Permian sediments. Slopes are 5-20%. Elevation to 100m. Local relief to 80m. Cleared tall open-forest.	Crests – Moderately deep (<150cm), well drained Yellow Podzolic Soils, Red Podzolic Soils and Brown Podzolic Soils with some moderately deep (<100cm), well drained Lithosols. Lower slopes – Moderately deep (<140cm), imperfectly drained yellow Soloths.	Moderate foundation hazard, water erosion hazard, high run-on (localised), seasonal waterlogging (localised), localised steep slopes with mass movement hazard.

Soil Landscape	Landscape description	Soil Description	Characteristics
Bolwarra Heights variant A	Refer to Bolwarra Heights soil landscape (see above)	Shallow (<55cm) soils.	Refer to Bolwarra Heights soil landscape (see above)
Hunter variant A	Swamp landscape. Swampy backplains.	See Hunter landscape soil description (below).	See Hunter landscape soil landscape characteristics (below).
Hunter	Alluvial landscape. Extensive alluvial plains on recent alluvium derived from the Hunter and Paterson Rivers. Slopes are <1%, elevation 2-1m, mocal relief is 2m. Completely cleared open-forest and closed-forest.	Deep (>150cm), moderately well drained to imperfectly drained Prairie Soils; deep (>150cm), imperfectly to poorly drained Brown Clays; some deep (>150cm), well-drained Chernozems. Deep (>200cm), well to imperfectly drained Alluvial Soils on levees, ox-bows and recent overbank deposits. Moderately deep (>80cm), well-drained Siliceous Sands on point bar and river bank deposits.	Flood hazard, foundation hazard, permanently high watertables (localised), seasonal waterlogging (localised), productive arable land and soils of high fertility.
Neath	Solodic Soils. Gently undulating rises and swamps. Slopes to 3%. Relief to 30m.	Grey Solodic Soils in poorly drained areas with Yellow Solodic Soils on better drained slopes.	
Storage Pipeline (North to South)			
Hunter	Alluvial landscape. Extensive alluvial plains on recent alluvium derived from the Hunter and Paterson Rivers. Slopes are <1%, elevation 2-1m, mocal relief is 2m. Completely cleared open-forest and closed-forest.	Deep (>150cm), moderately well drained to imperfectly drained Prairie Soils; deep (>150cm), imperfectly to poorly drained Brown Clays; some deep (>150cm), well-drained Chernozems. Deep (>200cm), well to imperfectly drained Alluvial Soils on levees, ox-bows and recent overbank deposits. Moderately deep (>80cm), well-drained Siliceous Sands on point bar and river bank deposits.	Flood hazard, foundation hazard, permanently high watertables (localised), seasonal waterlogging (localised), productive arable land and soils of high fertility.
Branxton	Yellow Podzolic Soils. Undulating rises to low hills. Slopes to 5%, relief 10-40m.	Crests – Red Podzolic Soils Midslopes – Yellow Podzolic Soils Lower slopes/drainage lines – Yellow Soloths Alluvial Soils in some creeks.	
Neath	Solodic Soils. Gently undulating rises and swamps. Slopes to 3%. Relief to 30m.	Grey Solodic Soils in poorly drained areas with Yellow Solodic Soils on better drained slopes.	



Legend

- Study Area
- Project Footprint
- Watercourses

Cenozoic Sedimentary Province

- Pndg - Glebe Formation
- Pnls - Shepherds Hill Formation
- Pnew - Waratah Sandstone
- Pndo - Kotara Formation
- Pndt - Tickhole Formation
- QPat - Alluvial Terrace Deposits
- Qab - Alluvial Backswamp Deposits
- Qat - Alluvial Terrace Deposits
- Qav - Alluvial Valley Deposits
- Qavf - Alluvial Fan Deposits
- Qhw - Anthropogenic Stored Water, Pondage, Reservoirs, Canals

Permo-Triassic Basins

- Pto - Tomago Coal Measures

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

FIGURE 3.7

Geology of the Study Area (East)

Legend

- Study Area
- Project Footprint
- Watercourses

Cenozoic Sedimentary Province

- QHaf - Alluvial Floodplain Deposits
- QPat - Alluvial Terrace Deposits
- Qab - Alluvial Backswamp Deposits
- Qacw - Alluvial Channel Deposits (Subaqueous)
- Qaf - Alluvial Floodplain Deposits
- Qal - Alluvial Levee/Overbank Deposits
- Qap - Alluvial Palaeochannel Deposits
- Qat - Alluvial Terrace Deposits
- Qav - Alluvial Valley Deposits
- Qavf - Alluvial Fan Deposits
- Qhw - Anthropogenic Stored Water, Pondage, Reservoirs, Canals

Permo-Triassic Basins

- Pdaf - Farley Formation
- Pdar - Rutherford Formation
- Pdarr - Ravensfield Sandstone Member
- Pgr - Greta Coal Measures
- Pmtb - Branxton Formation
- Pmtm - Mulbring Siltstone
- Pmtu - Muree Sandstone
- Pto - Tomago Coal Measures

FIGURE 3.8

Geology of the Study Area (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

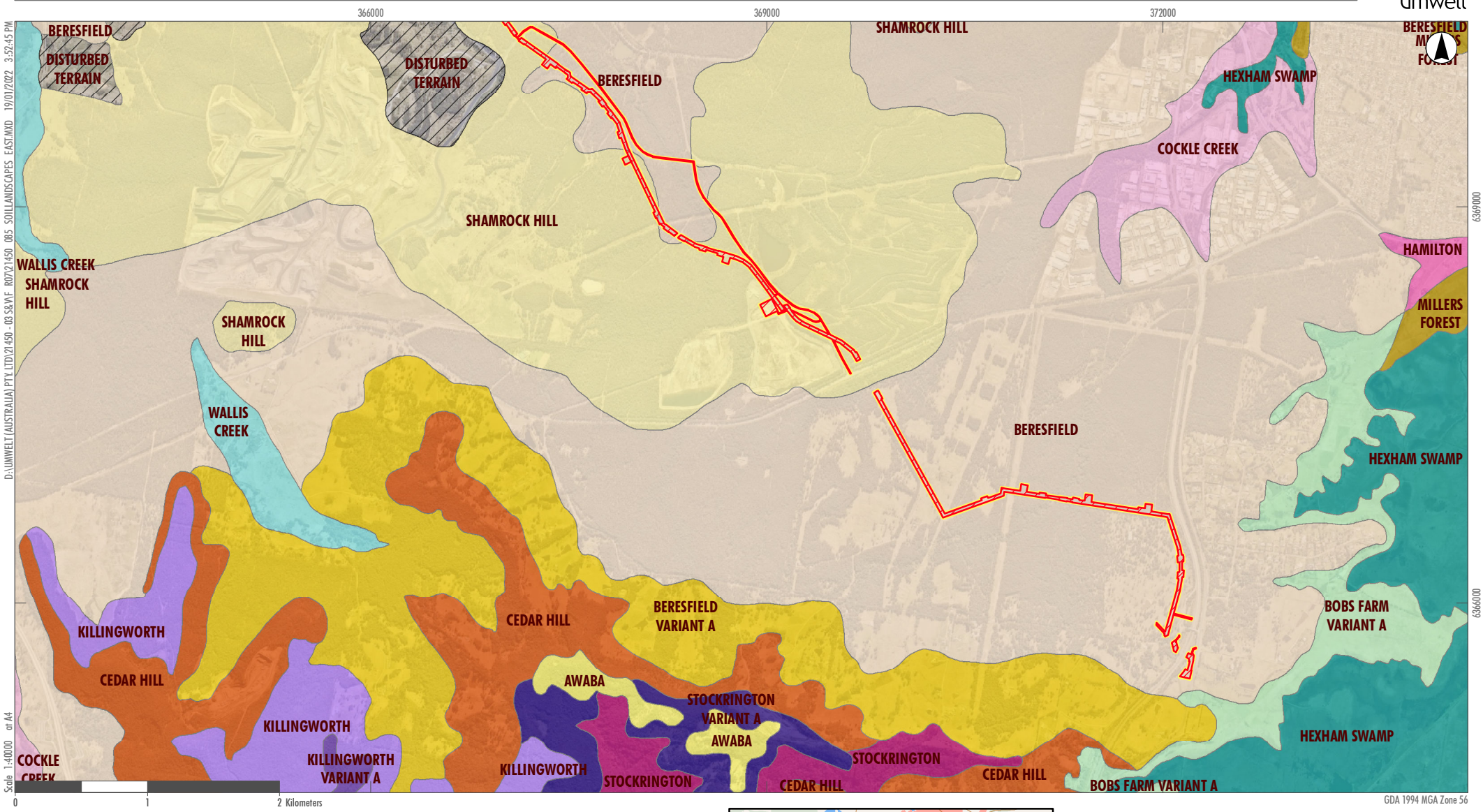
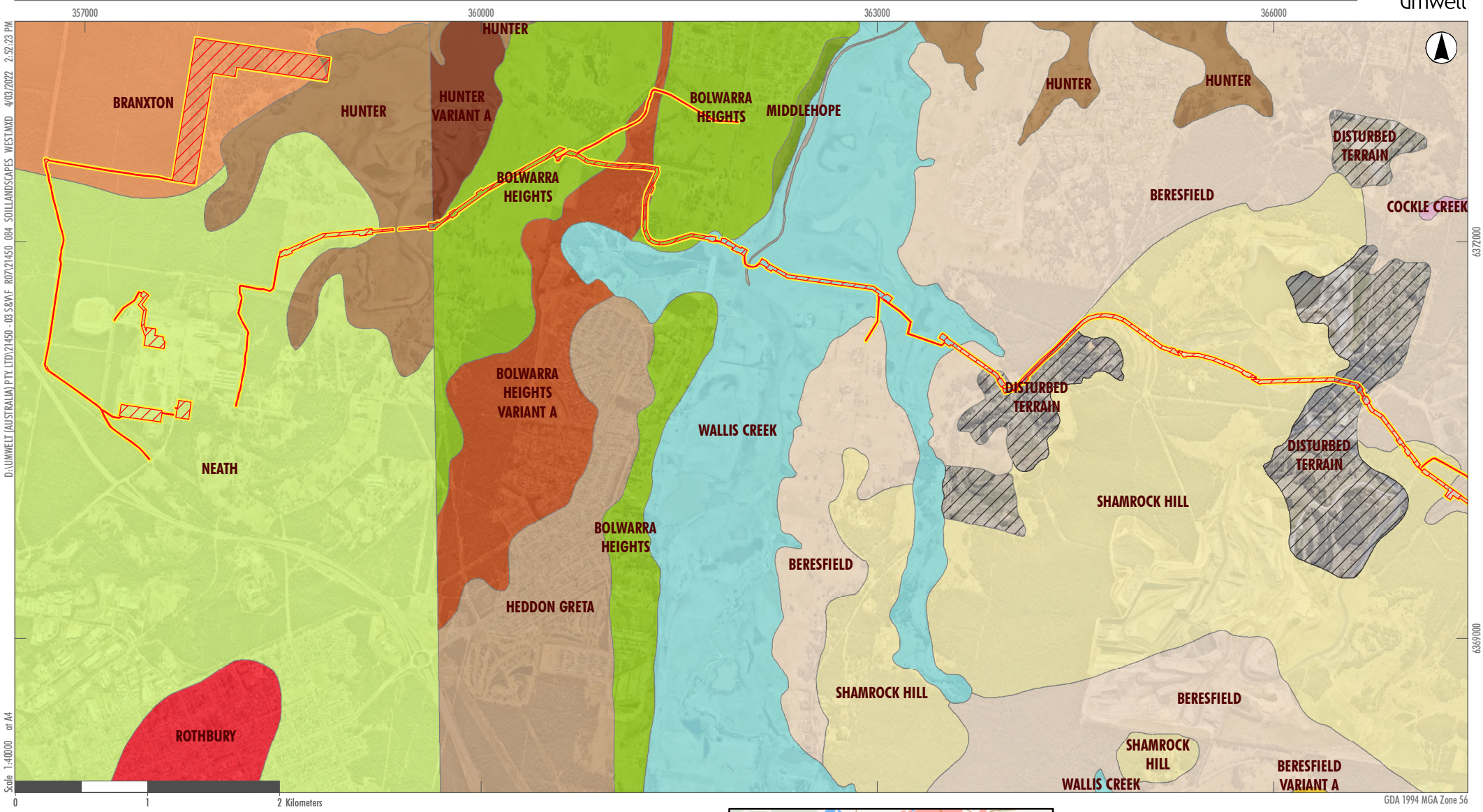


FIGURE 3.9

Soil Landscapes of the Study Area (East)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint

Soil Landscape

- Beresfield
- Beresfield variant a
- Bolwarra Heights
- Bolwarra Heights variant a
- Branxton
- Cockle Creek
- Disturbed Terrain
- Heddon Greta
- Hunter
- Hunter variant a
- Middlehope
- Neath
- Rothbury
- Shamrock Hill
- Wallis Creek

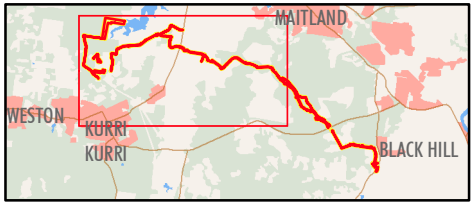


FIGURE 3.10

Soil Landscapes of the Study Area (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

3.3 Fauna and Flora

The lower Hunter Valley has been largely cleared of native vegetation, primarily for agriculture but also other land uses such as mining and urban development. The remnant vegetation provides an indication of resources available to past Aboriginal people. The vegetation communities are characterised by open woodland and communities associated with swamp and wetlands in the area (Hexam Swamp and Wentworth Swamp). These communities attract a diverse range of faunal species to the area. **Table 3.4** outlines the vegetation communities in the study area (within 10 km), the fauna species that may be present along with possible utilisation by past Aboriginal people.

Table 3.4 Vegetation Communities associated with the study area and surrounds (DPIE 2021)

Vegetation Community	Vegetation Types	Associated fauna species	Possible past Aboriginal uses
River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Dominate trees include Forest red gum, Cabbage gum, rough-barked apple and broad-leaved apple. Potential Sydney blue gum and flooded gum. Smaller trees and scattered shrubs including prickly-leaved teatree, grey myrtle, white cedar, river oak, swamp oak, blackthorn, forest nightshade, native raspberry, coffee bush, tree violet and white sally. Groundcover includes weeping grass, kidney weed, whiteroot, bordered panic, trailing speedwell and others.	Cormorants, egrets, whistling kite, white-bellied sea-eagle, brush-tailed Phascogale, Yellow-bellied glider, squirrel glider, sugar glider, grey-headed flying fox, various frog species, honeyeaters, kingfishers, cuckoos, owls, doves, whistlers and fantails.	Wooden implements, such as shields, woomeras, coolamon and clubs. Medicinal Resins and gums Food
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Water couch, swamp rice-grass, mud grass and tussock sedge. Large sedges, frogbit, frogsmouth, water primrose, nardoo, milfoils Hornwort, water thyme, duckweeds, giant waterlily, water snowflake, swamp lily and pondweeds.	Frogs, fish, freshwater tortoises, waterbirds and a diversity of micro- and macro-invertebrates. Black swan, Pacific black duck, Australian grey teal, Heron (Pacific, White-faced), Egrets (Great, Intermediate, Little), Ibis (Straw-necked, Sacred), Black-necked stork, Royal spoonbill, Japanese snipe, Black-winged Stilt, Dusky Moorhen, Com-crested jacana and Purple swamphen.	Woven items such as bags and baskets Food

Vegetation Community	Vegetation Types	Associated fauna species	Possible past Aboriginal uses
Kurri Sand Swamp Woodland in the Sydney Basin Bioregion	Dominate trees include Paramatta Red Gum and Narrow-leaved Apple Less frequently occurring are Narrow-leaved scribbly gum, red ironbark and red bloodwood. Shrub layer includes hairpin banksia, dogwood, finger hakea, prickly moses, grevillea, prickly-leaved paperbark, swamp wattle and mountain devil. Ground species include Wiry panic, slender rice flower, Mat rush (needle, pale) and oat speargrass.		Wooden implements, such as shields, woomeras, coolamon and clubs. Medicinal Resins and gums Food Woven items such as bags and baskets
Lower Hunter Spotted Gum Ironbark Forest in the Sydney Basin and NSW North Coast Bioregions	Overstory dominated by spotted gum and broad-leaved ironbark. Grey gum and grey ironbark occasionally found. Understory includes silver-stemmed wattle, gorse bitter-pea, sweet bursuria, prickly-leaved paperbark, peach heath, narrow-leaved geebung, narrow-leaved orangebark and fern leaf banksia. Ground cover includes mulga fern, barbed-wire grass, blueberry lily, wiry panic, twining glycine, variable swordsedge, mat rush, weeping grass, pomax, trailing pratia, kangaroo grass and thyme spurge.		Wooden implements, such as shields, woomeras, coolamon and clubs. Resins and gums Medicinal Woven items such as bags and baskets

3.4 Land Use History

The study area has been subject to a variety of past land uses that have the potential impact the likelihood of Aboriginal heritage sites remaining. Significant disturbance areas are shown as part of landform mapping presented in **Section 3.1**. Land uses resulting in significant disturbance include:

- Open cut mining (Donaldson Open Cut Mine and Bloomfield Open Cut Mine) including infrastructure such as haul roads and access tracks.
- Kurri Kurri Aluminium Smelter

- Agriculture such as cattle and a former chicken farm.
- Recreation including equestrian and horse sanctuary
- Infrastructure including roads, water pipelines and electrical transmission lines.

3.5 Summary

Based on the information presented in this section, the study area includes a range of landforms with varying access to key resources including fresh water. As will be discussed further below, archaeological models for the region demonstrate that the nature of the landform, proximity to freshwater and/or swamp resources, depth of topsoil and extent of disturbance are key factors in relation to the potential for archaeological deposits to be present and identifiable. The study area includes substantial areas of low inclination slopes and gentle spurs bordering key water courses and swamps such as the Wallis Creek floodplain and Woods Gully/Hexham Swamp. However, in portions of the study area, the level of disturbance may have impacted on the likely preservation and detectability of archaeological sites. This will be discussed further in the following section.

4.0 Cultural Context

In order to adequately undertake an assessment of Aboriginal cultural heritage within the study area, it is necessary to also understand the cultural context of the area. The term cultural context encompasses both ethnohistoric information regarding how Aboriginal people lived in the region during the period prior to European settlement, and the information that we currently have access to regarding the patterns of distribution of archaeological evidence, based largely on the outcomes of previous archaeological assessments.

4.1 Ethnohistoric Information

Historic records, such as official records, personal observations recorded in diaries or publications and paintings, can provide rare information on the Aboriginal lifestyles of a region at the time of European contact. It is noted, however, when reviewing ethnohistoric accounts there are numerous limitations to the use of the information including but not limited to the following:

- Ethnohistoric accounts date from a period when introduced diseases had already had a huge impact upon Aboriginal society (refer to Butlin 1982)
- The majority of records report on Aboriginal society from the perspective of non-Aboriginal men who would not have had access to all aspects of Aboriginal society and who viewed Aboriginal people from an entirely non-Aboriginal perspective
- Colonial observers generally tended to record unusual rather than everyday events
- Colonial observers generally tended to record religious and social life rather than economic activity
- Colonial observers generally tended to record men's behaviour rather than that of women and children.

As such, ethnohistoric records are neither unbiased nor complete, and they cannot provide a clear understanding of Aboriginal lifestyles at the time of contact. These limitations must be considered with reference to all of the information presented below.

Based on the mapping provided by (Tindale 1974), the study area is located at the intersection of the traditional Country of the Awabakal and Wonnarua Peoples. While this mapping is by no means definitive, it is supported by historical accounts noting the presence of the Awabakal People in the area bordering Hexham Swamp and other accounts of the Wonnarua People in the areas around Maitland. In reviewing the archaeological evidence distributed along this boundary area, Umwelt (2019) noted evidence of change in the distribution of raw materials across sites that suggested sites within the Wallis Creek catchment were associated with the Awabakal People, transitioning to raw materials more typically associated with the Wonnarua People at Black Creek (Branxton). However, it was noted that, based on the presence of small amounts of tuff in an assemblage at Greta, 'the tribal boundary was permeable to people and/or raw materials.'

A comprehensive review of ethnohistoric information relating to the Awabakal and Wonnarua Peoples is provided by Umwelt (2019) with reference to implications for the archaeological record. This information is summarised below.

4.1.1 Scarred Trees

Early settlers would have been unaware of the Aboriginal cultural significance of scarred trees in the region, and the movement of timber cutters through the region, as well as the agricultural practices across large portions of the landscape would have resulted in the destruction of the majority of these site types, which are assessed as being culturally significant.

Early descriptions of Aboriginal huts or 'gunyers' made from the bark of trees include the following:

- Collins (1798 in Fletcher 1975) described huts of the Aboriginal people as made of the bark of a single tree, bent in the middle providing shelter for one tenant. Collins further noted that bark was never carried around, a hut was located, the tree from which it had been taken was also found
- Dawson (1830) and Caswell (1841) both describe huts made with three sticks and Melaleuca bark
- Threlkeld (in Gunson 1974:45) described sleeping places being erections of boughs of trees, with sheets of bark placed upright supported by stakes
- Turner and Blyton (1995:15) note that huts were made from stringybark or box bark.
- Threlkeld (in Gunson 1974:3) also describes coastal huts as being more substantial than inland huts. Collins (1798 in Fletcher 1975) comments on this, noting that on the sea coast, huts were larger and formed of pieces of bark from several trees put together, and were large enough for six to eight people. Both Threlkeld (in Gunson 1974:45) and Collins (1798 in Fletcher 1975) also described individual fires at the mouth of each hut.

Not captured as extensively in observations of early settlers are the many other reasons for which Aboriginal people removed bark from trees. In addition to hut construction, canoes, shields, baskets and boomerangs were made from the bark of trees found in the Lower Hunter Valley (Brayshaw 1986: 59-66).

Large rectangular bark sheets were used to make canoes with ends tied together with twine and sealed with clay. Tied canoes were used extensively along the coast on rivers, lakes, sheltered inlets and occasionally on open water (Long 2005:26). Containers used for holding water were made from sheets of bark (e.g., stringybark) tied and sealed at each end. Other equipment such as nets, bags, baskets and twine were also made from the bark of various types of trees found within the Lower Hunter Valley.

4.1.2 Subsistence

Consumption of specific foods appears to have been restricted by age and gender, for example, Threlkeld (in Turner and Blyton 1995:14) recorded that large lizards were a favourite item of the privileged class, and that snakes and wild dogs were considered a dish fit for a king.

Historical accounts identify that a range of land animals were part of the Aboriginal diet at the time of contact, including kangaroos, reptiles, bandicoots and emus. Brayshaw (1986) identifies that animals were sometimes speared by an individual huntsman (such as observed by Dawson 1830:17) but hunting was more frequently a group exercise. Threlkeld (in Gunson 1974:191) observed a hunting expedition in Lake Macquarie and described it as follows:

> *We mustered about thirty persons armed, with spears. After travelling a few miles, we arrived at the top of a high hill, the party separated, some going to the bottom, while we continued to the top. A deep valley was before us. The men arranged themselves in different parts, on rocks or stumps, or any little eminence waiting the appearance of game, which the party below, women chiefly, alarmed by their shouts. Seven or eight animals were obtained in less than two hours.*

Another description of a hunt – of bandicoots – is also described by Threlkeld (in Gunson 1974: 54) as:

> *…with the weapon of warfare they beat about every high grassy bushy place. The dogs hunting around likewise. The moment an animal appeared they threw their waddies at it and generally killed it at one blow. One man stood on the stump of a tree, and threw a spear with the greatest precision transfixing a Bandicoot to the ground…*

Similar scenes of Aboriginal hunters were also depicted in artwork. For example, Joseph Lycett's c.1820 painting with a large party of men positioned high in a valley, using fire and weapons to drive kangaroos out in the open.

Other forms of subsistence included the gathering and utilisation of edible plants. Within Australia, there are thousands of edible wild plants, ranging from sweet and tangy fruits to leaves, tubers, fungi, bulbs and seaweed that were prepared in a variety of ways (Low 1989). Several plant species were also utilised for medicinal purposes (Low 1990).

4.1.3 Implements

Accounts with specific or detailed references to implement types and raw materials are sparse. Kuskie and Kamminga (2000 Volume A: 68-69) compiled the following references:

- Threlkeld (in Gunson 1974:67) and Barrallier (1802:81 in Brayshaw 1986) mention the use of quartz to form the serrated edges of fighting or 'war' spears.
- Threlkeld (in Gunson 1974), Barrallier (1802) and Dawson (1830) all observed stone hatchets ('*baibai*', '*pukko*' in Awabakal language). Dawson observed that the grooved heads were fastened to a handle by adhesive gum obtained from wattle (*Acacia spp*) and that the stone from which hatchets were made was basalt or diorite ground on sandstone to form a bevelled cutting edge. Matthews (1894) noted the uses of hatchets as being to cut saplings and strip bark from trees and to cut notches in trees for climbing particularly toe holds to procure animals from hollows or honey from bees' nests (Umwelt 2003:5.16).
- Dawson (1830) and Brayshaw (1986) note the use of shells as scrapers to sharpen wooden implements (Umwelt 2003b:5.16).

There is an account of a very large stone axe being handed to the anthropologist W. J. Enright by a European settler in the Newcastle area. The axe is reported to have been from a farm near Tarro (in the Beresfield area, some 4 km east of the study area). The axe was described as weighing 7lbs and having the dimensions 10 inches long, 8 inches wide and 3 inches thick. The axe was made of fine-grained quartzite (*Mankind* 1932 in Hartley 1995:88).

Threlkeld (in Gunson 1974) provided the following description of the manufacture of a fishing spear at Lake Macquarie, made from the stem of the grass tree:

> *…there are four pieces of hard wood about two feet long, [which] are fastened with a bark-thread covered with the grass-tree gum, heated in the fire until at melting point, when it is worked round the thread fastening it... The three or four shorter spears thus fastened to the long stem of the grass tree, of about six feet length, becomes thus somewhere nigh eight feet in the total length of the weapon. Small wooden wedges are inserted betwixt the attached short spears just at their base where they are tied and likewise gummed over firmly .. The point of each skewer is hardened in the fire, by charring: and when hot, covering it with a coating of the grass - tree gum, fastening at the same time a barb of bone at the point.*

Turner and Blyton (1995:19) describe implements used by Aboriginal people at the time of contact, such as a stone axe fitted to a shaft taken from the *Xanthorrhoea* plant; wooden coolamons used for carrying water and small sheets of stringybark tied at each end that had a twig as a handle and which were used for holding water. Other general equipment described by authors include: forked poles for climbing trees (Dawson 1830); nets and bags for carrying food and equipment (Ebsworth 1826, Dawson 1830); string made from bark (Ebsworth 1826, Dawson 1830); gum and resin from *Acacia* and *Xanthorrhoea* plants; tea tree bark for small baskets and water vessels; and the shank bone of a kangaroo used as an awl (Threlkeld in Gunson 1974:54).

Brayshaw (1986:63-64) described shields in the Hunter region being made of both wood and bark. Threlkeld (in Gunson 1974:68) described a shield used at Lake Macquarie as being made from a buttress of the nettle tree or the giant fig tree, and usually about three feet long by 18 inches, or so at most; lozenge-shaped, pointed at top and bottom, and pigeon-breasted rather than flat. The thickness in the centre may be an inch, not more, and thins off to about a quarter of an inch to the edge. On the inside of the shield, in the centre, a piece of tough wood is bent and inserted like the handle of a basket, just sufficiently large to hold by, and a soft piece of tea tree-bark is fixed on which to rest the knuckles and preserve them from abrasion.

Hardwood implements used by women were also described, but records are generally rare due to the focus on weapons rather than mundane domestic artefacts. Yam sticks were used for daily sourcing of food and could be up to 2 m long and about 4 cm in diameter. Yam sticks were fire-hardened but usually not decorated but were status symbols and sometimes also used as weapons during altercations (Brayshaw 1986).

Cord and string were all purpose items usually made from the bark of various trees, including the cabbage-tree, kurrajong and hibiscus (Threlkeld in Gunson 1974:191), and used for fishing lines, nets, binding and so on. Ebsworth (1826:79) provided the following description of how the women made string from bark:

> *…they twist and roll the bark in a curious manner with the palm of the hand upon the leg; with this string they form nets of curious workmanship. In some the meshes are very small and neat, and the whole knit without a knot, excepting at its completion.*

Dawson (1830:250) indicated that tea tree bark was sometimes used to make small baskets**,** but that it was used by folding and tying it in a peculiar manner for drinking vessels more frequently than for anything else. Threlkeld (in Gunson 1974:67) described similar drinking vessels used at Lake Macquarie as *'…sheets of bark which are tied up at each end, and a bent twig forms the handle'*. He also noted that wooden bowls were taken from large protuberances of growing trees which they chopped with stone or iron hatchets.

Threlkeld (in Gunson 1974:67) described three kinds of spears in use at Lake Macquarie; the fishing spear, the hunting spear, and the war spear. Although manufacture of the war spear was similar to manufacture of hunting and fishing spears described in the above section, war spears only had one joint of hardened wood fixed to the end. This spear could be from 14 to 18 feet long (Threlkeld in Gunson 1974:190). Barrallier (1802:81) also noted the spears to be of this length. War spears often also had the addition of pieces of sharp quartz stuck along the hard wood joint on one side so as to resemble the teeth of a saw. Threlkeld (in Gunson 1974:64-66) noted that bone points were fixed to some spears, and also that the use of glass instead of quartz to barb the war spears resulted in their inflicting terrible lacerations. Spears for all purposes appear in the Hunter region to have been of composite manufacture, usually comprising lengths of grass tree flower stem (*Xanthorrhoea australis*) to which were affixed points of hard wood.

Several types of clubs have also been described in the Hunter coastal region, all of hard wood (Brayshaw 1986). One, usually called a 'waddy', and was described by Dawson (1830:66) as *'….like a large kitchen poker, and nearly as heavy, only much shorter in the handle'* or by Threlkeld (in Gunson 1974:54) as *'...a short stick like a constable's staff only tapering from the middle to the end*'. It was generally made of ironbark wood (Ebsworth 1826:77). Waddies were used for hunting but were also observed being used in battle or single combat when the offence was slight, and it was not wished that any of the parties should be killed (Lang Papers 1815:61). The same source indicated that a heavier club, sometimes referred to as a 'nulla nulla', was employed when the offence had been greater, death sometimes but not often ensuing from its use. The 'nulla nulla' appears to have been a mushroom-like club with a flattish circular head.

Threlkeld (in Gunson 1974:68) described an instrument of warfare which he termed a 'wooden sword', not unlike a boomerang but with 'a handle at one end with a bend contrary to the blade'. He thought the difference of shape between the sword and the boomerang was 'only an accidental circumstance arising from the natural growth of the tree whence the wooden sword was taken'.

Boomerangs were recorded as made of hardwood, ironbark and myrtle (Breton 1833:237). Browne (in Brayshaw 1986) described the boomerang as being used to 'disperse a crowd'. Threlkeld (in Gunson 1974:69) implied that the same instrument was used as either a source of entertainment or of destruction, thrown at man or beast.

4.1.4 Trade and Exchange

Some early authors also note the trade links between the Awabakal and inland tribes. Threlkeld (in Gunson 1974:42) notes that coastal grass trees provided suitable material for spear manufacture and were often sent into the interior in exchange for possum skin rugs and fur cord. Threlkeld (in Brayshaw 1986) reported that in the winter of 1826, Biraban went to the mountains with upwards of 60 spears to exchange for cord made of opossum fur. Haslam (1985) also suggests that tuff found at Newcastle was also traded, as it has been found in the Moreton Bay area, the Hunter region and the Watagan Mountains.

4.1.5 Ceremony

Ethnohistoric accounts note a number of locations in the broader region surrounding the study area as being associated with the customary practices of the Awabakal. The *Wallsend and Plattsburg Sun* (3 January 1891:3) reports marriage ceremonies as being performed at the 'Doghole…a couple of miles from Minmi', in the area currently known as Stockrington approximately 4 km south of the southern end of the study area (Umwelt 2003b: 5.14).

In 2003, as part of the Aboriginal Cultural Assessment for the proposed Hunter Expressway extension included detailed consultation with Aboriginal parties, as documented in Umwelt (2003). Of relevance to the current study area, an area of cultural significance was identified in the Kurri Kurri area and associated with Wentworth Swamp and Testers Hollow.

4.2 Archaeological Context

A review of available archaeological information is crucial to the archaeological assessment process, as it informs our understanding of archaeological site patterning, site survival and the potential for detection of extant archaeological sites. This information is discussed with reference to the outcomes of a search of the Aboriginal Heritage Information Management System (AHIMS) database (which documents the location and nature of sites for which site cards have been lodged) and a summary of the outcomes of previous archaeological investigations in the local area.

This information is then considered with reference to key environmental characteristics discussed in **Section 3.0** to establish a predictive archaeological model for the study area.

4.3 AHIMS Results

A search of the AHIMS register was undertaken on 27 May 2021 and 14 December 2021. The extent of the search area is shown on **Figure 4.1** and **Figure 4.2**. The extensive search results are attached at **Appendix B**. **Table 4.1** shows the relative frequency of site types within the search area. The recorded location of sites is shown in **Figure 4.1** and **Figure 4.2**.

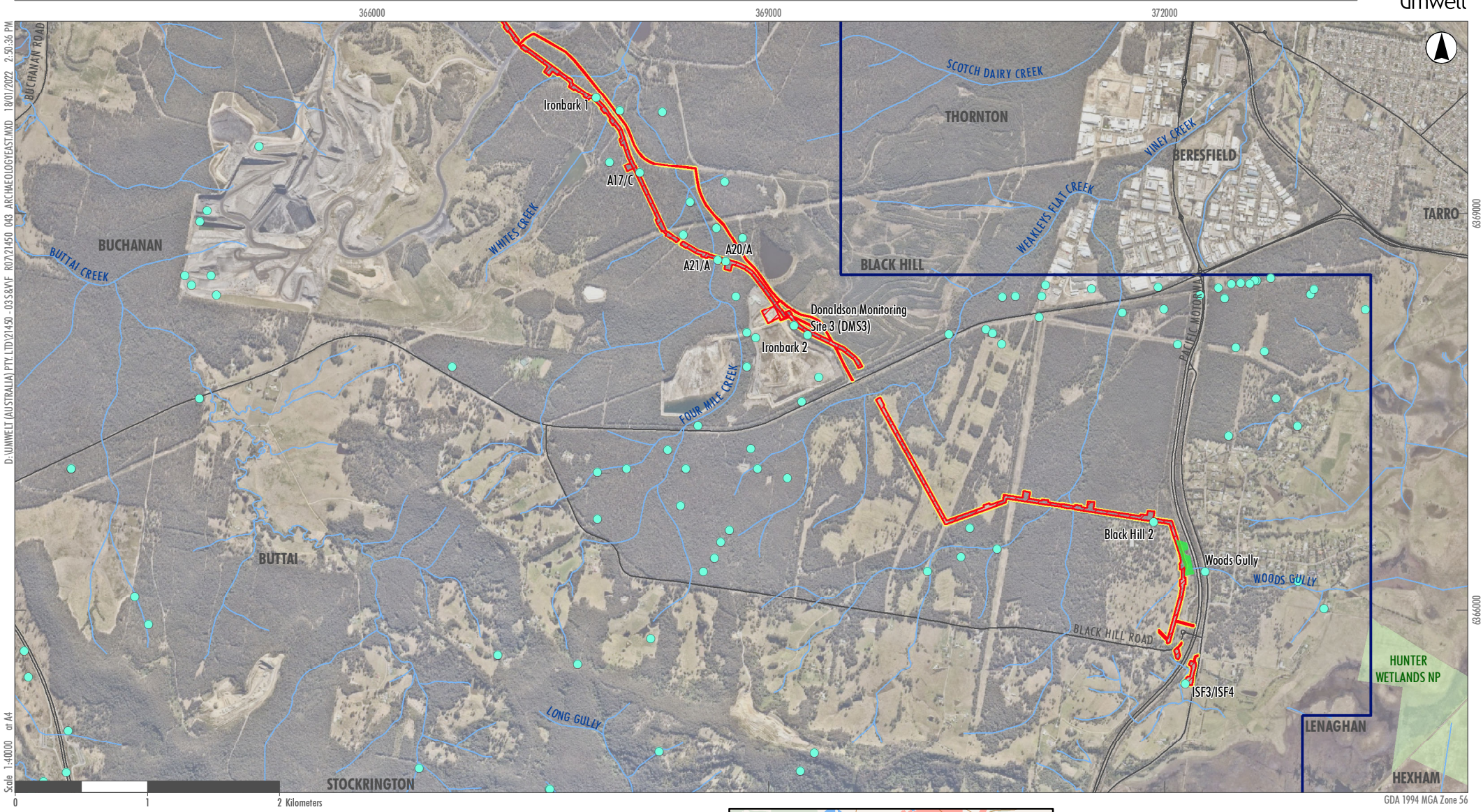
There is a total of 381 sites recorded on the AHIMS database. The majority of sites (88.4%) are associated with flaked stone artefacts (including artefact scatters, isolated finds and Potential Archaeological Deposit (PAD)) with the next prevalent site type (7.9%) being grinding grooves (including grooves with artefacts and art).

Based on the AHIMS data and review of previous assessments undertaken in the location area (refer to **Section 4.4**), there are 28 previous recorded Aboriginal archaeological sites within or within 25 m of the study area. These sites are listed in **Table 4.2** and consist of 26 sites containing stone artefacts and two PADs.

Table 4.1 Relative frequency of previously recorded sites within the AHIMS search area

Site Type	Count	Frequency (%)
Aboriginal resource and gathering	2	0.5
Artefact	302	79.3
Artefact with PAD	12	3.1

Site Type	Count	Frequency (%)
Grinding grooves	23	6.0
Grinding grooves and artefacts	6	1.6
Grinding grooves and art (pigment/engraved)	1	0.3
Habitation structure	1	0.3
Modified tree (carved/scarred)	6	1.6
Potential Archaeological Deposit	23	6.0
Shell	4	1.0
Stone Arrangement	1	0.3
Total	**381**	



Legend

- Study Area
- Project Footprint
- Conservation Area
- AHIMS Search Coverage
- AHIMS Aboriginal Sites
- NSW Conservation Estates
- Roads
- Watercourses

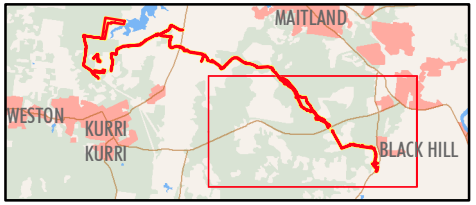
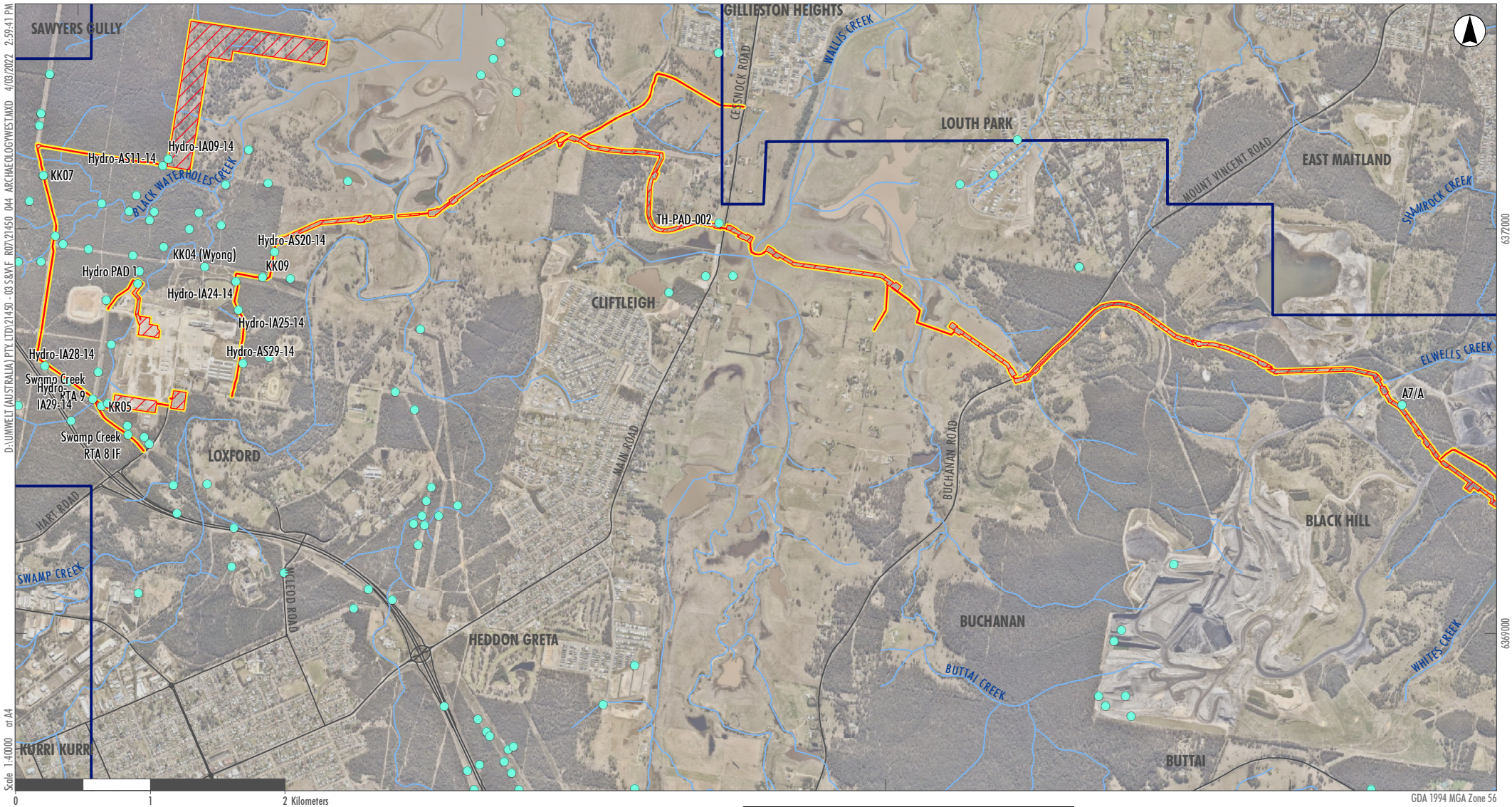


FIGURE 4.1

Previously Recorded Archaeological Sites (East)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- AHIMS Search Coverage
- AHIMS Aboriginal Sites
- Roads
- Watercourses

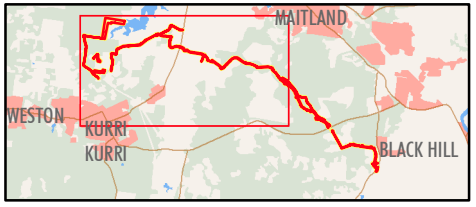


FIGURE 4.2

Previously Recorded Archaeological Sites (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

Table 4.2 Previously Recorded Sites within the Study Area

AHIMS ID	Site Name	Site description	Relationship to study area	Status	Relevance to current study area
37-6-1360	Swamp Creek RTA 8 IF	Silcrete flake	Within study area	Listed as valid but has been salvaged under AHIP 2102 (Umwelt 2019)	Site has been salvaged Not subject to further consideration in this ACHA
37-6-1361	Swamp Creek RTA 9	Artefact scatter containing 7 artefacts	Within study area	Listed as valid but has been salvaged under AHIP 2102 (Umwelt 2019)	Site has been salvaged Not subject to further consideration in this ACHA
37-6-1957	KK09	Isolated artefact	Within study area	Has AHIP listed against it (AHIP 3203) but re-identified by AECOM (2014)	Subject to potential impact
37-6-2008	KR05	Isolated artefact	Within 10m of study area	Has AHIP listed against it (AHIP 3201). Could not be re-identified by AECOM (2014)	Isolated artefact outside current study area and not re-identified during recent survey Not subject to further consideration in this ACHA
37-6-3054	Hydro-AS11-14	Artefact scatter containing 3 artefacts	Within study area	Valid	Subject to potential impact
37-6-1955	KK07	Two artefacts identified on an existing track	AHIMS coordinates plot within study area however based on review of site card mapping, site is located on transmission pipeline approximately 2 km from study area	Listed as valid but has AHIPs listed against it (AHIPs 3151, 3203)	Based on site card mapping, site is substantially outside current study area. Not subject to further consideration in this ACHA
Not registered	Hydro-IA09-14	Isolated artefact	Within study area	Valid	Subject to potential impact
Not registered	Hydro-IA24-14	Isolated artefact	Within study area	Valid	Subject to potential impact
Not registered	Hydro-IA25-14	Isolated artefact	Within study area	Valid	Subject to potential impact

AHIMS ID	Site Name	Site description	Relationship to study area	Status	Relevance to current study area
Not registered	Hydro-IA28-14	Isolated artefact	Within 15m of study area	Valid	Single artefact outside study area. Not subject to further consideration in this ACHA
Not registered	Hydro-IA29-14	Isolated artefact	Within 15m of study area	Valid	Single artefact outside study area. Not subject to further consideration in this ACHA
37-6-3063	Hydro-AS20-14	Artefact scatter containing 5 artefacts	Within study area	Valid	Subject to potential impact
37-6-3071	Hydro-AS29-14	Artefact scatter containing 7 artefacts	Within 20m of study area	Valid	Based on mapping provided by AECOM (2014), may partially extend into current study area Subject to potential impact (partial)
37-6-3872	Hydro PAD 1	Potential Archaeological Deposit	Within study area	Valid	Subject to potential impact
38-4-0338	Ironbark 1;	Isolated artefact	Within study area	Valid	Subject to potential impact
38-4-0376	ISF3/ISF4;	Artefact scatter	Within study area	Listed as valid but has been subject to partial salvage (Kuskie & Kamminga 2000)	Originally recorded as isolated artefact but subject to excavation that demonstrated extensive subsurface deposit Subject to potential impact
38-4-0959	A20/A	Artefact scatter containing 2 artefacts	Within study area	Valid	Subject to potential impact
38-4-1008	A21/A	Artefact scatter containing 3 artefacts	Within study area	Valid	Based on description on site card, may extend into current study area Subject to potential impact

AHIMS ID	Site Name	Site description	Relationship to study area	Status	Relevance to current study area
38-4-1010	A17/C	Isolated artefact	Within 10m of study area	Valid	Based on description on site card, does not extend into current study area Not subject to further consideration in this ACHA
38-4-1012	A7/A	Isolated artefact	Within 10m of study area	Valid	Based on description on site card, does not extend into current study area Not subject to further consideration in this ACHA
38-4-1337	Black Hill 2	Artefact scatter containing 3 artefacts	Within 5m of study area	Valid	Based on mapping provided in Yancoal (2019) site is located substantially to the north of the registered coordinates and is over 300m from the current study area Not subject to further consideration in this ACHA
38-4-1997	TH-PAD-002 is site name in AHIMS but based on report should be TH-PAD-001	Potential Archaeological Deposit	Within study area	Listed as valid but has AHIP listed against it (AHIP 4580)	Subject to potential impact
45-3-3387	KK04 (Wyong)	Artefact	Point coordinate maps over 200m from study area however, based on AECOM (2014) survey results, extends to approximately 20m from study area	Has AHIPs listed against it (AHIPs 3151, 3203) but AECOM (2014) re-identified site	Artefact scatter with recently mapped extent showing it is located on access track outside current study area. Not subject to further consideration in this ACHA
38-4-0620	Donaldson Monitoring Site 3	Isolated artefact	Within 10m of study area	Listed as valid but has AHIP listed against it (AHIP 1902)	Isolated artefact located outside current study area Not subject to further consideration in this ACHA
38-4-0339	Ironbark 2;	Isolated artefact	Within 10m of study area	Listed as valid but has AHIP listed against it (AHIP 1902)	Isolated artefact located outside current study area Not subject to further consideration in this ACHA

AHIMS ID	Site Name	Site description	Relationship to study area	Status	Relevance to current study area
38-4-0410	Woods Gully	Artefact	Within study area	Listed as valid but has been subject to partial salvage (Kuskie & Kamminga 2000) and conservation zone established	Site point maps to east of study area but site area (including identified conservation zone) extends into study area Subject to potential impact
37-6-1653 (alt)	Northern Swamp Tributaries 1	Artefact scatter containing 20 artefacts	Within study area	Valid	Coordinates listed on AHIMS place the site outside the study area however based on mapping provided by ERM (2004) site is within the current study area. Mapping provided by AECOM (2014) indicates that site may extend for considerable distance along access track Subject to potential impacts
37-6-1652	Northern Swamp Tributaries 2	Artefact scatter containing 2 artefacts	Within study area	Valid	Coordinates listed on AHIMS place the site outside the study area however based on mapping provided by ERM (2004) site is within the current study area. Mapping provided by AECOM (2014) indicates that site may extend for considerable distance along access track Subject to potential impacts

Site cards and relevant reports relating to these sites were reviewed to obtain information on site extent and validity to gain an understanding of whether the previously recorded sites may be subject to impact by the project. As shown in **Table 4.2**, of these 28 sites, 12 have either been subject to salvage and are no longer extant or can be demonstrated to be outside the study area and therefore will not be subject to impact. Based on this information, these sites are no considered any further in this ACHA.

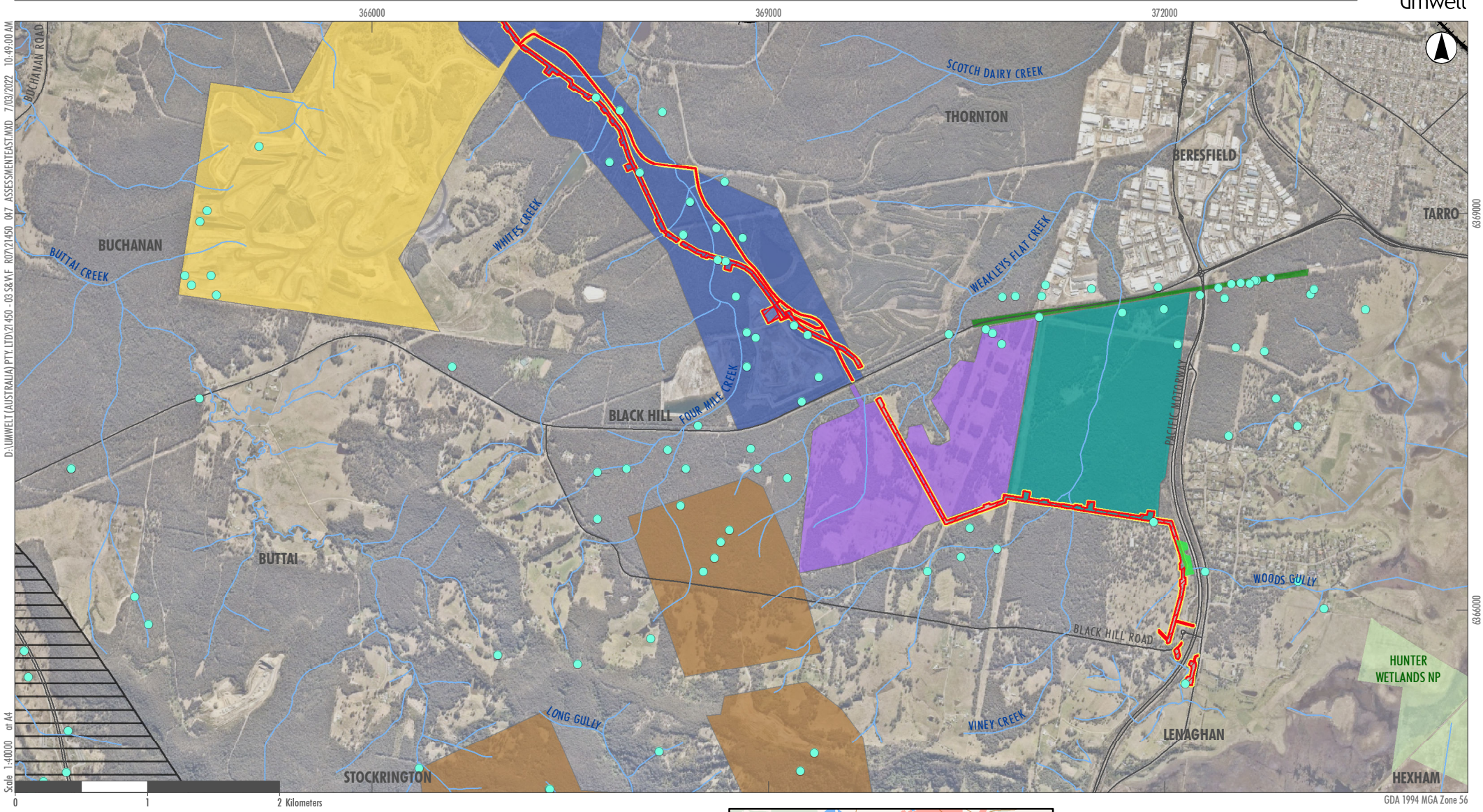
The remaining 16 previously recorded sites that may be subject to impact and will be subject to further assessment are listed in **Table 4.3**.

Table 4.3 Previously recorded sites subject to ACHA

AHIMS ID	Site Name	Site description
37-6-1957	KK09	Isolated artefact
37-6-3054	Hydro-AS11-14	Artefact scatter containing 3 artefacts
	Hydro-IA09-14	Isolated artefact
	Hydro-IA24-14	Isolated artefact
	Hydro-IA25-14	Isolated artefact
37-6-3063	Hydro-AS20-14	Artefact scatter containing 5 artefacts
37-6-3071	Hydro-AS29-14	Artefact scatter containing 7 artefacts
37-6-3872	Hydro PAD 1	Potential Archaeological Deposit
38-4-0338	Ironbark 1;	Isolated artefact
38-4-0376	ISF3/ISF4;	Artefact scatter
38-4-0959	A20/A	Artefact scatter containing 2 artefacts
38-4-1008	A21/A	Artefact scatter containing 3 artefacts
38-4-1997	TH-PAD-001	Potential Archaeological Deposit
38-4-0339	Woods Gully	Artefact
37-6-1653 (alt)	Northern Swamp Tributaries 1	Artefact scatter containing 20 artefacts
37-6-1652	Northern Swamp Tributaries 2	Artefact scatter containing 2 artefacts

4.4 Previous Archaeological Studies in the Area

To supplement the data available via AHIMS and to contribute to the understanding of the archaeological context of the study area more specifically, relevant local assessments are reviewed below. The areas that have been subject to previous archaeological assessment are shown on **Figure 4.3** and **Figure 4.4**.



Legend

- Study Area
- Project Footprint
- Conservation Area
- AHIMS Aboriginal Sites
- NSW Conservation Estates
- Roads
- Watercourses

Assessment

- ERM 2010
- Kuskie 2006
- Kuskie 2008
- Kuskie 2012
- RPS 2018
- Umwelt 2018
- Yancoal 2019

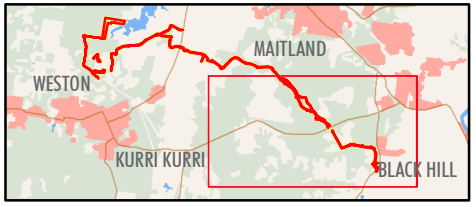
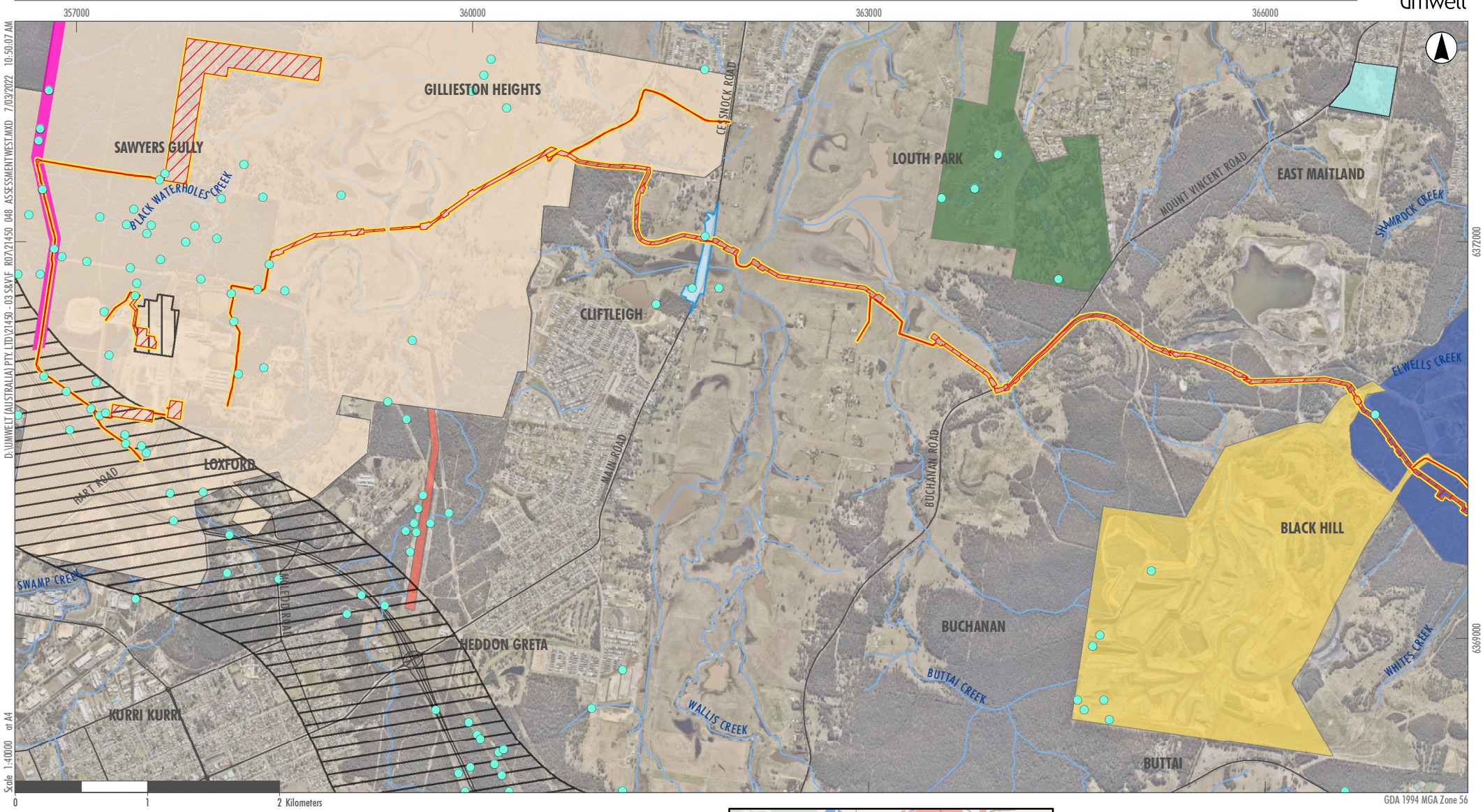


FIGURE 4.3

Previous Archaeological Assessments (East)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- AHIMS Aboriginal Sites
- Roads
- Watercourses

Assessment

- AECOM 2014
- Dean Jones 1989
- Djekic 1984
- ERM 2004
- Jacobs 2021 HPP
- Jacobs 2021 Testers Hollow
- Kuskie 2006
- Kuskie 2008
- McCardle 2009
- Umwelt 2018

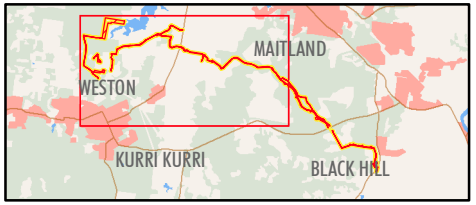


FIGURE 4.4

Previous Archaeological Assessments (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

Seahampton to Rutherford Gas Pipeline (ERM 2004)

In 2004, Environmental Resource Management (ERM) undertook a heritage assessment as part of the Review of Environmental Factors (REF) for a proposed gas pipeline from Seahampton to Rutherford in the Lower Hunter Valley, NSW. Of relevance to the current project, the gas pipeline runs within the Swamp Creek catchment area including along access tracks and easements to the west and south of the former Hydro Kurri Kurri Aluminium Smelter that are located within the current study area. Sites identified by ERM (2004) included NST2 and NST4 (artefact scatter sites). The coordinates listed in the report for these sites place them within the current study area; however, based on a review of mapping provided by ERM (2004), the mapped sites within the current study area are NST1 and NST2. NST1 was recorded as a scatter of 20 artefacts on the bank of a tributary of Black Waterholes Creek within sands recorded by ERM (2004) as being aeolian in deposition with the potential to contain additional subsurface deposits. NST2 was recorded as a scatter of two silcrete flakes within an area of aeolian sands with the potential for additional deposits. ERM (2004) recommended that these sites be subject to salvage with archaeological monitoring.

Hydro Aluminium Smelter (AECOM 2014, 2015)

In 2014, AECOM Australia Pty Ltd (AECOM) completed an Aboriginal Cultural Heritage Assessment of the Hydro Aluminium Kurri Kurri Pty Ltd (Hydro) aluminium smelter site and surrounding hydro-owned land off Hart Road, Kurri Kurri in the lower Hunter Valley NSW, including portions of the current study area. The area assessed is associated with Wentworth Swamp on Swamp Creek and Black Waterholes Creek which flows into the swamp. The assessment was undertaken to inform preliminary investigations into future land uses for the smelter site and surrounding Hydro-owned property following on from the site being placed in care and maintenance in 2012.

The survey carried out as part of the ACHA focused on areas of high ground surface visibility (GSV) within the study area. A total of 65 Aboriginal archaeological sites were recorded along with the verification of 20 previously recorded sites. It is noted that sites were defined employing a distance methodology, with artefacts greater than 50 m apart being considered separate sites. The sites comprised 42 artefact scatters and 43 isolated finds. The majority of these sites were located on spur crests (21.3%) and simple slopes (68.6%). A large portion of the artefact assemblage across these sites was manufactured from silcrete and siliceous tuff which is consistent with the general pattern across the Lower Hunter Valley.

In addition to the sites identified, AECOM carried out an assessment of archaeological potential, mapping the level of archaeological potential across the assessment area as Nil, Low and High potential (refer to **Figure 4.5**). The assessment was based on the results of the survey, the previous archaeological assessments, the levels of past disturbance and potential intact deposits. Based on the mapping provided by AECOM (2014), the current study area contains areas of identified high sensitivity as well as stone artefact scatters and isolated artefacts.

AECOM concluded that the distribution of sites across the study area indicate extensive Aboriginal presence in the past with the occupation concentrating on the elevated low gradient land surfaces adjacent to Wentworth Swamp and Black Waterholes Creek. Wentworth Swamp was considered a resource focal point in the landscape that would has sustained occupation over thousands of years. This was in keeping with the broader local and regional site patterning.

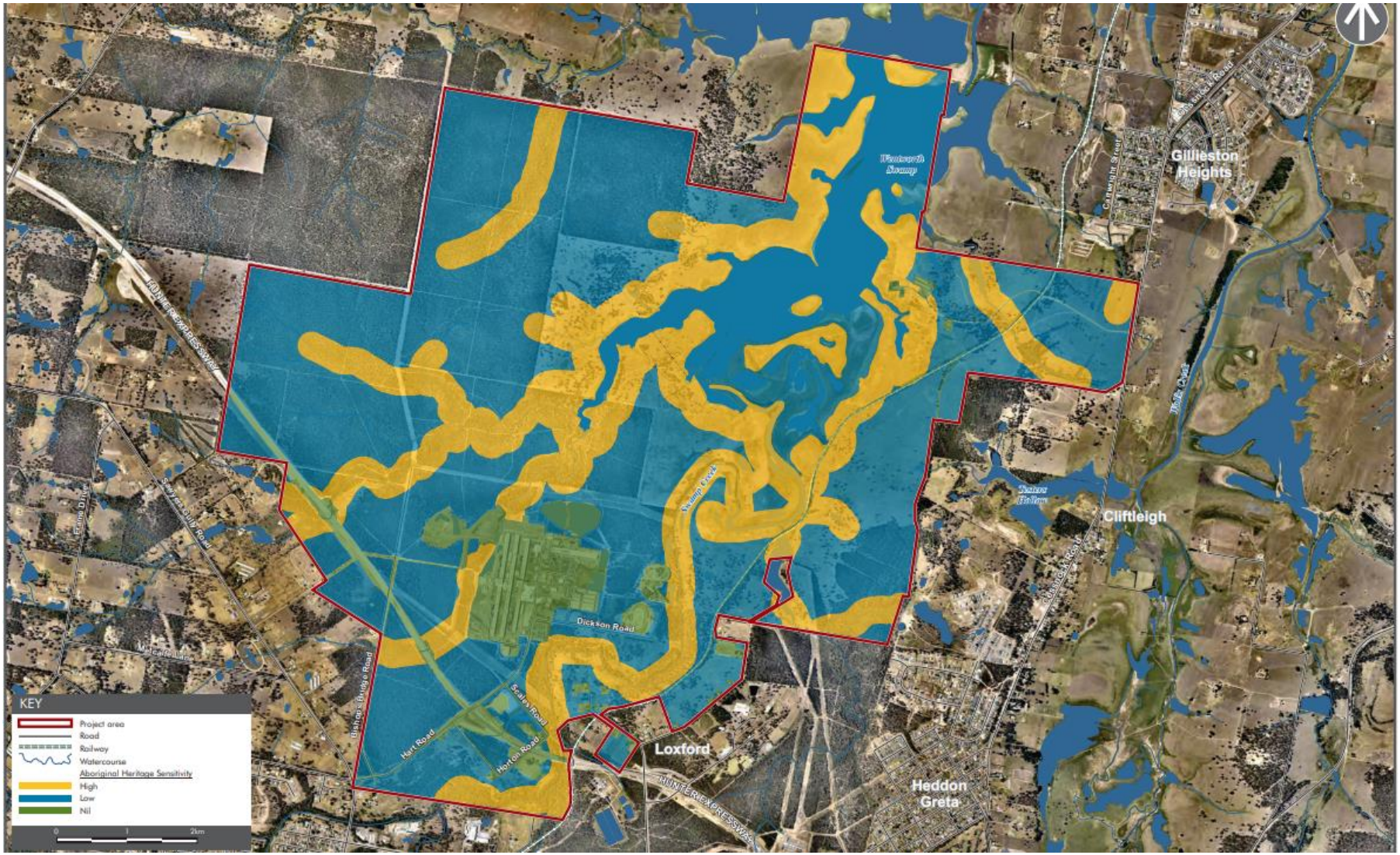


Figure 4.5 Reproduction of AECOM mapping (2014: Figure 24) showing archaeological sensitivity

In 2015, AECOM completed an Aboriginal cultural heritage assessment specifically for the proposed demolition, remediation and waste management facility at the former smelter site. One additional isolated artefact was identified during this assessment. The majority of land within the bounds of the former smelter was assessed as having nil archaeological sensitivity (consistent with the mapping above) and an area of low sensitivity was identified along an existing powerline easement where the extent of disturbance was slightly lower. One area of high archaeological sensitivity (Hydro PAD 1) was identified as shown in Figure 4.6. This assessment was based on the nature of the landform within the area (being an area of elevated low gradient terrain with access to a tributary of Black Waterholes Creek) and AECOM's (2015) assessment that this area has been subject to lower levels of disturbance. The current study area intersects this area of high sensitivity in relation to the proposed HDD workspace for the transmission pipeline and interconnecting pipeline.

AECOM (2015) recommended surface collection of the isolated artefact and identified that no further mitigation or management activities were required within the areas of nil or low archaeological sensitivity. In relation to the area of high archaeological sensitivity, AECOM (2015) identified that the area may be used for stockpiling of materials and, if this is to occur, protective geomatting should be put in place to provide protection against subsurface disturbance.

Figure 4.6 Reproduction of AECOM mapping (2015: Figure 23) showing archaeological sensitivity

Kurri Kurri to Alcan Transmission Line (Djekic 1984)

In 1984, Djekic completed an archaeological survey of the Kurri Kurri to Alcan 132kV transmission line. The route runs from a substation to the southeast of the former Hydro Aluminium Smelter into the smelter on the northern side. This includes a portion of the current study area.

The survey found five Aboriginal heritage sites (four artefact scatters and one isolated find) that were assessed as resulting from subsurface deposits that were exposed by recent ground surface disturbance. The sites were located in proximity to the creek to the north of the substation. The separate sites were considered to be part of a continuous occupation along the creek and the separation was likely a result of ground surface visibility. The analysis of the artefact assemblage indicated that the chert was likely locally sourced.

Testers Hollow – Road Upgrade (Jacobs 2021)

Jacobs undertook an Aboriginal Cultural Heritage Assessment on behalf of NSW Roads and Maritime Services for the proposed upgrade of Main Road at Testers Hollow.

The survey identified two Aboriginal heritage sites. One artefact scatter with Potential Archaeological Deposit (PAD)(TH-AS-01) was identified on the southern side of Testers Hollow and one PAD on the northern side of Testers Hollow (TH-PAD-01). The current study area is located on the northern side of Testers Hollow and intersects the recorded location of TH-PAD-01.

Archaeological test excavations were conducted as part of the assessment process. A total of 45 test excavation pits were excavated comprising 11.25 square metres. Artefacts were recovered from 26 test pits, with a total of 13 artefacts recovered from TH-AS-01 and 225 from TH-PAD-01. Areas of higher artefact density located on mid slope landforms in both sites. Topsoil depth varied from 25-60 cm as an intact profile at TH-PAD-01 but within TH-AS-01, the soil profile exhibited significant disturbance.

Based on the results of the test excavations, a 'No Harm Area' within the site was identified, as shown in **Figure 4.7**. AHIP C0005655 includes provision for the No Harm Area and for impacts (with archaeological salvage) to the remainder of the PAD area as well as site TH-AS-001 (located to the south of the current study area).

A total of 3662 artefacts were recovered under the AHIP. The artefacts recovered were predominantly made from silcrete and mudstone, with lesser representation of other raw materials including quartz and quartzite. The majority of artefacts did not exhibit cortical surfaces, interpreted as evidence that the site was not in proximity to the raw material sources. A pounder was present within the assemblage and presumably was used for processing plant resources associated with swamp formations. Jacobs (2021) interpreted the site as an intermittent campsite that linked others within the Wentworth Swamp – Wallis Creek cultural landscape. TH-PAD-001 was assessed to be of high significance at a local level and was assessed as likely to continue beyond the bounds of the AHIP area.

AHIP C0005655 remains valid over the area, including part of the current study area.

Figure 4.7 Location of TH-PAD-001 (black hatching) and identified No Harm Area (yellow) in relation to current study area. Figure based on information supplied by TfNSW

Louth Park (McCardle 2009)

McCardle Cultural Heritage was commissioned to complete an archaeological assessment for 17 lots of land at Louth Park, NSW to the north of the of the current study area, off Buchanan Road. The assessment was undertaken as part of a study to determine the suitability of the area for future development as part of the update to the Local Environmental Plan.

Two Aboriginal sites were located during the survey, one low density artefact scatter and one isolated find. It was noted that the low number of sites was likely due to low visibility and historical clearing. Based on the low density artefact scatter and isolated find and the absence of other site types such as hearths and scarred trees, the preliminary assessment was that the area was associated with transitory movement, hunting or gathering for short periods between the floodplain/flat areas.

Based on the archaeological pattern for the region and with reference to the low levels of visibility, three areas were identified as PAD. These areas were broadly identified as the crest, slopes and areas within the drainage channel that were not subject to disturbance associated with water movement and erosion. The areas were identified as places where Aboriginal people were likely to have traversed and camped to access resources associated with the watercourse.

Bloomfield Colliery (South East Archaeology 2008)

In 2008, South East Archaeology completed an Aboriginal Heritage Impact Assessment for a Part 3A Major Project application for the completion of open-cut mining and rehabilitation of areas within Bloomfield Colliery (ML CCL761).

The majority of the survey area (approximately 66 percent) was highly disturbed as a result of existing mining activities to the extent that there was no potential for archaeological evidence to remain. Within the area that were considered 'unmodified', six Aboriginal archaeological sites were recorded. These sites were low density artefact scatters/isolated artefacts with a total of 53 artefacts recorded across all 6 sites. It was also assessed that additional artefacts were likely to occur across the unmodified area (where ground surface visibility was poor) in similar distribution and density as the survey results.

Abel Underground Mine (South East Archaeology 2006, 2012)

South East Archaeology (2006, 2012) completed Aboriginal cultural heritage assessments in relation to the Abel Underground Mine project. The assessment areas included both the areas subject to subsidence and proposed surface facilities and included sections of Donaldson Mine and Bloomfield Colliery. The 2006 assessment area (refer to **Figure 4.3**) includes a section of approximately 4 km of the current study area. Within the 2006 assessment area two grinding groove sites were identified south of John Renshaw Drive and 14 small artefact scatters/isolated artefacts were identified in the Donaldson and Bloomfield lease areas, including several sites associated with the current study area.

The 2012 assessment area comprised three areas located south of John Renshaw Drive, of which Area C was located in elevated landforms bordering the Sugarloaf Range whilst Area A was on more gently inclined landforms bordering Black Hill Rd and Area B was centred on Black Hill and adjoining spurs. Area A contained three low density artefact scatters (including one previously recorded), Area B contained one previously recorded isolated artefact and one grinding groove site and Area C contained one isolated artefact, 6 grinding groove sites (all previously recorded), one rock shelter with PAD and one possible scarred tree.

Bluegum Vista Estate – renamed as Sanctuary Estate (Umwelt 2002)

Umwelt (2002) documented the cultural heritage values of the Bluegum Vista Estate (now known as Sanctuary Estate) located approximately 2.5 km south of the southern extent of the current study area. The assessment applied to a 119 hectare proposed subdivision on a long gently sloping ridge on the western edge of Hexham Swamp. The area was identified as having high archaeological sensitivity and was subject to test excavation under two AHIPs.

A total of 3001 artefacts were recovered from 316 square metres of excavation at 20 locations. Three locations had substantially higher densities of artefacts, being a hillock/headland, an open spur crest and a sheltered spur crest (Umwelt 2002:2). In reviewing these results, Umwelt (2002:3) identified that proximity to the wetland was not the sole factor in explaining variation in artefact distribution with key factors including access to fresh water, gentle gradient, access to particular resources on wetland margins, seasonal shelter and outlook. In particular, the outlook to the elevated area known as Rocky Knob (an area of high cultural importance) was a defining feature of two of the locations with high densities of artefacts, indicating that cultural factors (as well as environmental factors) influence site location and density in this area.

The assemblage was assessed as comparable to others identified on the swamp margins in the region, with residue analysis indicating that artefacts were used for a range of purposes including processing of soft wood, plant and animal resources. In contrast to Kuskie and Kamminga (2000), Umwelt (2002) found that there was no evidence for manufacture of backed artefacts within the assemblage however several used backed artefacts (that use-wear analysis indicated had been hafted) were present.

In comparing their results with those of other subsurface investigations undertaken on swamp margins in the local area, Umwelt (2002) concluded that maintenance activities (such as heat treatment of stone to improve flaking quality and manufacture of backed artefacts) and extractive activities (focused on swamp resources) are well represented in sites on swamp margins.

F3 Freeway at Black Hill and Woods Gully (Kuskie & Kamminga 2000)

Kuskie and Kamminga (2000) undertook extensive testing and salvage excavations within a section of the F3 Freeway extension at Black Hill and Woods Gully, immediately adjacent to a portion of the current study area. These works involved an initial 38.25 m^2 of test excavations distributed as 612 test pits on a grid pattern. Based on the results of the test excavation, larger areas were excavated at each identified site. At AHIMS #38-4-0376 (located at the southern extent of the current study area), two areas (63m^2 in total) were excavated on the ridge crest at the end of Black Hill spur. Based on the description provided by Kuskie and Kamminga (2000), the mapped point coordinate for this site is at the far northern extent of the site, with the key area of archaeological sensitivity being the elevated spur crest and ridgeline formation. In terms of the relationship the current study area, the current study area starts on the margin of this site.

At AHIMS #38-4-0410 (which, based on available mapping, also extends into the current study area), one area of 87m^2 was excavated adjacent to the gully. Following the completion of manual excavations, grader scrapes were undertaken and areas of concentrated artefacts were then manually excavated. The total area of all manual excavations was 196.25m^2.

A total of 22,921 stone artefacts were recovered. Kuskie and Kamminga (2000) identified that the assemblage was dominated by evidence of microblade and microlith manufacture and, based on this, the site was primarily utilized in the last 4000 years. The high volume of artefacts was seen as at least in part a reflection of microblade manufacture occurring at the site and resulting in high rates of debitage. Relatively few used backed artefacts were discarded in the assemblage, which Kuskie and Kamminga (2000) interpreted as evidence of manufacture rather than use and discard.

In terms of the types of activities undertaken at the site, the assemblage includes artefacts (referred to as Worimi cleavers) used in the processing of swamp fern as well as artefacts with residues demonstrating the use of artefacts from the site for processing plant and animal resources and soft woods. The use of heat treatment to improve the flaking qualities of silcrete was also identified however, there is some question as to whether this is intentional heat treatment or uncontrolled heating (such as from a bushfire) or a combination of both (Umwelt 2002:8.4).

Based on the significance of the Woods Gully site (AHIMS #38-4-0410), a portion of the site was set aside within a conservation zone and subject to a management plan (South East Archaeology 1999). The conservation zone established for the site extends into a portion of the current survey area, as shown in **Figure 4.8**. This area is limited to the extent of land within the freeway corridor. The conservation zone was identified as having high archaeological and Aboriginal cultural value (South East Archaeology 1999).

Figure 4.8 Location of the Woods Gully conservation zone (in yellow) in relation to the current study area (grey)

Black Hill Development Area (Yancoal 2019)

Yancoal (2019) produced an Aboriginal cultural heritage management plan (ACHMP) in relation to the Black Hill development area, which consists of Lot 30 DP870411. The current study area extends for approximately 1 km along the southern extent of this lot. Concept Approval 10-0093 has been issued for a staged industrial subdivision within this landholding and the ACHMP was developed to satisfy Condition 1.20 of the Concept Approval.

The ACHMP contains two previously recorded sites, being Black Hill 1 (isolated artefact) and Black Hill 2 (artefact scatter containing two artefacts) and identifies that, if these sites cannot be avoided during future land use, they should be subject to salvage under an AHIP. A development application has been lodged for this property and notes that an AHIP will be required.

Hunter Expressway Stage 4 (Umwelt 2018)

A range of Aboriginal cultural heritage assessments and investigations were conducted in relation to the construction of the Hunter Expressway. The Hunter Expressway extends for 40.5 km from Seahampton to Black Creek (near Branxton) and is within 500 m of the northern portion of the study area. The Hunter Expressway also passes through a range of landforms in proximity to swamp formations and comparable to landforms present within the current study area.

The results of works are described with reference to catchment area, as described in **Table 4.4**. Of these catchments, the current study area includes sections of the Black Creek, Swamp Creek and Wallis Creek catchments.

Table 4.4 Summary of AHIP results for Hunter Expressway by catchment (Umwelt 2018)

Catchment Total Sites Length of catchment within the road corridor Sites/km	Landforms Crossed by the Hunter Expressway Road Corridor within the Catchment	Conserved	Partially Conserved /Partially Salvaged	Salvaged	Artefacts Salvaged Surface/ Subsurface
Minmi Creek **12 sites** **1.35 km** **8.9 sites/km**	Crosses spur crests and moderate to steep slopes and the main creekline and two tributaries of Minmi Creek within the Sugarloaf Range.	Three isolated finds, two artefact scatters, three sets of grinding grooves and two stone arrangement sites **Total = 10**	**Total = 0**	Two artefact scatters **Total = Two**	Surface = 21 Subsurface = Four **Total = 25**
Blue Gum Creek **20 sites** **2.34 km** **8.5 sites/km**	Crosses broad spur crests and moderate to steep slopes, the main channel of Blue Gum Creek and a number of minor tributaries of Blue Gum Creek within the Sugarloaf Range.	Six isolated finds, six artefact scatters, three sets of grinding grooves and one scarred tree **Total = 16**	**Total = 0**	One isolated find, three artefact scatters **Total = Four**	Surface = 42 Subsurface = 0 **Total = 42**
Surveyors Creek **26 sites** **5.67 km** **4.6 sites/km**	Commences at highest ridge in the area that divides the Blue Gum Creek catchment from the Surveyors Creek catchment then crosses a number of spurlines running from the Sugarloaf Range to end in an area of broad floodplain associated with Wallis Creek.	Four isolated finds, Five artefact scatters **Total = Nine**	One artefact scatter **Total = One**	Six isolated finds, 10 artefact scatters **Total = 16**	Surface = 73 Subsurface = 69 **Total = 142**

Catchment Total Sites Length of catchment within the road corridor Sites/km	Landforms Crossed by the Hunter Expressway Road Corridor within the Catchment	Conserved	Partially Conserved /Partially Salvaged	Salvaged	Artefacts Salvaged Surface/ Subsurface
Wallis Creek **27 sites** **3.86 km** **Seven sites/km**	Crosses the broad Wallis Creek floodplain, which has numerous swamps and billabongs, and is divided by a low spur that intersects the floodplain from the south. On western side of the Wallis Creek floodplain crosses a number of minor tributaries of Wallis Creek and numerous low spurs.	11 isolated finds, five artefact scatters, one set of grinding grooves **Total = 18**	Two artefact scatters **Total = Two**	One Isolated Find, six artefact scatters **Total = Seven**	Surface = 304 Subsurface = 3761 **Total = 4065**
Swamp Creek **13 sites and one untested PAD** **3.51 km** **Four sites/km**	Followed a cleared and highly disturbed power easement crossing the main channel of Swamp Creek and a few minor tributaries but was mostly crossing long, low gradient spur slopes away from water sources.	Two isolated finds, one artefact scatter, one artefact scatter with PAD **Total = Four**	**Total = 0**	Six isolated finds, four artefact scatters **Total = 10**	Surface = 18 Subsurface = One **Total = 19**
Black Waterholes Creek **Five sites and one untested PAD** **2.9 km** **2.1 sites/km**	Followed a cleared and highly disturbed power easement crossed low gradient spur slopes away from water sources.	One artefact scatter with PAD, one artefact scatter **Total = Two**	**Total = 0**	Four isolated finds **Total = Four**	Surface = Two Subsurface = 0 **Total = Two**
Bishops Creek/ Sawyers Gully **25 sites and two untested PADs** **7.3 km** **3.7 sites/km**	Crossed low gradient spurs drained by numerous first to third order tributaries of Bishops Creek and Sawyers Gully	Two artefact scatters, two PADs **Total = Four**	**Total = 0**	Three isolated finds, 20 artefact scatters **Total = 23**	Surface = 420 Subsurface = 333 **Total = 753**

Catchment Total Sites Length of catchment within the road corridor Sites/km	Landforms Crossed by the Hunter Expressway Road Corridor within the Catchment	Conserved	Partially Conserved /Partially Salvaged	Salvaged	Artefacts Salvaged Surface/ Subsurface
Anvil Creek **31 sites** **11.22 km** **2.8 sites/km**	Numerous low spurs and first to fourth order tributaries of Anvil Creek. Northern section followed cleared and disturbed power easement.	Two Isolated finds, two sets of grinding grooves **Total = Four**	Two artefact scatters **Total = Two**	Nine isolated finds, 16 artefact scatters **Total = 25**	Surface = 1248 Subsurface = 2000 **Total = 3248**
Black Creek **13 sites** **2.39 km** **5.4 sites/km**	Crossed the main channel of Black Creek. On eastern side of Black Creek crossed moderately steep lower, mid and upper slopes and a spur crest. On western side crossed recent minor floodplain, first and second creek terrace, poorly drained swampy depression, low spur crest and low gradient slope to tributary of Black Creek. Some areas in road corridor of existing New England Highway highly disturbed by prior roadworks	One artefact scatter, one artefact scatter with PAD **Total = Two**	One artefact scatter with PAD **Total = One**	Four isolated finds, five artefact scatters, one artefact scatter with PAD **Total = 10 (including two sites that were amalgamated)**	Surface = 131 Subsurface =18,977 **Total = 19,108**
Nine catchments **176 Sites** **40.5 km** **Average 4.3 sites/km**	N/A	69 sites conserved	Six sites partially salvaged/partially conserved	101 sites salvaged	Surface = 2,259 Subsurface = 25,145 Total = 27,404

Umwelt (2019) reported that a total of 4065 artefacts were recovered from the surface collection and the subsurface investigation of nine sites within the Wallis Creek catchment. The highest artefact number and artefact class diversity was located on a spur that intersected the Wallis Creek floodplain and on benches and the lower slope associated with tributaries entering onto the western side of the floodplain. In addition, one site (located on the western edge of the Wallis Creek floodplain) was set aside for conservation due to the extremely high density of subsurface artefacts recorded during a subsurface testing program. Based on a detailed analysis of the recovered artefacts (including raw material type and frequency, level of core reduction and the range of artefact classes in the assemblage), Umwelt (2019) suggested that Aboriginal people in the Wallis Creek catchment typically travelled from the Newcastle area, up the western side of Hexham Swamp and then on to the Thornton/Woodbury Swamp area and then to the Hunter River at Maitland before heading upstream along Wallis Creek.

In relation to Hexham Swamp, Umwelt (2019) noted that the southern and western boundaries of the Hexham Wetlands are known to have large numbers of Aboriginal camp sites and would have been attractive to larger groups of Aboriginal people for camping (Kuskie and Kamminga 2000, Umwelt 2002, Umwelt 2014). The current study area includes a section on the western boundary of Hexham Swamp. Oral history has been provided (refer to Umwelt 2019) of an Aboriginal pathway linking Hexham Wetlands to Mount Sugarloaf via the spur crest between Minmi Creek and Blue Gum Creek catchments.

In relation to the Swamp Creek catchment, the portion of this catchment assessed by Umwelt (2019) is over 2 km from Wentworth Swamps as compared to the current study area, which is located adjacent to the margins of the Wentworth Swamps. The assemblage recovered in the Swamp Creek catchment was relatively small and was not sufficient for detailed review (Umwelt 2019). In addition, within the section of the Black Waterholes Creek crossed by the Hunter Expressway, very few sites were identified, possibly because water in this creek was not drinkable due of the vegetation that dropped into waterholes along the creek (hence the name).

Umwelt (2019) also reference Aboriginal oral history accounts that suggest that creeklines leading to/from the Wentworth Swamps were used as travel routes to then connect across to the Hunter River while Wallis Creek was identified by some Aboriginal oral history accounts as an important travel route (via Testers Hollow). Umwelt (2019) found that this oral history information was supported by the patterns of raw material distribution and the attribute analysis for key catchments.

In reviewing settlement patterns, Umwelt (2019) referenced key factors as including access to reliable water, plant and animal resources, the presence of landforms of suitable gradient and use of water courses as travel ways as key defining factors in occupational strategies but also noted that cultural factors (such as proximity to ceremonial areas) can have a significant influence.

Part Lot 1131 DP 1057179, Black Hill (RPS 2018)

In 2018 RPS commenced preparation of an Aboriginal cultural heritage assessment to inform a development application for Part Lot 1131 DP 1057179 at Black Hill. Approximately 1 km of the current study area is located within the area assessed by RPS (refer to **Figure 4.3**). The assessment was commenced based on the outcomes of due diligence assessment works undertaken within the property which identified three registered sites and three areas of archaeological sensitivity within the assessment area.

The portion of the assessed area that contains the current study area was identified as being highly disturbed as a result of the establishment and use of the area as a poultry farm. The current study area is also located to the south of an area RPS (2018) assessed as having low-moderate archaeological potential based on its association with a recorded artefact scatter (located outside the assessed area). Test excavation was recommended within the areas of low-moderate archaeological potential.

Farley Waste Water Rising Main and Waste Water Treatment Works (Hunter Water 2014)

Hunter Water obtained AHIP #1121144 in relation to the construction of a new waste water rising main and works to the existing Farley Waste Water Treatment Works (WWTW) at Farley. The area subject to the AHIP is located over 3 km from the current study area however it is in a very similar context to the central component of the current study area as it is situated on landforms immediately bordering Wentworth Swamps. The works undertake under AHIP #1121144 included surface collection of sites within the WWTW and test salvage excavation of archaeological deposits along the rising main route.

During test excavations, a total of 72 test pits (each 1 x 1 m in size) were excavated resulting in the recovery of 4364 artefacts. Based on the results of the test excavations two areas of high archaeological potential and two areas of moderate archaeological potential (comprising elevated slopes bordering Wentworth Swamp) were identified along the proposed rising main alignment. These areas were then subject to further salvage including community collection, mechanical and manual excavation works. Hand excavation was undertaken at five locations. A total of 96.35 m^2 was hand excavated and 4048 artefacts were recovered.

Silcrete was the most common raw material (80% of assemblage) followed by mudstone (17%) and substantially lower quantities of other raw materials, including tuff. However, there were some spatial differences in the distribution of raw materials within mudstone and silcrete present in near equal proportions in the northern portion of the salvage excavations. For the excavated assemblage, the majority of artefacts were identified as microdebitage. Formal tool types were approximately 3.5% of the assemblage and cores were also relatively uncommon at 1.5%. Backed artefacts were by far the most common formal tool type which Hunter Water (2014) interpret as evidence that backed artefact use was an important feature of the activities undertaken by Aboriginal people in this area.

In summarising the outcomes of works undertaken under the AHIP, Hunter Water (2014:77-78) identified that:

- The community collection and salvage program has shown that the descending spurs that fringe the swamp system generally contain low to moderate subsurface artefact densities, reflective of Aboriginal occupation across these landforms associated with exploitation of the swamp margins. Therefore, while particular locations with higher density artefact concentrations can be identified within this landscape (such as that identified in the high sensitivity south area), the results of this salvage program suggest that the landforms fringing Wentworth Swamps should be viewed as a broader cultural deposit, which contains a continuum of subsurface occupation evidence within which discreet concentrations of activity can be identified.

- The salvage works focused on a section of level spur bordered by swamp on both sides. A total of 30 1 x 1 m units were excavated, resulting in the recovery of 2776 artefacts. An additional 338 artefacts were recovered from mechanical excavation of the adjoining sections of pipeline. Artefacts were recovered at a maximum depth of 30 cm, which was the interface between A and B soil horizons (Hunter Water 2014).

Hunter Power Project (Jacobs 2021a, 2021b)

Jacobs completed an Aboriginal cultural heritage assessment to inform the EIS for the Hunter Power Project (HPP) and subsequently developed an Aboriginal cultural heritage management plan (now approved) for the project. The HPP area comprises a part of the former smelter site and includes the area proposed for the KKLP compressor station and delivery station. With the exception of the switchyard location, the HPP area was identified as being highly disturbed. No Aboriginal archaeological sites were identified in the HPP area. Based on the level of disturbance, it was assessed that archaeological potential may only be retained if areas of deep alluvial deposit are present. It was recommended that monitoring be undertaken of excavations in deep alluvial deposits, with the potential to salvage any Aboriginal objects identified and/or undertake hand excavation where possible.

The approved Aboriginal cultural heritage management plan for the project includes methodologies for the implementation of these requirements.

4.5 Predictive Model

As discussed in **Section 4.3**, there are 28 Aboriginal heritage sites within or in proximity to the study area, including 26 artefact sites and two PADs. These sites are registered on AHIMS as remaining valid. However, based on a review of the relevant archaeological reports and the fact that AHIMS lists many of these sites as having been subject to an AHIP, many have been subject to test excavation, partial or complete salvage.

In addition to the known archaeological sites, it is necessary to consider the possibility that other sites and/or areas of cultural sensitivity may be present. Based on the information presented in **Sections 3.0** and **4.0**, the following predictions are made in relation to the study area:

- Stone artefact scatters/isolated artefacts may be present throughout the study area. These sites are considered most likely to occur in proximity to the key watercourses in the area, namely Woods Gully, Buttai Creek, Wallis Creek, Swamp Creek, Wentworth Swamp and, to a lesser extent, Black Waterholes Creek. These sites will be most common on elevated landforms and/or near level lower slopes with direct access to these key water resources. Based on the outcomes of previous archaeological excavations and oral history records, Hexham Swamp, the Wallis Creek floodplain and Wentworth Swamp were key areas at which Aboriginal people camped repeatedly and/or for longer duration. On this basis, the low inclination landforms within the current study area that border these watercourses have the potential to contain moderate to high densities of stone artefacts, either surface or subsurface, depending on the extent of disturbance. Site along other riparian corridors have the potential to contain low to moderate densities of artefacts. Stone artefacts are most likely to have been manufactured from silcrete, mudstone or tuff, with tuff expected to be most common for sites associated with Hexham Swamp and Wallis Creek. Artefact assemblages in sites bordering swamps/wetlands are likely to include evidence of manufacture and/or discard of backed artefacts, however this may vary depending on location. The integrity of sites of this type may have been impacted by a variety of factors including land clearance, erosion, and installation of existing infrastructure.

- Scarred trees may occur anywhere within the study area where mature trees exceeding 150-200 years in age remain extant. Based on the level of historical land use across the study area, it is predicted that scarred trees will be rare.

- Based on the nature of geological units within the study area, it is possible that grinding groove sites may be present along creek lines where suitable sandstone outcrops. However, based on the distribution of sites of this type in the local area, this is considered unlikely.
- Burials may occur within the study area, particularly in alluvial deposits. However, based on the lack of evidence for burials in the local area, this is highly unlikely.

5.0 Survey Methodology

The aim of the survey was, as far as practical, to record sufficient information to satisfy Requirement 5 of the Code of Practice and to provide the registered Aboriginal parties participating in the survey with an opportunity to discuss the archaeological and Aboriginal cultural significance of the study area, and any sites/objects observed or revisited. These discussions extended to the archaeological materials that may remain below the surface of the study area.

During the survey, access was not available to Lot 30 DP870411 (the area of former Yancoal landholdings at Black Hill that is subject to a current development application) nor to the former smelter footprint within works associated with the decommissioning and rehabilitation of the smelter were ongoing at the time of survey. In addition, areas of clear and demonstrable disturbance (such as the footprint of former smelter infrastructure) were not subject to survey, in accordance with the provisions of the due diligence code.

A survey of the study area was conducted by Steph Howden (Umwelt Archaeologist) and four representatives of the registered Aboriginal parties, as listed in **Table 2.2**. Nicola Roche (Umwelt Manager, Cultural Heritage) also participated in three days of survey.

5.1 Information Recorded During Survey

The survey units were defined and named with reference to Requirement 5c of the Code of Practice, including recording start and finish points and/or boundaries for all survey units using a hand-held GPS receiver (set to allow recording of data with datum MGA94) and topographic mapping (where relevant), with track logs to be recorded for all pedestrian transects. Start and finish points/boundaries for survey units were defined based on landforms, study area boundaries, access or other arbitrary terminations (as specified in the Code of Practice). The spacing between individuals was recorded for each survey unit.

The distribution of survey participants across the survey units was discussed in the field with survey participants. Survey participants were generally spaced between 5 to 20 m apart where possible, dependent on ground surface visibility and density of vegetation.

Photographs were taken within the survey unit. Information recorded for the survey unit included:

- the landform
- gradient (where relevant)
- vegetation
- geology and soils (where suitable areas of exposure/visibility were present)
- identified Aboriginal resources
- levels of average ground surface visibility within the survey unit (in accordance with Requirement 9 of the Code of Practice)
- extent and type of exposures within the survey unit (with reference to the factors leading to the exposure such as erosion, earth-moving activities, proximal construction works, etc.)

- any site or area of identified Aboriginal archaeological potential present within the survey unit
- any site or area of identified historical archaeological potential present within the survey unit.

5.2 Survey Coverage

In accordance with the Code of Practice, the survey coverage description includes landform unit, the total area surveyed within the landform unit and the quantification of the level of ground surface visibility and exposure. Ground surface visibility is defined as "the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials" (DECCW 2010:13). Exposure is defined as "the percentage of land for which erosion and exposure was sufficient to reveal archaeological material on the surface of the ground" (DECCW 2010:13). As such, exposure refers to the potential for an area to reveal subsurface artefacts or deposits rather than the mere observation of the amount of bare ground.

The calculation of effective survey coverage is undertaken to designate the proportion of the study area in which it is possible to accurately assess the presence or absence of archaeological material. Survey coverage is calculated by multiplying the survey unit area by the percentage of ground surface visibility and exposure within the survey unit. The survey coverage is then expressed as a percentage for the whole survey unit.

5.3 Assessment of Sub-Surface Archaeological Potential

The assessment was undertaken with reference to factors including the archaeological context of the local area, the identification of landforms that may have greater archaeological sensitivity, evaluation of the levels of disturbance and nature of the expected soil profile. The following terms will be employed to classify the sub-surface archaeological potential of specific locations

- **no archaeological potential**: areas where the natural soil profile has been removed through geomorphic processes or human action, thereby removing any archaeological resource of the location. Examples of this category would include a landslide or industrial quarry sites.
- **low archaeological potential**: landscape areas that may have been utilised by Aboriginal people in the past, but at a lower intensity than all surrounding landforms. The density of artefacts deposited within these areas would therefore be low. This category also includes landscape areas of low terrain integrity, where geomorphic processes or human action may have redistributed artefacts from their deposited locations, resulting in site disturbance or destruction.
- **moderate archaeological potential**: landscape areas that are predicted to have been utilised by Aboriginal people in the past, but not intensively or repeatedly. There is therefore potential for artefact deposition, but at a lower frequency and density than in areas of high archaeological potential. Terrain integrity in these areas may be variable, but the majority of open camp sites are expected to be of low to moderate integrity only, with geomorphic processes not acting to bury deposits *in situ.*
- **high archaeological potential**: landscape areas predicted to have been intensively or repeatedly utilised by Aboriginal people in the past, such as creek confluences or elevated terraces above major watercourses. Terrain integrity in these areas may be variable, but the majority of open camp sites are expected to be of low to moderate integrity only, with geomorphic processes not acting to bury deposits *in situ.*

- **very high archaeological potential**: landscape areas predicted to have been more intensively or repeatedly utilised than all surrounding landforms by Aboriginal people in the past, such as major creek confluences or lagoons. Terrain integrity in these areas may be variable, but these landforms may include areas of high terrain integrity, where geomorphic processes may have acted to bury deposits *in situ*. Sites may therefore be of very high archaeological potential.

6.0 Results

The survey of the study area was conducted by the Aboriginal party representatives listed in **Table 2.2**, Nicola Roche (Umwelt Heritage Technical Lead) and Steph Howden (Umwelt Archaeologist) over four days between 18 to 21 October 2021.

6.1.1 Information Provided by Registered Aboriginal Parties

During the survey, the Aboriginal party representatives indicated that, based on their experience, the low elevation footslopes bordering swamp formations typically contain sub-surface artefacts. There was general agreement on the identification of areas of archaeological potential. Similarly, there was general agreement with the definition of site boundaries and areas of substantial landscape modification.

6.1.2 Description of Survey Units

The survey units within the study area are shown in **Figure 6.1** and **Figure 6.2** and are described in **Table 6.1**. The survey units total approximately 122 ha, with information on survey unit (SU) area by landform provided in **Appendix C**. Images of the survey units are provided in **Photo 6.1** to **Photo 6.18**.

As discussed in **Section 5.0**, several areas were not surveyed. These are described below:

- existing formed/surfaced access tracks within the Donaldson/Bloomfield land holdings that have been previously assessed and where the proposed tracks have been modified to the extent that there is little or no archaeological potential
- land to which access was unavailable, noting that this area has been recently assessed (Yancoal 2019) and is subject to a development application
- the area of existing disturbance associated with the former smelter and currently subject to rehabilitation and remediation works. This area has been recently assessed (AECOM 2015, Jacobs 2021a, Jacobs 2021b) as having low archaeological potential with the exception of one area (Hydro PAD 1) which is further discussed in this ACHA.

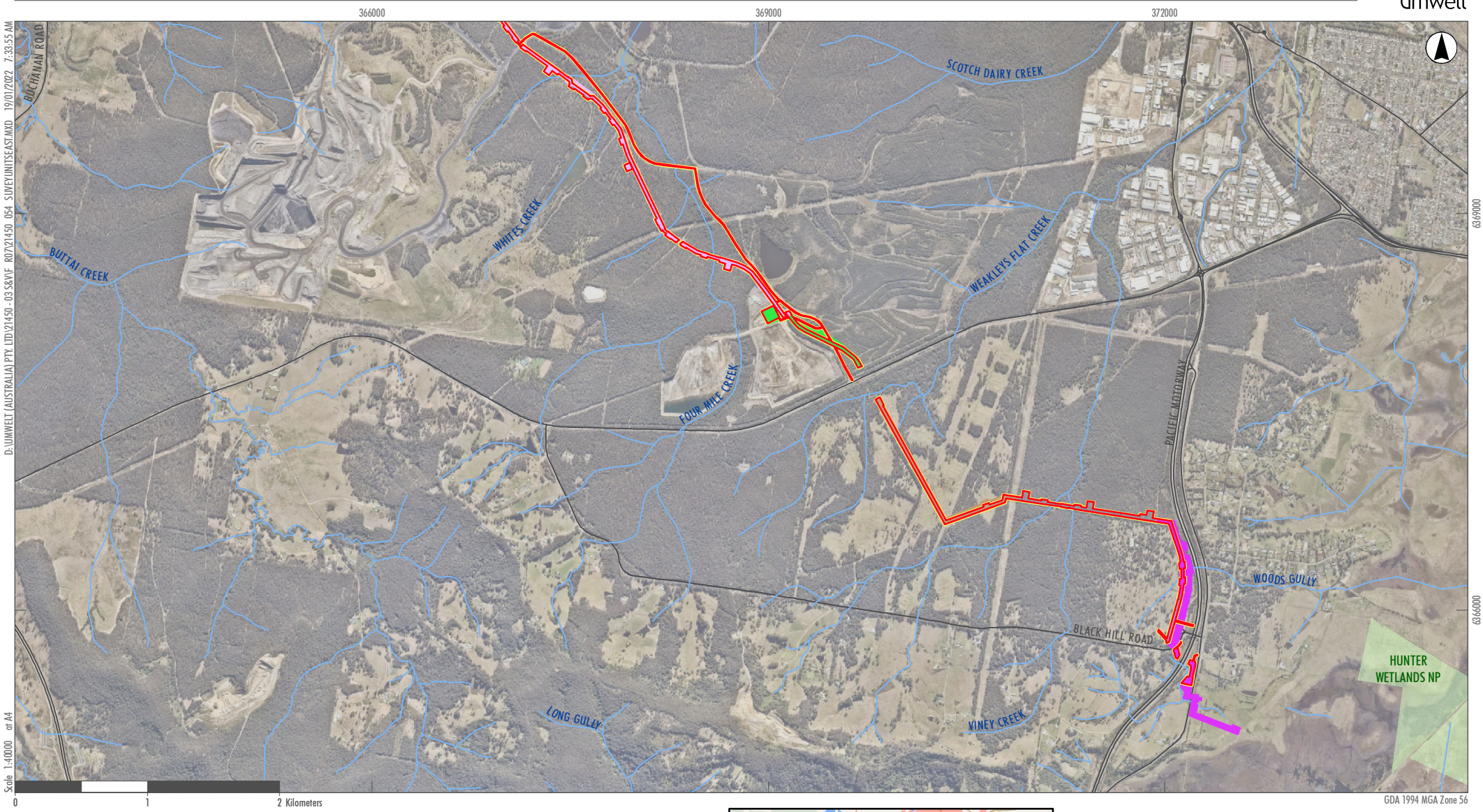
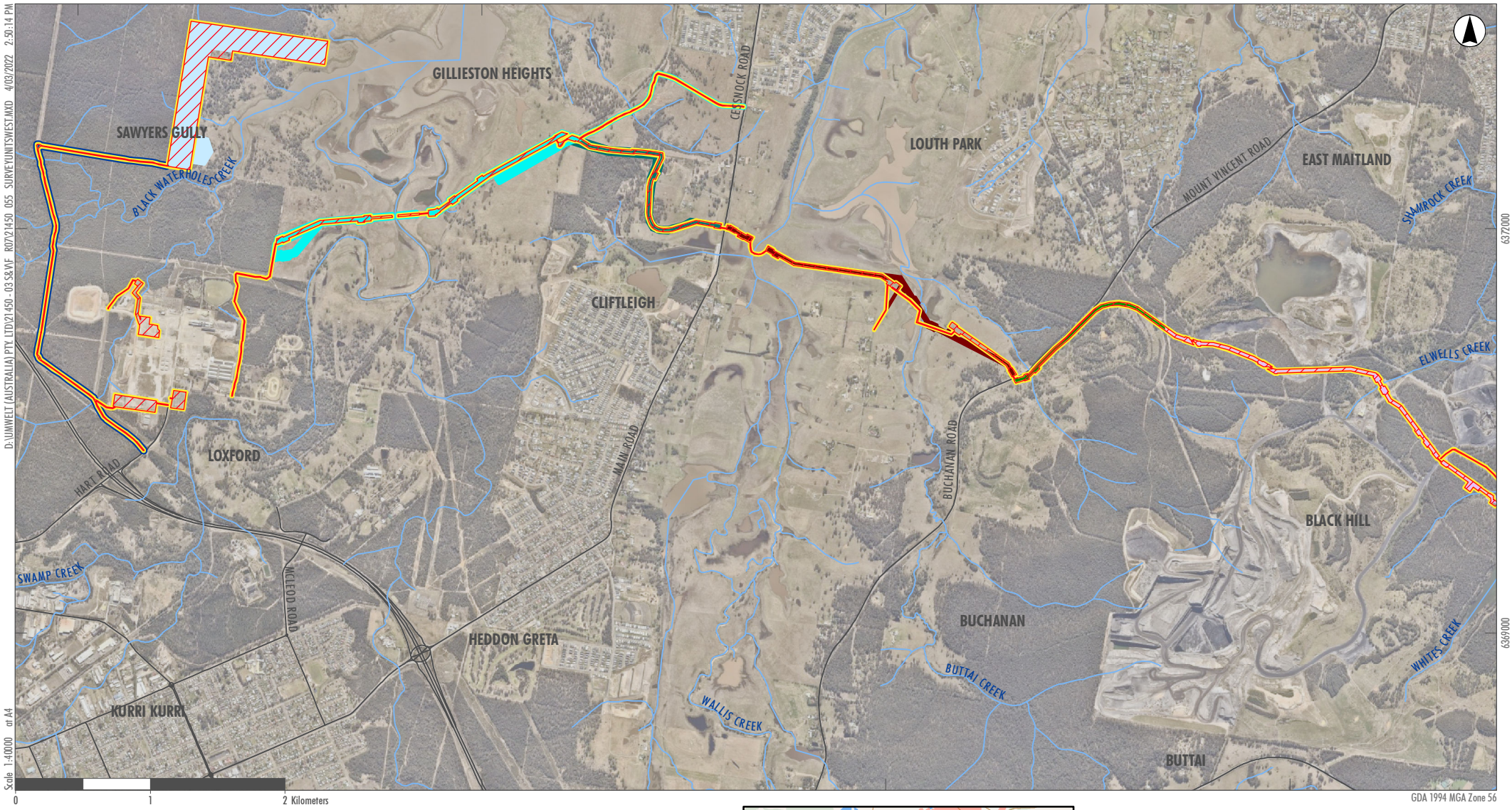


Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

FIGURE 6.1

Location of Survey Units (East)



Legend

- Study Area
- Project Footprint
- Roads
- Watercourses

Survey Unit

- 4
- 5
- 6
- 7
- 8
- 9
- 10

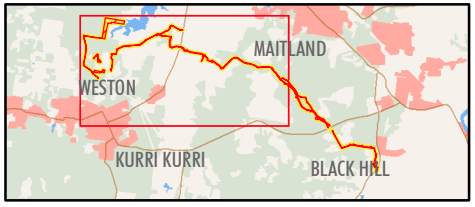


FIGURE 6.2

Location of Survey Units (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

Table 6.1 Survey Unit Description

SU	Visibility %	Exposure %	Effective Coverage (%)	Sites (new and previously recorded	General description	Archaeological potential
1	10	10	1	KKLP IA6 Woods Gully 38-4-0410	This SU commences on the eastern side of the Pacific Motorway (formerly Hunter Expressway) on gently inclined slopes cleared and used for grazing. This area has been disturbed as a result of the construction of Lenaghans Drive and the Pacific Motorway as well as general modifications associated with agricultural use. The portion of the SU between the freeway and Black Hill Rd is completely modified as a result of road construction activities and subsequent replanting and rehabilitation works. On the western side of the Pacific Highway, the SU includes an additional area of vegetation rehabilitation and also extends over cleared rural land along a ridge/crest formation. It slopes down gently towards Woods Gully and on the northern side of Woods Gully, the landform comprises gently inclined slopes to a spur trending east to Hexham Swamp. This landform is parallel to and partially includes the Woods Gully conservation zone. This portion of the SU is less disturbed although there is evidence of existing infrastructure including sewer/water pipes. From here the SU transitions upslope to a crest. Soil exposures on the crest exhibit skeletal A_2 soils.	KKLP PAD1 – moderate to high potential Remainder of SU - low
2	5	5	0.25	KKLP IA5 identified adjacent to study area	SU2 is located within a former poultry farm property. The property has been subject to significant modification as a result of earthworks in relation to the construction of an access road and the establishment of very large mounded areas for chicken sheds. The treed portions of this SU comprise regrowth and have been previously cleared. The southern portion of SU2 comprises low inclination slopes bordering a minor tributary of Viney Creek, including the small area of lower slope identified by RPS (2018) as having archaeological potential. However, based on the outcomes of the current survey, this landform has been previously disturbed, does not provide direct access to reliable or semi-reliable water and has low archaeological potential. SU2 also includes a first order tributary of Weakleys Flat Creek and a section of lower slope leading to Weakleys Flat Creek however these areas have been disturbed as a result of former land use. Other disturbances include an electrical transmission line, access tracks and other infrastructure associated with the former farm.	Low

SU	Visibility %	Exposure %	Effective Coverage (%)	Sites (new and previously recorded	General description	Archaeological potential
3	15	10	1.5	None	SU3 begins on the northern side of John Renshaw Drive on the Donaldson Coal mining area. The survey unit is on the mid and upper slope of a spur to the east of Four Mile Creek that has been significantly modified as a result of open cut mining and associated infrastructure. On the western side of the mine access road SU3 follows the alignment of the existing Hunter water pipeline and associated maintenance track. A large portion of SU3 has been rehabilitated.	Low to Nil
4	10	10	1	A20/2 (38-4-0959) A21/A (38-4-1008) Ironbark 1 (38-4-0338) KKLP IA2 KKLP IA3 KKLP IA4	SU4 continues along the same alignment as the Hunter Water pipeline along the spur upper slope. The survey unit then turns southwest and continues across the spur crest and downslope where it crosses Four Mile Creek. SU4 continues across a number of minor spurs and tributaries of Four Mile Creek including White Creek and Elwells Creek. The survey unit then turns approximately west, moving away from the water pipeline alignment and follows an existing mining access road that runs along the mid slope of small hill to the south. SU3 finishes at the now closed Buttai Creek Road. The vegetation within SU4 is predominately regrowth, dominated by ironbark and eucalypts.	Low
5	15	10	1.5	None	SU5 runs approximately west from Buttai Road where it turns south west and runs adjacent to Buchanan Road. The survey unit has been substantially modified as a result of open cut mining to the extent that original landforms have been altered. There was a small area of remnant vegetation (predominately ironbark) adjacent to the northern side of the pit but otherwise the SU had been entirely modified.	Low to Nil

SU	Visibility %	Exposure %	Effective Coverage (%)	Sites (new and previously recorded	General description	Archaeological potential
6	20	15	3	KKLP AS2 and KKLP IA1 identified adjacent to study area	SU6 runs approximately west from Buchanan Road. The survey unit begins on a mid slope that contains fill material then continues downslope crossing Buttai Creek. On the western side of Buttai Creek, SU comprises low areas of low elevation immediately bordering Buttai Creek and Wallis Creek but that rise to a central low elevation flat which is largely above the regular level of inundation and the slightly elevated landform between Buttai and Wallis Creek. SU6 crosses Wallis Creek ending at Main Road at Testers Hollow. The entire survey unit has been cleared of vegetation with only isolated trees in the surrounding area. The properties are used predominantly for grazing purposes and there are some minor disturbances associated with large animal burials (horses).	Moderate at KKLP PAD2 and KKLP PAD 3 Low for remainder of SU
7	5	5	0.25	TH-PAD-001 (38-4-1997)	SU7 commences at the location of recently completed roadworks on Main Road at the location of TH-PAD-001. The slightly elevated slope landform associated with this site continues for a relatively short distance before transitioning to slightly undulating slopes. SU7 turns approximately north at a section of slightly elevated slope associated with a cluster of remnant/regrowth ironbark vegetation. From this point, the SU transitions to moderately inclined slopes It then crosses a mine subsidence area and travels west towards the former South Maitland Railway, through a small section of remnant vegetation including mature ironbark.	Moderate to high at TH-PAD-001 extension. Moderate at KKLP PAD4 Low for remainder of SU

SU	Visibility %	Exposure %	Effective Coverage (%)	Sites (new and previously recorded	General description	Archaeological potential
8	5	5	0.25	Hydro-AS20-14 (37-6-3063)	SU8 follows an existing cleared and partially formed vehicle access track from Main Road, which then turns and runs sub-parallel to the South Maitland Railway. Disturbance associated with the railway in this area is relatively discrete and limited to the former rail corridor however some areas of stockpiled rail material remain present. On the northern side of the railway, the SU predominantly comprises relatively low elevation flats, with two sections of slightly elevated low inclination slopes (KKLP PAD 5 and 6) that drop away to a readily inundated flat bordering Swamp Creek. On the west side of Swamp Creek, the survey unit includes an additional section of elevated ground with direct access to the swamp (KKLP PAD 7) before terminating on a formed access track associated with the former smelter. Vegetation has predominantly been cleared throughout this SU with some regrowth present. Key disturbance factors comprise land clearance, establishment and use of access tracks and the South Maitland Railway and periodic inundation.	Moderate at KKLP PAD 5, KKLP PAD 6 and KKLP PAD 7 Low elsewhere
9	15	15	2.25	Hydro-IA09-14	SU9 includes a small section of flats and low elevation slopes that are largely separated from Black Waterholes Creek by an elevated crest located outside the study area.From here the SU progresses up slope (including sections of moderately inclined slopes to the crest in the north-western portion of the SU. This crest is again bordering by moderately inclined slopes trending to the south before crossing an ephemeral tributary of Black Waterholes Creek and adjacent low-lying area. The SU is vegetated with regrowth and mature open forest, with no scarred trees identified. Disturbance factors include vegetation clearance and historical grazing.	Low
10	20	30	6	Hydro-AS11-14 Northern Swamp Tributaries 1 – alt location (37-6-1653) Northern Swamp Tributaries 2 -alt location (37-6-1652) KKLP AS1 KKLP IA7	SU10 follows existing vehicle tracks and a large transmission line easement bordering the former smelter. Levels of visibility and exposure were high due to the disturbed nature of the tracks and easement, with B horizon soils exposed across much of the area. The transmission line easement in particular has been subject to significant modification including the introduction of tyres to make an artificial surface and clearly identifiable earth works to attempt to control erosion and maintain accessibility. The level of disturbance is such that in many areas, all topsoil deposits have been removed.	Low

Photo 6.1 SU1 adjacent to Lenaghans Drive, view approximately south

Photo 6.2 SU1 on western side of M1 Motorway. Equestrian property on the left. View approximately north

Photo 6.3 SU2 landform disturbance as a result of former poultry shed, view approximately northeast

Photo 6.4 Vegetation remaining within SU2, view approximately east

Photo 6.5 **SU3 with rehabilitated landform on the left, view approximately south**

Photo 6.6 **SU3 adjacent to existing Hunter Water pipeline, view approximately northwest**

Photo 6.7 Typical vegetation within SU4, view approximately northwest

Photo 6.8 Maintenance access track within SU4, view approximately northwest

Photo 6.9 SU6 slope adjacent to Buttai Creek, view approximately southeast

Photo 6.10 SU6 elevated landform between Buttai and Wallis Creeks. Testers Hollow construction works in the background. View approximately northwest

Photo 6.11 SU7 lower slope adjacent to swamp area, view approximately west

Photo 6.12 Exposures within SU7, view approximately northeast

Photo 6.13 SU8 low lying adjacent to South Maitland Railway, view approximately southwest

Photo 6.14 SU8 – western side of Swamp Creek, view approximately north

Photo 6.15 Northern portion of SU9, looking east towards Wentworth Swamp

Photo 6.16 Southern portion of SU9, view approximately northeast

Photo 6.17 SU10 access track disturbance, view approximately south

Photo 6.18 SU10 existing transmission line, view approximately southeast

6.2 Previously Recorded Archaeological Sites

During the survey, efforts were made to re-identify the previously recorded sites. The evidence identified is discussed in **Table 6.2** below.

Table 6.2 Previously recorded sites within the study area

AHIMS No./Site Name	Discussion
Hydro-IA09-14	Site location had been impacted by track construction and maintenance. Artefact likely to have been removed/relocated in association with track use/maintenance
37-6-3054 Hydro-AS11-14	Site location matches original recording and is located on an unsealed access track with good visibility. Adjacent to the track visibility was affected by heavy leaf litter. No artefacts where visible however track has been subject to erosion and artefacts may have been relocated with sheetwash.
37-6-1652 Northern Swamp Tributaries 2	Recorded site location is on transmission line easement that has been subject to significant modification, including significant erosion and the introduction of substantial volume of gravel fill. Artefacts were recorded along this section of track (KKLP AS1) but not in comparable numbers or distribution. Previously recorded artefacts may have been removed during earthworks prior to fill deposition or has been buried.
37-6-1653 Northern Swamp Tributaries 1	Recorded site location is on transmission line easement that has been subject to significant modification, including significant erosion and the introduction of substantial volume of gravel fill. Artefacts were recorded along this section of track (KKLP AS1) but not in comparable numbers or distribution. Previously recorded artefacts may have been removed during earthworks prior to fill deposition or has been buried.
37-6-3071 Hydro AS29-14	Not subject to survey due to access limitations
Hydro-IA25-14	Not subject to survey due to access limitations
Hydro-IA24-14	Not subject to survey due to access limitations
37-6-3872 Hydro PAD 1	Not subject to survey due to access limitations
37-6-1957 KK09	Not subject to survey due to access limitations
37-6-3063 Hydro-AS20-14	Previously recorded site was located on an unsealed access track with good visibility on the track and surrounding area. No artefacts where visible however track has been subject to erosion and artefacts may have been relocated with sheetwash.
38-4-1997 TH-PAD-001	No surface evidence associated with site. Extension to area of PAD proposed (see **Section 6.4**)
38-4-0338 Ironbark 1;	Previously recorded site located adjacent to the gas pipeline and access track. No artefacts were visible during survey however area is subject to relatively regular vehicle use and artefact may have impacted.
38-4-1008 A21/A	One red silcrete flake was identified approximately 30m from the original site location adjacent to the pipeline. The artefact is located outside the study area.
38-4-0959 A20/A	One red silcrete flake was identified approximately 20m from the original site location adjacent to the pipeline.
38-4-0410 Woods Gully	Site was investigated as part of the Newcastle to Sydney F3 Freeway. A conservation zone was established within the freeway corridor. No additional artefacts were located; however, the PAD recorded as part of Woods Gully was extended into the study area (recorded as KKLP PAD 1).

AHIMS No./Site Name	Discussion
38-4-0376 IS3/IS4 – Black HIll	As discussed in **Section 4.2**, the current study area is on very edge of the recorded site extent, with the key area of artefact density for this site located upslope on the spur/ridge crest formation. The portion of this site within the current study area comprises heavily grassed, gently inclined slopes leading to a minor drainage depression. Based on the nature of landforms within the current study area, the area of subsurface deposit associated with this site is unlikely to extend into the current study area. In addition, the current study area has been subject to additional disturbance as a result of freeway construction.

6.3 Newly Recorded Aboriginal Sites

The location of newly recorded archaeological sites is shown in **Figure 6.3**and **Figure 6.4**. Descriptions of the sites are provided below, and site images are provided in **Photo 6.19** to **Photo 6.38**. The sites were named in the field with the acronym KKLP (for Kurri Kurri Lateral Pipeline) followed by AS (artefact scatter) or IA (isolated artefact) and then numbered sequentially.

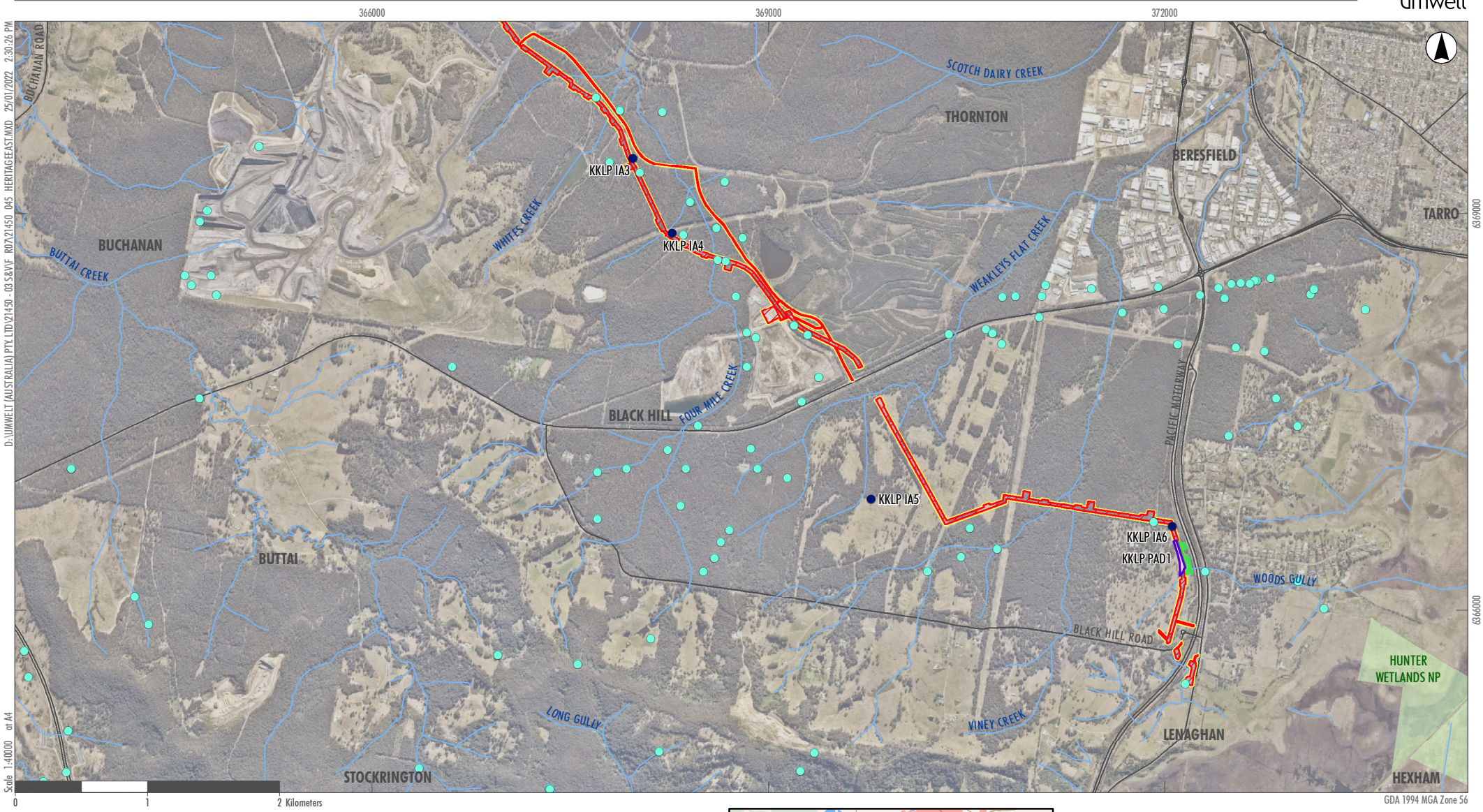
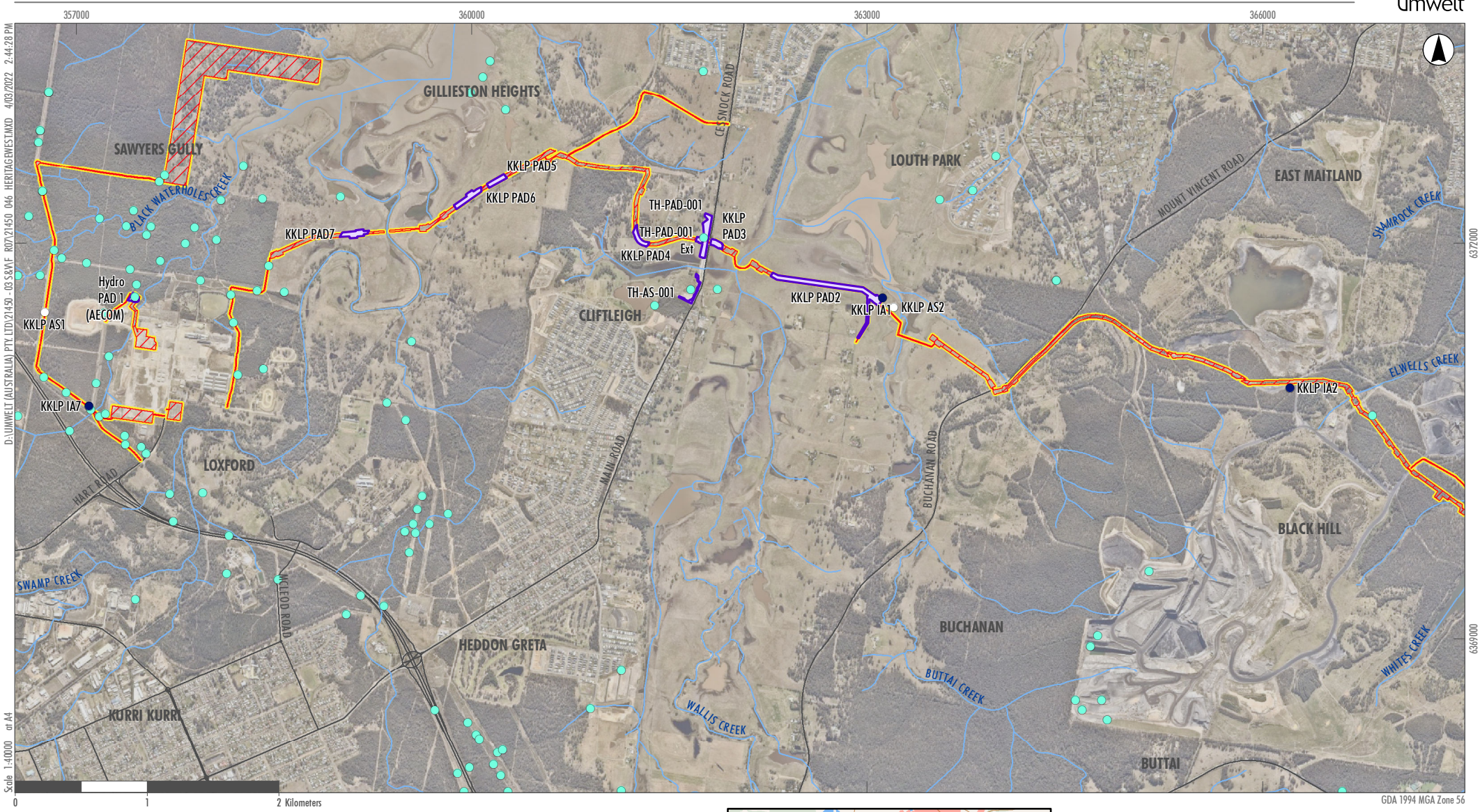


FIGURE 6.3

Aboriginal Cultural Heritage (East)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)



Legend

- Study Area
- Project Footprint
- Potential Archaeological Deposit
- AHIMS Aboriginal Sites
- Newly Recorded Sites
  - Artefact Scatter
  - Isolated Artefact
- Roads
- Watercourses

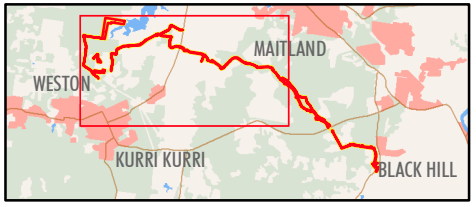


FIGURE 6.4

Aboriginal Cultural Heritage (West)

Image Source: Neamap (August 2021) Data source: NSW LPI (2020;2021)

6.3.1 KKLP AS1

KKLP AS1 is an artefact scatter containing two artefacts located approximately 3 m apart on an existing access track (**Photo 6.19** to **Photo 6.21**). The artefacts are two yellow-red silcrete flakes. The artefacts were exposed on the access track which has imported gravels and other construction materials (e.g., tyres). The track is located on the former Kurri Kurri Hydro Aluminium Smelter and subject to vehicle traffic and minor erosion. The track runs along a gently inclined slope located approximately 400 m to the south of a tributary of Black Waterholes Creek. No additional artefacts were identified during the survey closer to the tributary; however, two large sites (Northern Swamp Tributaries 1 and 2) were reported by AECOM (2014) as extending over this area. As noted above there has been significant disturbance along the access track. KKLP AS1 has limited archaeological integrity and the artefacts are not likely in their original depositional context.

Photo 6.19 KKLP AS1 site location, view approximately south

Photo 6.20 KKLP AS1 red-yellow silcrete flake

Photo 6.21 KKLP AS1 silcrete flake

6.3.2 KKLP AS2

KKLP AS2 is an artefact scatter containing two artefacts located approximately 2 m apart within the drainage channel of Buttai Creek (**Photo 6.22** to **Photo 6.24**). The artefacts are a grey silcrete broken flake and a mudstone flake. The visibility within the site area was good (95%) and it is unlikely additional artefacts are present on the surface or as subsurface deposits. It is likely that the artefacts have washed into the area, along with other rubbish and debris located at the site. As such, KKLP AS2 has limited archaeological integrity and the artefacts are not in their original depositional context. The visibility in the surrounding area was low and an area of PAD (KKLP PAD 2) was recorded to the west of the site. The site is located outside of the study area.

Photo 6.22 KKLP AS2 location, view approximately southeast

Photo 6.23 KKLP AS2 grey silcrete broken flake

Photo 6.24 KKLP AS2 mudstone flake

6.3.3 KKLP IA1

KKLP IA1 is an isolated grey silcrete broken flake located on a lower slope adjacent to Buttai Creek (refer to **Photo 6.25** and **Photo 6.26**). The artefact was located on a 3 x 2 m exposure created by a large animal burial. The visibility within the exposure was high (approximately 90%). The site is located approximately 50 m from Buttai Creek and is on the margin of the high-water mark. The visibility in the surrounding area was low, although there were two other large animal burial exposures in the vicinity with no artefacts located. The nearby KKLP AS2 (described above) was likely washed into the area. The landform to the west of the site was recorded as an area of PAD (KKLP PAD 2). The site is located outside of the study area.

Photo 6.25 KKLP IA1 site location, view approximately east

Photo 6.26 KKLP IA1 broken silcrete flake

6.3.4 KKLP IA2

KKLP IA2 is an isolated grey silcrete flake located on an access track that runs along the crest of a spur (refer to **Photo 6.27** to **Photo 6.28**). The access track had not been used in some time and had begun revegetating. The visibility on the track was low (approximately 10%), being obscured by leaf litter and grasses. The site is located approximately 345m northwest of Elwells Creek. Given the distance from the nearest water source, it is unlikely that the site contains potential for additional subsurface artefacts. KKLP IA2 is located outside of the study area.

Photo 6.27 KKLP IA2 site location, view approximately north

Photo 6.28 KKLP IA2 grey silcrete flake

6.3.5 KKLP IA3

KKLP IA3 is an isolated mudstone flake located on an access track alongside a water pipeline (refer to **Photo 6.29** and **Photo 6.30**). The site is on a spur that runs north between Four Mile Creek and Whites Creek, which are 255 and 305 m from the site respectively. The access track is subject to minor sheetwash erosion and has been maintained in the past. The visibility of the access track was good (approximately 80%) and the visibility adjacent to the track was limited (0%). It is likely that the site area was disturbed during the construction of the water pipeline. Based on this and the nature of previously recorded sites in the area, it is assessed that there is limited potential for subsurface artefacts at this site. KKLP IA3 is located outside of the study area.

Photo 6.29 KKLP IA3 site location, view approximately north-northwest

Photo 6.30 KKLP IA3 mudstone flake

6.3.6 KKLP IA4

KKLP IA4 is an isolated red silcrete flake located adjacent to an existing water pipeline, on the lower slope of an unnamed tributary of Four Mile Creek (refer to **Photo 6.31** and **Photo 6.32**). The visibility of site area was good (approximately 40%) and the visibility of the surrounding area was variable (ranging from 10-20%). The site is approximately 30 m from the tributary. The site is subject to minor sheetwash erosion. It is likely that the site area was disturbed during the construction of the water pipeline. KKLP IA4 is located outside of the study area.

Photo 6.31 KKLP IA4 site location, view approximately northwest

Photo 6.32 KKLP IA4 red silcrete flake

6.3.7 KKLP IA5

KKLP IA5 is an isolated quartz flake located on a spoil heap associated with the construction of the former chicken sheds in the area (**Photo 6.33** and **Photo 6.34**). The site is located 70 m to the southeast of a tributary of Weakleys Flat Creek. The site is entirely out of context and is located outside of the study area.

Photo 6.33 KKLP IA5 site location, view approximately east

Photo 6.34 KKLP IA5 quartz flake

6.3.8 KKLP IA6

KKLP IA6 is an isolated red silcrete flake located on an access track on the upper slope of a spur (refer to **Photo 6.35** and **Photo 6.36**). The access track had not been used in some time and had begun revegetating. The visibility on the track was low (approximately 10%), being obscured by leaf litter and grasses. The site is located approximately 345m north of Woods Gully. Given the distance from the nearest water source, it is unlikely that the site contains potential for additional subsurface artefacts. A previously recorded archaeological site, Woods Gully (38-4-0410), is located between KKLP IA6 and Woods Gully. An additional area of PAD was recorded adjacent to the Woods Gully Conservation Zone (KKLP PAD1).

Photo 6.35 KKLP IA6 site location, view approximately west

Source: Umwelt 2021

Photo 6.36 KKLP IA6 red silcrete flake

Source: Umwelt 2021

6.3.9 KKLP IA7

KKLP IA7 is a single yellow mudstone broken flake identified on the access track within a transmission line easement in SU10. The artefact was identified at the intersection of two transmission lines adjacent to a low-lying swampy area. Despite good visibility within the track (as shown in **Photo 6.37** and **Photo 6.38**), no additional artefacts were visible. The site has been highly disturbed as a result of transmission line construction and the use and maintenance of the access track, with dumped gravel present in the adjoining area. This portion of the study area is assessed as having low potential to contain additional artefacts based on the level of disturbance and the nature of the exposed soil profile.

Photo 6.37 KKLP IA7 looking south-east

Photo 6.38 Mudstone broken flake – KKLP IA7

6.4 Areas of Archaeological Potential

Areas within the study area where visibility was low were assessed for archaeological potential where additional Aboriginal stone artefacts may be present but were not identified during the survey, either due to low ground surface visibility or because they are present as subsurface deposits. These areas were assessed with reference to the predictive model for the area (refer to **Section 4.5**) and the likelihood that sites would be present in the area (based on landform, access to resources, suitable slope and characteristics for occupation) and the level of previous disturbance. Based on this and the criteria outlined in **Section 5.3**, most of the study area is assessed as having low archaeological potential either as a result of the extent of disturbance or because it comprises landforms that would have been used in a transitory manner by Aboriginal people rather than being suitable for occupation. The reasoning for this is discussed with reference to specific survey units below.

- SU1 – with the exception of KKLP PAD1, which is adjacent to Woods Gully site (38-4-0410) and conservation area (as will be discussed further in Section 6.3.1), the landforms within this survey unit had either been subject to significant disturbance (southern portion) or comprised landforms not suitable for occupation with limited topsoil depth and partially disturbed. It is recognised that this SU does interact with the Black Hill site area (38-4-0376), an area that has been previously identified to have high archaeological significance. However, as discussed in **Table 6.2**, the current study area is located on slopes leading to a minor drain rather than the area of ridge/spur crest where high artefact densities were identified and therefore is not assessed as PAD.

- SU2 – the majority of SU2 had been subject to substantial earthworks (associated with former poultry farm) to the extent that any artefact bearing soils have been removed/relocated. The remaining sections of SU2 comprise landforms not suitable for occupation due to the lack of access to reliable or semi-reliable freshwater.

- SU3 – the majority of SU3 comprises landforms that have been substantially disturbed as a result of approved open cut mining and associated activities and through the installation and management of a Hunter Water pipeline. The remaining less disturbed portions of this SU comprise landforms not suitable for occupation.

- SU4 – the majority of SU4 comprises existing formed vehicle access tracks and the existing Hunter Water pipeline and associated access track, all of which have been substantially disturbed, as has the portions of this SU subject to mining related activities. The remaining less disturbed portions of this SU comprise landforms not suitable for occupation.

- SU5 – this SU largely comprises rehabilitated land that has been wholly modified as a result of mining activities. One small section of potentially intact land was identified but does not include landforms suitable for occupation.

- SU6 – with the exception of KKLP PAD2 and KKLP PAD3, the landforms within this SU comprise low lying areas that are subject to regular inundation and that would not have been suitable for occupation for this reason. There is one section of elevated slopes leading from Buchanan Road however slope inclination is such that this area is less likely to have been occupied than the lower inclinations slopes that provided direct access to wetland resources.

- SU7 – with the exception of the identified areas of PAD (being TH-PAD-001, KKLP PAD4), SU7 includes sections of formed access track and disturbance associated with mine subsidence. The remainder of this SU comprises consists of landforms not suitable for occupation.
- SU8 – with exception of the identified areas of PAD (KKLP PAD5-7), SU8 includes sections of formed access track and disturbance associated with the construction of the South Maitland Railway. The remaining less disturbed portions of SU8 consist of low lying areas that are subject to regular inundation or landforms that did not provide direct access to wetland resources.
- SU9 – the extent of disturbance within this SU was relatively low however the landforms were not suitable for occupation, with suitable sections of elevated land bordering the wetland present outside the SU.
- SU10 – this SU had been subject to substantial disturbance as a result of access track construction and use and the construction and maintenance of an existing transmission line. Much of SU10 had been subject to severe erosion and earthworks undertaken to control erosion/repair access such that much of the original topsoil (and associated archaeological deposits) no longer remained extant.

However, there were nine areas recorded as PAD, which require further consideration. The areas are discussed below.

6.4.1 KKLP PAD1

KKLP PAD1 is an extension of the previously recorded site, Woods Gully (38-4-0410). As discussed in section 4.2, the Woods Gully was subject to excavation and contained significant archaeological deposit. Kuskie & Kamminga (2000) assessed the site and PAD and a conservation zone was established within the F3 Freeway road corridor (refer to **Photo 6.39**). The landform that the site and PAD was recorded on continues into the current study area (refer to **Photo 6.40**). The disturbance within KKLP PAD1 is limited to general land clearance and grazing and there is likely to be topsoil remaining in situ. The visibility within the PAD area was low with no exposures recorded. It was assessed that the area has moderate to high archaeological potential, consistent with the results previous excavations in the Woods Gully site.

Photo 6.39 Woods Gully (38-4-0410) Conservation Zone, view approximately north

Photo 6.40 KKLP PAD1 adjacent to existing Conservation Zone, view approximately northeast

6.4.2 KKLP PAD2

KKLP PAD2 comprises a near level mid to lower slope between Wallis and Buttai Creeks which run approximately parallel through the study area. The landform provides an elevated area above the regular inundation level of both creeks, which would be suitable for camping and provided direct access to wetland resources on the Wallis Creek floodplain (refer to **Photo 6.41** and **Photo 6.42**). The area has been cleared of vegetation and subject to grazing. One isolated artefact (KKLP IA1) was located within a small exposure within the landform. Generally, the visibility within the PAD area was poor. It was assessed that the area has moderate archaeological potential.

Photo 6.41 KKLP PAD2 elevated landform between Buttai and Wallis Creeks, view approximately west

Photo 6.42 KKLP PAD2 elevated landform between Buttai and Wallis Creeks, view approximately north

6.4.3 KKLP PAD3

KKLP PAD3 is located on an elevated near level lower slope to the west of Wallis Creek and north of Testers Hollow, which both provide access to permanent water and associated resources (refer to **Photo 6.43**). The disturbance within KKLP PAD3 is limited to general land clearance and grazing and there is likely to be topsoil remaining in situ. The visibility within the PAD area was low with no exposures recorded. The PAD was recorded in the landform adjacent to the previously recorded TH-PAD-01 (38-4-1997), which is in the same environmental context. It was assessed that the area has moderate to high archaeological potential.

Photo 6.43 KKLP PAD3 - on the western side of Wallis Creek, view approximately southeast

6.4.4 TH-PAD-01 Extension

TH-PAD-01 was originally recorded in relation to proposed road upgrade works, was subject to test excavation and subsequently to salvage excavation (Jacobs 2021). TH-PAD-01 was assessed as having high local significance. TH-PAD-01 was recorded on an elevated near level lower slope that provides direct access to Wallis Creek and Testers Hollow. This landform continues into the current study area. As such, the continuation of the landform is identified as an extension of TH-PAD-01 (refer to **Photo 6.44**). The disturbance within the TH-PAD-01 Extension is limited to general land clearance and grazing and there is likely to be topsoil remaining in situ. The visibility within the PAD area was low. Consistent with the assessment for TH-PAD-01, the area is assessed as having moderate to high archaeological potential.

Photo 6.44 TH-PAD-01 Extension - spur on the northern side of swamp associated with Wallis Creek, view approximately north

6.4.5 KKLP PAD4

KKLP PAD4 is located on an elevated section of lower slope to the north of Testers Holllow (refer to **Photo 6.45** and **Photo 6.46**). This landform is generally consistent with TH-PAD-01 Extension, which has been demonstrated to contain archaeological deposits of high significance, however KKLP PAD4 provides access to Testers Hollow only (rather than both Testers Hollow and the Wallis Creek floodplain). The disturbance within KKLP PAD4 is limited to general land clearance, with remnant vegetation remaining across half the PAD area. The visibility within the PAD area was low with no exposures recorded. It was assessed that there is topsoil that remains in situ and as such the area contains moderate archaeological potential.

Photo 6.45 KKLP PAD4 -elevated lower slope on the northern side of Testers Hollow , view approximately southwest

Photo 6.46 KKLP PAD4 – remnant vegetation, view approximately northwest

6.4.6 KKLP PAD5 and KKLP PAD6

KKLP PAD5 and KKLP PAD6 are located on a low elevation spur located on the eastern edge of the Swamp Creek /Wentworth Swamp (refer to **Photo 6.47** to **Photo 6.50**). The landform provides an elevated area above the height that appears to have been subject to inundation. The area would have provided level, dry ground for camping while also allowing for direct access to wetland resources. The area has been cleared of vegetation and subject to grazing. Generally, the visibility within the PADs was poor. It was assessed that there is likely topsoil that remains in situ and as such these PADs have moderate archaeological potential.

Photo 6.47 KKLP PAD5, view approximately south

Photo 6.48 KKLP PAD5, view approximately west

Photo 6.49 KKLP PAD6, view approximately south

Photo 6.50 KKLP PAD6, view approximately west

6.4.7 KKLP PAD7

KKLP PAD7 is located on a gently inclined lower slope to the west of Swamp Creek (refer to **Photo 6.51**). The landform provides an elevated area above the high-water line of the creek, which would be suitable for camping and provided access to Swamp Creek and then to Wentworth Swamp. The area has been cleared of vegetation and is subject to grazing. Generally, the visibility within the PAD area was poor. It was assessed that the area has moderate archaeological potential.

Photo 6.51 KKLP PAD7, view approximately northeast

6.4.8 Hydro PAD 1

As discussed in **Section 4.4**, an area of PAD was recorded within the former smelter landholdings by AECOM (2015) and registered as Hydro PAD 1, as mapped in **Figure 6.4**. AECOM (2015) inspected this area and identified it as having high archaeological sensitivity. This assessment was based on the nature of the landform within the area (being an area of elevated low gradient terrain with access to a tributary of Black Waterholes Creek) and AECOM's (2105) assessment that this area has been subject to lower levels of disturbance. AECOM (2015:88) identified that subsurface archaeological deposits in this area may have higher numbers, densities and complexity of artefacts than the surrounding landscape.

The Hydro PAD1 area was not inspected as part of this assessment. While it is anticipated that this area has been subject to disturbance (at least within the upper portion of the soil profile), there is not currently sufficient evidence to contradict the identification of this area as PAD. However, based on our understanding of the local area and with reference to the criteria in **Section 5.3**, this area is assessed as having low-moderate archaeological potential.

6.5 Discussion

The results of the survey are broadly consistent with expectations based on the environmental and archaeological context of the study area. Sites identified within the study area consist of isolated artefacts and low density artefact scatters, often in disturbed contexts and typically common in association with water resources. The main raw materials used were silcrete, mudstone and tuff. Areas of archaeological potential were identified on slightly elevated, low inclination landforms bordering key water courses and wetlands/swamps. In relation to the areas of moderate or moderate to high archaeological potential, it is recognised that the archaeological potential of these landforms could be clarified by the completion of test excavations under the provisions of the Code of Practice. However, as discussed throughout this report, the specific location of the excavation footprints within the study area will be determined during and post-EIS assessment as consultation, design and construction planning is further developed. On this basis, it is not possible to determine a defined excavation footprint within which impacts are certain to occur, which would in turn inform test excavation locations. Undertaking test excavation at this stage would risk impacting archaeological deposits that may not be subject to impacts associated with the project. Similarly, if the project does not receive planning approval, undertaking test excavation as part of the ACHA would result in impacts to cultural heritage that are not warranted. This approach was the subject of consultation with Heritage NSW. On Heritage NSW confirmed in writing on 21 December 2021 that this approach was acceptable.

In addition, the Code of Practice specifies that test excavations should only be undertaken where necessary, should avoid or minimise harm where practicable and that the aim of test excavation should be to collect information about the nature and extent of subsurface Aboriginal objects. As discussed in **Section 4.2**, there is a significant body of information from previous archaeological investigations that informs the likely nature and extent of deposits within these areas of archaeological potential. On this basis, while test excavations would allow for certainty, there is adequate information available to make reasonable statements in this respect.

7.0 Significance Assessment

The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS 2013) (the Burra Charter) defines cultural significance as the sum of the qualities or values that a place embodies. The Burra Charter identifies the values – aesthetic, historic, archaeological, social, or cultural and spiritual – that contribute to cultural significance.

Social or cultural value refers to the spiritual, traditional, historical and contemporary associations and attachments of a place (OEH 2011:8). It is noted that a consensus as to the cultural value of an object or place is not always possible as people experience places and events differently.

Spiritual value refers to the intangible values embodied in a place, which give it importance in the spiritual identity.

Archaeological value refers to the potential physical remains and the ability of those remains to provide an understanding about an aspect of the past.

Aesthetic value refers to the sensory and perceptual experience of a place. It may consider form, scale, texture and material of the fabric or landscape and may also include smell and sounds associated with the place (OEH 2011:9).

Historic value encompasses all aspects of history and as such is often underlying other values. A place may have historic value because it has influenced, or been influenced by, an historic event, phase, movement or activity, person or group of people.

7.1 Social or Cultural Value

Cultural value refers to the spiritual, traditional, historical, or contemporary associations and attachments a place has for Aboriginal people (OEH 2011:8). There is not always consensus about the cultural value of a place as people experience places and events differently, and in some instances cultural values may be in direct conflict. Cultural significance can only be determined by Aboriginal people and is identified through Aboriginal community consultation.

It was requested that the registered Aboriginal parties provide information regarding the cultural value of the study area, the associated landscape features, archaeological sites, areas of archaeological potential and potential sites in response to the draft report. No specific comments were provided. However, based on in-field comments, it is assumed that all sites and areas of archaeological potential are of cultural value to the registered Aboriginal parties, as is the landscape in which the study area is located.

7.2 Historical Value

Historic value encompasses all aspects of history and often underlies other values. A place may have historic value because it has influenced or been influenced by a historic event, phase, movement, activity, person or group of people.

The historic values associated with the study area are subject to a separate assessment (Umwelt 2021).

No comments regarding historical value were received from the registered Aboriginal parties in response to the draft report.

7.3 Aesthetic Value

Aesthetic value refers to the sensory and perceptual experience of a place. It may consider form, scale, texture and material of the fabric of the landscape and may also include smell and sounds associated with the place (OEH 2011:9). No notable aesthetic values were identified in relation to the identified sites or the study area as a whole during the survey.

No comments regarding aesthetic value were received from the registered Aboriginal parties in response to the draft report.

7.4 Scientific Value

Archaeological significance is determined by assessing Aboriginal sites/places/objects against the archaeological criteria set out in the Code of Practice. The assessment of Aboriginal archaeological significance is used to develop a series of cultural heritage management and impact mitigation strategies. The archaeological significance of the study area has been assessed in accordance with the criteria provided in **Table 7.1**.

Table 7.1 Archaeological significance assessment criteria

Criterion	Low	Moderate	High
Rarity	The site within the surrounding landscape, its integrity, contents and/or potential for subsurface artefacts, are common within the local and regional context.	The site within the surrounding landscape, its integrity, contents and/or potential for subsurface artefacts, are common within the regional context but not the local context.	The site within the surrounding landscape, its integrity, contents and/or potential for subsurface artefacts, are rare within the local and regional context.
Representativeness	This site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts is common within a local and regional context and sites of similar nature (or in better condition) are already set aside for conservation within the region.	This site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts, is uncommon within a local context but common in a regional context and sites of similar nature (or in better condition) are already set aside for conservation within the region.	This site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts is uncommon within a local and regional context and sites of similar nature (or in better condition) are not already set aside for conservation within the locality or region.
Research potential	The site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts has limited potential to contribute to a greater understanding of how Aboriginal people lived within this area or region.	The site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts has moderate potential to contribute to a greater understanding of how Aboriginal people lived within this area or region.	The site, when viewed in relation to its integrity, contents and/or potential for subsurface artefacts has high potential to contribute to a greater understanding of how Aboriginal people lived within this area or region.

Criterion	Low	Moderate	High
Education potential	The site is not readily accessible and/or when viewed in relation to its contents, integrity and location in the landscape has limited suitability to be used for educational purposes. Other sites with higher education potential are known to be present in the local area and region.	The site is not readily accessible and/or when viewed in relation to its contents, integrity and location in the landscape provides a tangible example that is suitable to assist in educating people regarding how Aboriginal people lived in this area or region. However, other sites with higher education potential are known or expected to be present in the local area or region.	The site is readily accessible and/or when viewed in relation to its contents, integrity and location in the landscape, provides a very good tangible example that is suitable to assist in educating people regarding how Aboriginal people lived in this area or region. Other sites of higher education potential are generally not known to exist in the local area or region.
Integrity	Stratigraphic integrity of the site has clearly been destroyed due to major disturbance/loss of topsoil. The level of disturbance is likely to have removed all spatial and chronological information.	The site appears to have been subject to moderate levels of disturbance, however, there is a moderate possibility that useful spatial information can still be obtained from subsurface investigation of the site, even if it is unlikely that any useful chronological evidence survives.	The site appears relatively undisturbed and there is a high possibility that useful spatial information can still be obtained from subsurface investigation of the site, even if it is still unlikely that any useful chronological evidence survives.

In relation to the above criteria, the identified stone artefact scatters and isolated artefacts are identified as having low value for rarity, representativeness, educational potential and integrity. Artefact scatters and isolated artefacts are a common site type in the local area and well represented in the archaeological record. These sites are located on private land holdings and are inaccessible to the general public, thereby limiting their educational potential. All surface artefacts have been subject to disturbance and are unlikely to retain integrity. These sites are therefore assessed as having low archaeological potential.

The assessment of significance for areas of archaeological potential is inherently difficult as any such assessment can only be based on the nature of the evidence that the area may contain. For this reason, the assessment of significance of areas of archaeological potential remains a provisional assessment of potential significance only and is linked almost entirely to the research potential of the site. That is, areas of moderate archaeological potential have a provisional assessment of moderate archaeological significance and areas of moderate-high archaeological potential have a provisional assessment of high archaeological significance.

7.5 Ecologically Sustainable Development, Intergenerational Equity

Australia's National Strategy for Ecologically Sustainable Development (1992) defines ecologically sustainable development as: 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'. Put more simply, ESD is development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations.

When assessing likely harm on Aboriginal objects and places, it is important to consider the principles of ecologically sustainable development (ESD), in particular the precautionary principle and the principle of intergenerational equity. Intergenerational equity is:

> *"…the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations".* (Commonwealth of Australia, 2002:5)

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal. Where there is uncertainty, the precautionary principle should also be followed (DECC 2009: 26)".

The Lower Hunter Valley (including the current study area) has been subject to a range of substantial development activities including mining, infrastructure development (such as the former smelter and Pacific Highway), residential and industrial development and farming activities. This level of development has resulted in a substantial cumulative impact on Aboriginal cultural heritage, reflected in the partial or complete destruction of many Aboriginal archaeological sites and broader cultural landscapes.

The only way to avoid additional cumulative impact associated with the current project would be complete avoidance of all recorded archaeological sites and areas of PAD. Based on current project design and the nature of the area through which the works are required to be undertaken, this is not possible. However, the project has specifically been designed to minimise impacts by utilising areas subject to prior disturbance (where possible) and by avoiding key areas of Aboriginal archaeological sensitivity (where feasible). While mitigation and management measures proposed in **Section 11.0** will not prevent impact, they are intended to allow for salvage of identified artefacts and provide an opportunity to gain additional information about the way in which Aboriginal people lived in this area.

8.0 Impact Assessment

The key aspects and components of the project are listed in **Section 1.0**. All ground disturbance activities associated with the project (including vegetation clearance and earthworks for the laydown areas) will be located within the bounds of the study area. The study area comprises a slightly larger area than the proposed project footprint to allow for some flexibility in final design.

The impact assessment for identified sites is provided in **Table 8.1**. Of the recorded sites, three are associated with areas of identified PAD that are located within the impact footprint (being TH-PAD-01 and TH-PAD-01 Extension, Woods Gully and KKLP PAD1 and Hydro PAD1). In summary:

- three sites will not be impact by the project (KKLP IA2, KKLP IA5 and KKLP AS2)
- five sites will be subject to partial impact/may extend into impact footprint (37-6-3071, 38-4-0376, 38-4-0959, 38-4-1008 and 38-4-0339)
- the remaining sites and the nine identified areas of PAD (of which three are associated with recorded sites) are located within the proposed impact footprint.
- As discussed in **Section 1.1**, project design has not been finalised at this point in time and there may be some flexibility in the location of disturbance within the study area. However, for the purposes of this assessment it is assumed that all sites and PADs within the impact footprint will be subject to impact.

Table 8.1 Impacts to identified Aboriginal archaeological sites

AHIMS ID	Site Name	Site type	Impact Assessment
37-6-1957	KK09	Isolated artefact	Not inspected as part of current survey. Assumed to remain extant Site located within impact footprint for proposed access track
37-6-3054	Hydro-AS11-14	Artefact scatter	Site not identified during survey but may remain extant Site located within impact footprint for proposed access track
Not registered	Hydro-IA09-14	Isolated artefact	Site not identified during survey but may remain extant Site located within impact footprint for storage bottle workspace
Not registered	Hydro-IA24-14	Isolated artefact	Not inspected as part of current survey. Assumed to remain extant Site located within impact footprint for proposed access track
Not registered	Hydro-IA25-14	Isolated artefact	Not inspected as part of current survey. Assumed to remain extant Site located within impact footprint for proposed access track
37-6-3063	Hydro-AS20-14	Artefact scatter	Site not identified during survey but may remain extant Site located within impact footprint for proposed access track

AHIMS ID	Site Name	Site type	Impact Assessment
37-6-3071	Hydro-AS29-14	Artefact scatter	Site not identified during survey but may remain extant Mapping provided by AECOM (2014) indicates site may partially extend into impact footprint from proposed access track
37-6-3872	Hydro PAD 1	Potential Archaeological Deposit	Not inspected as part of current survey. Assumed to remain extant Mapping provided by AECOM (2015) indicates site located within impact footprint from proposed access track, transmission pipeline and storage pipeline HDD workspace
38-4-0338	Ironbark 1;	Isolated artefact	Site not identified during survey but may remain extant Site located within impact footprint for proposed transmission pipeline
38-4-0376	ISF3/ISF4;	Artefact scatter	Site not identified during survey and may remain partially extant. However, the current study area is located on the edge of the site area in an area that is not identified as PAD (unlike the elevated portion of the site). Part of site may extend into impact footprint for proposed transmission pipeline
38-4-0959	A20/A	Artefact scatter	Site remains extant 20m from original recorded coordinate Part of site may extend into impact footprint for proposed transmission pipeline
38-4-1008	A21/A	Artefact scatter	Site remains extant 30m from original recorded coordinate Part of site may extend into for proposed transmission pipeline
38-4-1997	TH-PAD-001	Potential Archaeological Deposit	Site not identified during survey. Site has been impacted as a result of road construction however site extends outside area of impact. Site is located within impact footprint for proposed transmission pipeline
38-4-0410	Woods Gully	Artefact	Site not identified during survey but remains partially extant within conservation zone. KKLP PAD1 identified as an extension of this site Part of site extends into impact footprint for proposed transmission pipeline
37-6-1653 (alt)	Northern Swamp Tributaries 1	Artefact scatter	Artefacts not recorded in same distribution or density as original recording Site is located within impact footprint for proposed access track
37-6-1652	Northern Swamp Tributaries 2	Artefact scatter	Site is located within impact footprint for proposed access track
	KKLP IA1	Isolated artefact	Site is located within impact footprint for proposed transmission pipeline
	KKLP IA2	Isolated artefact	Site is located outside proposed works footprint and will not be subject to impact.
	KKLP IA3	Isolated artefact	Site is located within impact footprint for proposed transmission pipeline

AHIMS ID	Site Name	Site type	Impact Assessment
	KKLP IA4	Isolated artefact	Site is located within impact footprint for proposed transmission pipeline
	KKLP IA5	Isolated artefact	Site is located outside proposed works footprint and will not be subject to impact.
	KKLP IA6	Isolated artefact	Site is located within impact footprint for proposed transmission pipeline
	KKLP IA7	Isolated artefact	Site is located within impact footprint for proposed access track
	KKLP AS1	Artefact scatter	Site is located within impact footprint for proposed access track
	KKLP AS2	Artefact scatter	Site is located outside proposed works footprint and will not be subject to impact.

8.1 Impact to Aboriginal Cultural Values

The registered Aboriginal parties were invited to provide comment on the potential impact to Aboriginal cultural values (outside of the impacts discussed above) in their review of the draft report. No comments were received.

9.0 Management and Mitigation Strategies

There are a range of management strategies that are available that include varying levels of mitigation of identified or potential harm. The selection of management strategies is guided by the information included in the preceding sections of this ACHA. These management strategies reflect the outcomes of consultation with the registered Aboriginal party representatives, including in-field consultation but may be subject to revision based on comments received from the registered Aboriginal parties in relation to the draft ACHA.

The management strategies are discussed below.

9.1 Strategy 1: Conservation/Avoidance

The application of a conservation management strategy would involve the avoidance of ground disturbance activities in association with the recorded sites/areas of archaeological potential and the subsequent active management of these sites/areas of potential to ensure ongoing protection from future impacts.

Given the location of these sites/areas of potential on privately owned land and/or in association with public roads, APA cannot directly commit to this management option. It is noted that a conservation zone has been established for the Woods Gully site (38-4-0339), as associated with KKLP PAD1. This conservation zone extends outside the current study area, and it is anticipated that the relevant landowner (Transport for NSW) will continue to meet ongoing management commitments for this site. Given the significance of the site, APA will continue to investigate options to avoid and/or minimise impact to this site.

As discussed in **Section 8.0**, impacts can be avoided to three sites (KKLP IA2, KKLP IA5 and KKLP AS2). In addition, where sites/artefacts are located on the margin of the impact footprint, it may be possible to avoid impact to additional sites. However, where impact cannot be avoided, mitigation of predicted impacts will be necessary, as discussed below.

9.2 Strategy 2: Mitigation of Predicted Impacts

When impacts to sites or areas of archaeological potential are unavoidable, this strategy involves implementing appropriate strategies to manage and mitigate these impacts with reference to the archaeological and Aboriginal cultural significance of the sites/areas of potential. Based on current designs, partial or complete impact may occur at 22 recorded sites and the nine identified areas of moderate or moderate to high archaeological potential (of which 3 are also part of recorded sites). In relation to the identified artefact scatter and isolated artefact sites, the level of significance of these sites is such that partial or complete impacts can be mitigated by the community collection of artefacts. In relation to the areas of PAD, impacts can be mitigated by the completion of excavation works and additional community collection (where warranted) within the impact footprint. These are appropriate from an archaeological perspective as they allow for the collection and interpretation of a representative sample of the assemblage from each site/area and may inform further understanding (in the case of excavations within the areas of PAD) of how Aboriginal people accessed resources, manufactured stone artefacts and travelled through the local area.

9.3 Strategy 3: Impact without Mitigation

This strategy would involve proceeding with the construction of the project and the subsequent disturbance to any cultural material that may be present in the study area without any further salvage. As discussed above, the study area contains recorded sites of a level of cultural significance and archaeological significance such that this management strategy is not suitable. However, the remainder of the study area does not contain recorded Aboriginal objects and is assessed as having low archaeological potential. From an archaeological perspective it is therefore justifiable to undertake the proposed works in the areas of low archaeological potential without undertaking salvage activities (noting that if objects are identified over the course of the proposed works, additional management requirements will apply).

10.0 Recommendations

The following recommendations have been developed in consideration of in-field and ongoing consultation with the registered Aboriginal parties and in light of the outcomes of the archaeological context of the region, the potential impacts of the project, current cultural heritage legislation and the nature and extent of archaeological sites and areas of archaeological potential identified within the study area.

10.1 Aboriginal Party Recommendations

No additional recommendations were provided by the registered Aboriginal parties.

10.2 Archaeological Recommendations

The following recommendations are provided with reference to the archaeological outcomes of this assessment.

- The Proponent should ensure that all employees and contractors are aware that it is an offence under Section 86 of the NPW Act to harm or desecrate an Aboriginal object unless that harm has been subject to approval as part of the necessary approvals process.
- An Aboriginal cultural heritage management plan for the Project should be developed in consultation with the registered Aboriginal parties. It should include measures that will be implemented for:
    - Avoidance of sites KKLP IA2, KKLP IA5 and KKLP AS2, including establishing appropriate fencing/site demarcation prior to the commencement of construction where there is a risk of incidental impact and ensuring ongoing protection during construction and operation.
    - Impacts to sites and areas of archaeological potential identified in **Section 6.3** and **6.4** that cannot be practically avoided. This will include the provision of methodologies for the completion of the recommended mitigation activities, as referenced in **Table 10.1**. This may include community collection and/or excavation (refer to **Section 11.0** for methodologies).
    - Protocols to be followed in the instance that additional ground disturbance works are required outside the study area. This will include requirements for further survey and assessment of any such works.
    - The management of any new Aboriginal archaeological sites that may be identified during these inspections or over the course of construction or operational activities (refer to **Section 11.3**).
    - The management of Aboriginal skeletal remains should any be identified within the construction or operational activities for the project (refer to **Section 11.4**).
    - Monitoring and reporting on the effectiveness of these measures and the outcomes of any approved mitigation works.
    - Ensuring that all staff and contractors working on the project receive Aboriginal cultural heritage awareness training and are informed of their obligations to comply with the requirements of the Aboriginal cultural heritage management plan.

Table 10.1 Recommendations by site/area of archaeological potential

Sites	Proposed Management Strategy	Requirements
KKLP IA2 KKLP IA5 KKLP AS2	Avoid impacts	Where incidental impacts may occur due to works in proximity, establish appropriate fencing/site demarcation prior to the commencement of construction and ensure ongoing protection during construction and operation
37-6-3063 37-6-3071 37-6-3872 38-4-0338 38-4-0376 38-4-0959 38-4-1008 38-4-1997 38-4-0410 37-6-1653 (alt) 37-6-1652 KKLP IA1 KKLP IA3 KKLP IA4 KKLP AS1 KKLP PAD1-6	Minimise impacts (in instance that final design demonstrates that impacts to sites can be fully or partially avoided)	Where impacts can be fully or partially avoided, establish appropriate fencing/site demarcation of the site/area (or portion thereof that is not being impacted) prior to the commencement of construction and ensure ongoing protection during construction and operation
37-6-3063 37-6-3071 37-6-3872 38-4-0338 38-4-0376 38-4-0959 38-4-1008 38-4-1997 38-4-0410 37-6-1653 (alt) 37-6-1652 KKLP IA1 KKLP IA3 KKLP IA4 KKLP AS1 KKLP PAD1-6	Where impacts cannot be avoided at final design phase	Community collection of artefacts (refer to **Section 11.1**) Archaeological excavation (refer to **Section 11.2**)

11.0 Mitigation Methodologies

The following mitigation methodologies are provided to guide the development of an Aboriginal cultural heritage management plan, should the project be approved.

11.1 Community Collection

Where community collection is undertaken, the locations of all visible artefacts within areas subject to impact by the proposed works will be assessed and, where appropriate, artefacts will be grouped into loci for the purposes of recording and analysis. The location of the artefacts will be recorded using a hand-held GPS and the artefacts will then be collected and bagged in meaningful groupings according to location.

In relation to sites where ground surface visibility is low, consideration will be given to undertaking community collection following the initial removal of surface vegetation.

11.2 Archaeological Excavation

Where impacts are proposed to occur within the nine identified areas of PAD, prior to the commencement of construction works a secondary inspection of the PAD will be undertaken to clearly demarcate the impact area and to facilitate discussion of the extent of excavation required. Where the Aboriginal parties and archaeologist undertaking the secondary inspection identify that excavation is warranted with reference to the impact area, the methodology provided in the Aboriginal cultural heritage management plan will be developed with reference to the outline below.

11.2.1 Phase 1 Excavations

- Phase 1 excavations will be undertaken in units of 50cm by 50cm. The surface area of the test excavation within a defined area of PAD will total no more than 5% of the total impact area within that PAD.
- The location and distribution of Phase 1 excavation units will be determined in field to avoid areas of localised disturbance and to focus the excavations on areas most likely to contain intact archaeological deposit. Where possible Phase 1 excavation units will be distributed along the centreline of the impact area (for linear impacts) or in a generalised grid pattern (for non-linear impacts such as larger workspace areas)
- Each Phase 1 excavation unit will be excavated in 10cm spits or stratigraphically (where possible), ensuring that the soil profile is adequately described
- Excavations will cease where one or more of the following criteria are established
    - B horizon deposits are encountered
    - It is deemed unsafe to continue to excavate because of risk of collapse or water ingress
    - If it is agreed by the archaeologist and Aboriginal party representatives present on site that the excavation has continued past the depth of deposits containing cultural material
    - Where the depth of project impacts has been reached

- Excavated materials (with the exception of sediments from features such as hearths or heat treatment pits) will be sieved using 5mm wire mesh sieves. Where necessary, wet sieving may be undertaken.
- If features (including a hearth or heat treatment pit or an accumulation of animal bone or shell likely to relate to Aboriginal cultural activities) are identified, the feature will be excavated in accordance with the methodology provided in **Section 11.2.1.1**.
- Throughout the Phase 1 excavations, a plan will be maintained showing excavation locations. Data will be collated on the outcomes of each excavation such that the nature of the soil profile and any cultural material identified is documented. Preliminary artefact counts, information on raw material types and description of key artefact classes in the assemblage from each excavation unit will be documented. This information will be used to inform decision making on requirements for Phase 2 works, as discussed below.

11.2.1.1 Excavation of Features

Should a feature such as a possible hearth or heat treatment pit or an accumulation of animal bone or shell likely to relate to Aboriginal cultural activities be identified during excavations, the following methodology will apply:

- The surface of the feature will be cleaned by hand (using trowels, hand shovels and brushes as required) to allow the edges of the feature to be identified.
- The feature will then be excavated in cross-section (half-sectioned or part thereof depending on the location of the feature within the excavation unit and whether it extends outside the excavation unit) to investigate the dimensions and orientation of the feature to more accurately assess whether it is a cultural feature or the result of natural process (for example, a burnt tree root/stump or accumulation of bone within a former void). The excavation will proceed according to the stratigraphy (if any) of the in-filling materials.
- If it is identified as a feature, it will be photographed in cross-section and a stratigraphic profile of the cross-section will be recorded (where possible).
- If it is identified as a feature, it will then be excavated in its entirety within the excavation unit. All excavated cultural materials (including those from original cross-sectional excavation) will be retained for analysis and samples of relevant materials will be sent for additional analysis, including radio-carbon dating. If the feature extends outside the excavation unit, it will be further assessed whether excavation should continue into the adjoining area. This will be considered with reference to the need to maintain the integrity of the feature during excavation and/or backfilling if required.
- Following the removal of all in-filling material, the remaining cut feature (where present) will be planned to scale and photographed.
- Following this excavation can resume in the remaining portion of the excavation unit.

11.2.2 Phase 2 Excavations

The need for salvage excavations can only be determined based on the results of Phase 1 excavations. Phase 2 excavation locations will be selected to provide the greatest likelihood of capturing the extent of the artefact distribution and to target areas of higher artefact density or assemblage complexity. The Phase 2 excavations will also ensure that an appropriate sample of artefacts is retained for cultural purposes.

A plan will be maintained showing excavation locations and the outcomes of the Phase 1 and Phase 2 excavations with reference to preliminary artefact counts, information on raw material types and description of key artefact classes in the assemblage from each excavation unit. This will inform decision making on excavation requirements. Specific considerations regarding the maximum extent of Phase 2 excavations within each PAD will be addressed in the Aboriginal cultural heritage management plan however, the total extent of excavation will not exceed the impact footprint within the identified area of PAD. Phase 2 excavations will be undertaken in units of 1 m by 1 m. The excavation methodology will be consistent with that detailed in **Section 11.2.1**.

Following the completion of Phase 2 excavations, construction works may proceed with no further archaeological works (noting requirements for the management of human skeletal material will still apply). Where additional artefacts are identified over the course of construction works, they may be salvaged in accordance with the community collection methodology provided in **Section 11.1**.

11.3 Identification of Previously Unknown Aboriginal Heritage Sites

Should previously unidentified Aboriginal cultural heritage sites be identified be over the course of activities within the study area the following procedure will be applied:

- Works in the immediate vicinity of the site will cease and the area around the site will be cordoned off.
- The relevant Environmental Manager or Contract Supervisor will be contacted and advised of the location and condition of the site.

The Environmental Manager or Contract Supervisor will then contact the registered Aboriginal parties and a suitably qualified archaeologist to provide information about the newly identified site. Consultation will then be undertaken with Heritage NSW to determine an appropriate management strategy.

11.4 Identification of Potential Human Skeletal Remains

Should human/possible human skeletal material (single bones or an intact burial) be identified over the course of activities within the study area, it will be managed in accordance with the strategy outlined below:

- All works within the immediate vicinity of the skeletal material will cease and the area will be cordoned off for 10 m from all edges of the skeletal material. The relevant Environmental Manager or Contract Supervisor will be contacted and advised of the location and condition of the skeletal material.
- The Environmental Manager or Contract Supervisor will arrange for the skeletal material to be inspected to determine whether it is human or animal. If necessary, advice will be sought from a forensic specialist.

- If the skeletal material is human, the NSW Police and Heritage NSW will be contacted. No excavation will proceed until an appropriate course of action has been determined in consultation with NSW Police, Heritage NSW and the Aboriginal parties.
- If the skeletal material is not human, the skeletal remains will be assessed, together with its depositional context, to determine the likelihood that the remains are a cultural feature. If the deposit is not considered a cultural feature, works may proceed. If the bone is identified as a feature, excavation may proceed in accordance with the methodology for the excavation of features provided in **Section 11.2**.

11.5 Analysis and Reporting

The requirements for artefact analysis and reporting will be determined during the development of the Aboriginal cultural heritage management plan and will be designed to address specific research questions to be determined in consultation with the registered Aboriginal parties and with reference to the sites/PADs subject to impact.

12.0 References

AECOM. 2015. Former Hydro Aluminium Smelter Aboriginal Cultural Heritage Assessment. Report to Hydro Aluminium Kurri Kurri Pty Ltd.

AECOM. 2014. Hydro Aluminium Smelter and Associated Buffer Land Aboriginal Cultural Heritage Assessment. Report to Hydro Aluminium Kurri Kurri Pty Ltd.

Djekic, A. 1984. An Archaeological Survey of the Route of the Kurri-Kurri to Alcan 132kV Transmission Line. Report to NSW National Parks and Wildlife and the Electricity Commission of NSW.

Environmental Resources Management Australia (ERM). 2004. Heritage Assessment for the Proposed Gas Pipeline from Seahampton to Rutherford. Report to Harper Somers O'Sullivan.

Environmental Resources Management Australia (ERM). 2010. CTGM Stoney Pinch to Beresfield Upgrade Heritage Assessment. Report to Hunter Water Corporation.

Hunter Water Corporation (Hunter Water). 2014. Aboriginal Heritage Impact Permit #1131144 Report.

Jacobs. 2021a. Hunter Power Project Aboriginal Cultural Heritage Assessment. Report to Snowy Hydro.

Jacobs. 2021b. Hunter Power Project Cultural Heritage Management Plan. Prepared for Snowy Hydro.

Kuskie, P.J. and Kamminga, J. 2000. Salvage of Aboriginal Archaeological Sites in Relation to the F3 Freeway near Lenaghans Drive, Black Hill, NSW. Report to NSW Roads and Traffic Authority.

McCardle Cultural Heritage (MCH). 2009. Louth Park Indigenous Archaeological Assessment. Report to ADW Johnson.

Roads and Maritime Services (RMS). 2019. Cessnock Road Upgrade at Testers Hollow. Aboriginal Cultural Heritage Assessment Report.

RPS. 2018. Lot 1131 DP 1057179, Black Hill, NSW. Preliminary Archaeological Assessment. Report to Broaden Management Pty Ltd.

Ruig, J. 1993. Report of an archaeological survey of the proposed extensions to the Black Hill gravel quarry, Black Hill, NSW. Report to Wayne Perry & Associates.

South East Archaeology. 1999. Management Plan: Aboriginal Heritage Site at Woods Gully, Along the F3 Freeway Near Black Hill, Beresfield. Report to NSW Roads and Traffic Authority.

South East Archaeology. 2006. Abel Underground Mine Part 3A Project Application: Aboriginal Heritage. Report to Donaldson Coal Pty Limited.

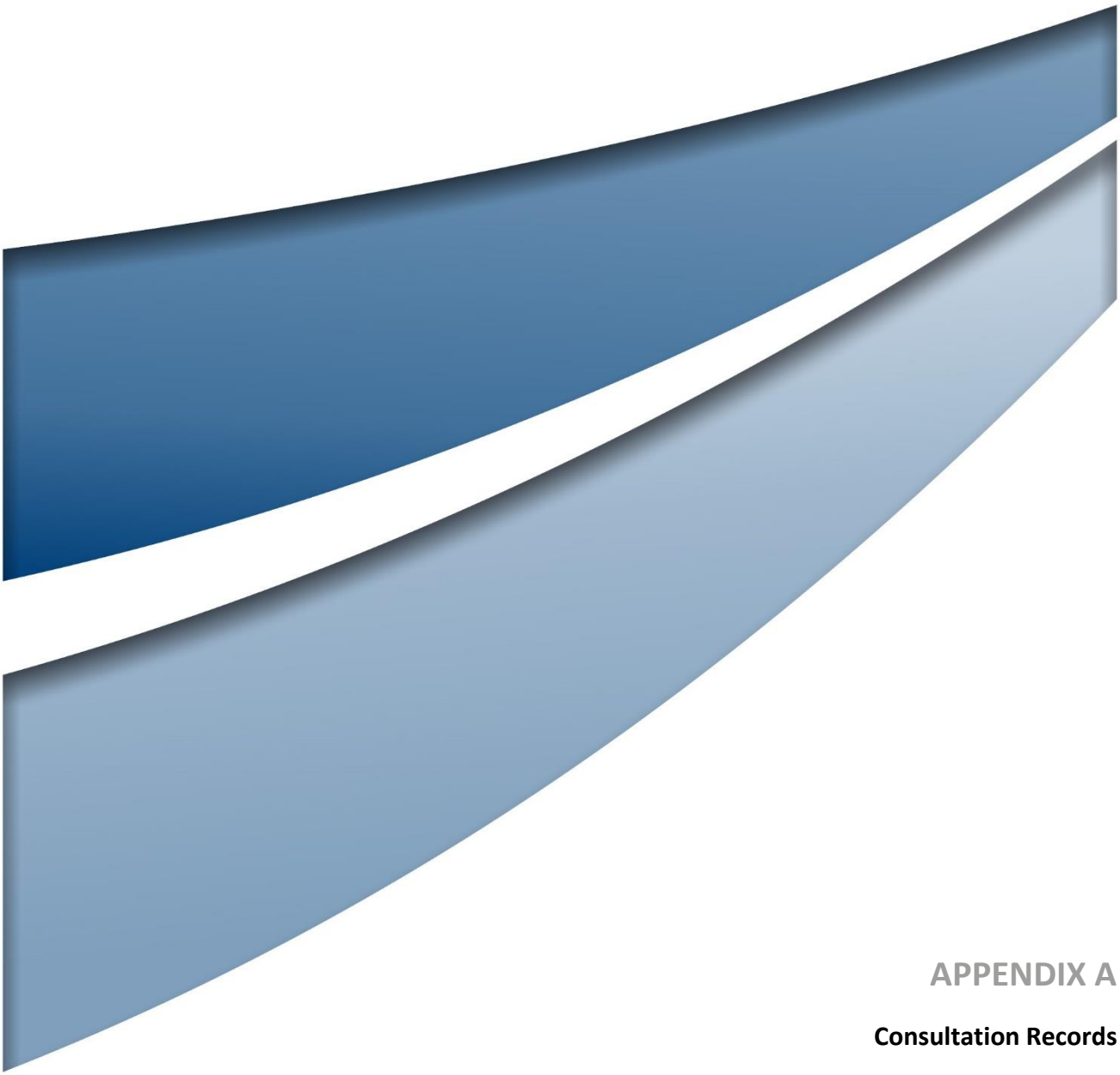
South East Archaeology. 2008. Bloomfield Colliery Completion of Mining and Rehabilitation Part 3A Environmental Assessment Aboriginal Heritage Impact Assessment. Report to The Bloomfield Group.

South East Archaeology. 2012. Abel Underground Mine: Supplementary Aboriginal Cultural Heritage Assessment for Abel Upgrade Modification. Report to Donaldson Coal Pty Limited.

Umwelt. 2002. Management of Aboriginal Cultural Heritage Values in the Bluegum Vista Estate. Report to Landcom.

Umwelt. 2019. Hunter Expressway Stage 4 – Final Salvage Report. Report to Roads and Maritime.

Yancoal Australia Pty Ltd (Yancoal). 2019. Aboriginal Cultural Heritage Management Plan Black Hill NSW.



APPENDIX A

Consultation Records

	Organisation_1	Organisation_2	Address_1	Address_2	Suburb	State	Postcode	Contact_Name	Contact_Email
1	Cessnock City Council		PO Box 152		Cessnock	NSW	2325	Sir/Madam	council@cessnock.nsw.gov.au
2	Newcastle City Council		PO Box 489		Newcastle	NSW	2300	Sir/Madam	mail@ncc.nsw.gov.au
3	National Native Title Tribunal		GPO Box 9973		Sydney	NSW	2001	Sir/Madam	enquiries@nntt.gov.au
4	Hunter Local Land Services		816 Tocal Road		Tocal	NSW	2421	Sir/Madam	admin.hunter@lls.nsw.gov.au
5	NTSCORP Ltd		PO Box 2105		Strawberry Hills	NSW	2012	Sir/Madam	information@ntscorp.com.au
6	Heritage NSW		Level 6, 10 Valentine Avenue		Parramatta	NSW	2124	Sir/Madam	heritagemailbox@environment.nsw.gov.au
7	Office of the Registrar	Aboriginal Land Rights Act 1983 (NSW)	PO Box 112		Glebe	NSW	2037	Sir/Madam	adminofficer@oralra.nsw.gov.au
8	Mindaribba Local Aboriginal Land Council		PO Box 401		East Maitland	NSW	2323	Sir/Madam	admin@mindaribbalalc.org
9	Maitland City Council		PO Box 220		Maitland	NSW	2320	Sir/Madam	info@maitland.nsw.gov.au

umwelt
Environmental & Social Consultants

Inspired People
Dedicated Team
Quality Outcomes

Our Ref: 21450_APA_KKLP_Agency Notification_20210624a_ltr

8 March 2022

To Whom it May Concern

Notification of commencement of Aboriginal party consultation for an Aboriginal Cultural Heritage Assessment for the proposed Kurri Kurri Lateral Pipeline Project, near Kurri Kurri, NSW

Umwelt has been engaged by APA Group (APA) to commence the consultation process for an Aboriginal Cultural Heritage Assessment (ACHA) in relation to the proposed Kurri Kurri Lateral Pipeline (the Project). The Project will supply the proposed Hunter Power Project in Kurri Kurri and will connect to the existing Sydney to Newcastle supply pipeline near Lenaghan, approximately 15 km northwest of Newcastle. The Project comprises a transmission pipeline, compression units and a storage pipeline.

At this stage, the final alignment for the pipelines has not been finalised. The general alignment of the transmission pipeline, which falls within Cessnock, Maitland and Newcastle Local Government Areas (LGAs), is shown on **Figure 1.1**. The indicative alignment of the storage pipeline is shown on **Figure 1.2**. The routes will be finalised prior to Aboriginal cultural heritage survey being undertaken and will be influenced by a number of factors including previously recorded heritage sites and other environmental considerations.

The Aboriginal Cultural Heritage Assessment will address the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) (Consultation Requirements), *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

APA is seeking to obtain development approval for the Project under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI). The application will be supported by an Environmental Impact Statement (EIS) and associated technical studies, including an Aboriginal Cultural Heritage Assessments (ACHA).

It is intended that the ACHA will inform the EIS along with project design and construction. In preparing the ACHA, Umwelt (on behalf of the proponent, APA) will be undertaking Aboriginal community consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010). This consultation will inform the ACHA and will assist Heritage NSW in consideration of the project.

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Umwelt (Australia) Pty Limited
ABN 18 059 519 041

In accordance with Section 4.1.2 of Consultation Requirements, Umwelt is seeking to identify Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places within the project area. If your organisation is aware of Aboriginal people or groups who may hold such cultural knowledge, please forward the relevant contact details by no later than 14 days from date of correspondence, **12 July 2021** to:

Steph Howden
Umwelt (Australia) Pty Ltd
75 York Street
Teralba NSW 2284
E: showden@umwelt.com.au

In compliance with the Consultation Requirements, the contact details for the proponent are as follows:

APA Contact: Trent Williams
Title: Access and Approvals Manager – KKLP
Address: Level 25, 580 George St, Sydney NSW 2000
P: 1800 804 893
E: kklp@apa.com.au

If you have any questions regarding this correspondence or wish to discuss the project further, please do not hesitate to contact myself via email (showden@umwelt.com.au) or on 1300 793 267.

Yours sincerely

Steph Howden
Archaeologist

Figure 1.1 Proposed Transmission Pipeline Alignment

Figure 1.2 Storage Pipeline – Indicative alignment only

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Quality Outcomes.

Our Ref: 21450_Methodology_EoI_29072021a_ltr

29 July 2021

Dear Sir/Madam

Re: Draft Methodology for Aboriginal Cultural Heritage Assessment – Proposed Kurri Kurri Lateral Pipeline Project between Kurri Kurri and Lenaghan, NSW

APA Group (APA) is proposing to develop the proposed Kurri Kurri Lateral Pipeline project in the Hunter region of New South Wales (NSW). The Project will supply gas to the proposed Hunter Power Project (HPP) in Kurri Kurri and will connect to the existing Sydney to Newcastle pipeline near Lenaghan, approximately 15 km northwest of Newcastle. The proposed Project falls within Mindaribba Local Aboriginal Land Council boundary and is within Cessnock, Maitland and Newcastle City Council local government areas (refer to **Figure 1.1**).

APA are seeking to obtain development approval for the proposed Kurri Kurri Lateral Pipeline Project (hereafter referred to as the Project) under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI). The application will be supported by an Environmental Impact Statement (EIS) and associated technical studies. Umwelt has been engaged by APA to prepare an Aboriginal Cultural Heritage Assessment (ACHA), which will form part of the EIS for the Project.

The ACHA will be undertaken in accordance with the requirements of the *National Parks and Wildlife Act 1974* (NPW Act), the *National Parks and Wildlife Regulation 2019* (NPW Regulation), the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage [OEH] 2011), the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (Department of Environment, Climate Change and Water [DECCW] 2010a) (the consultation requirements) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code of Practice, DECCW 2010b).

As a registered Aboriginal party for the Project, we are writing to provide you with the draft methodology for the ACHA for your review and comment.

Umwelt (Australia) Pty Limited

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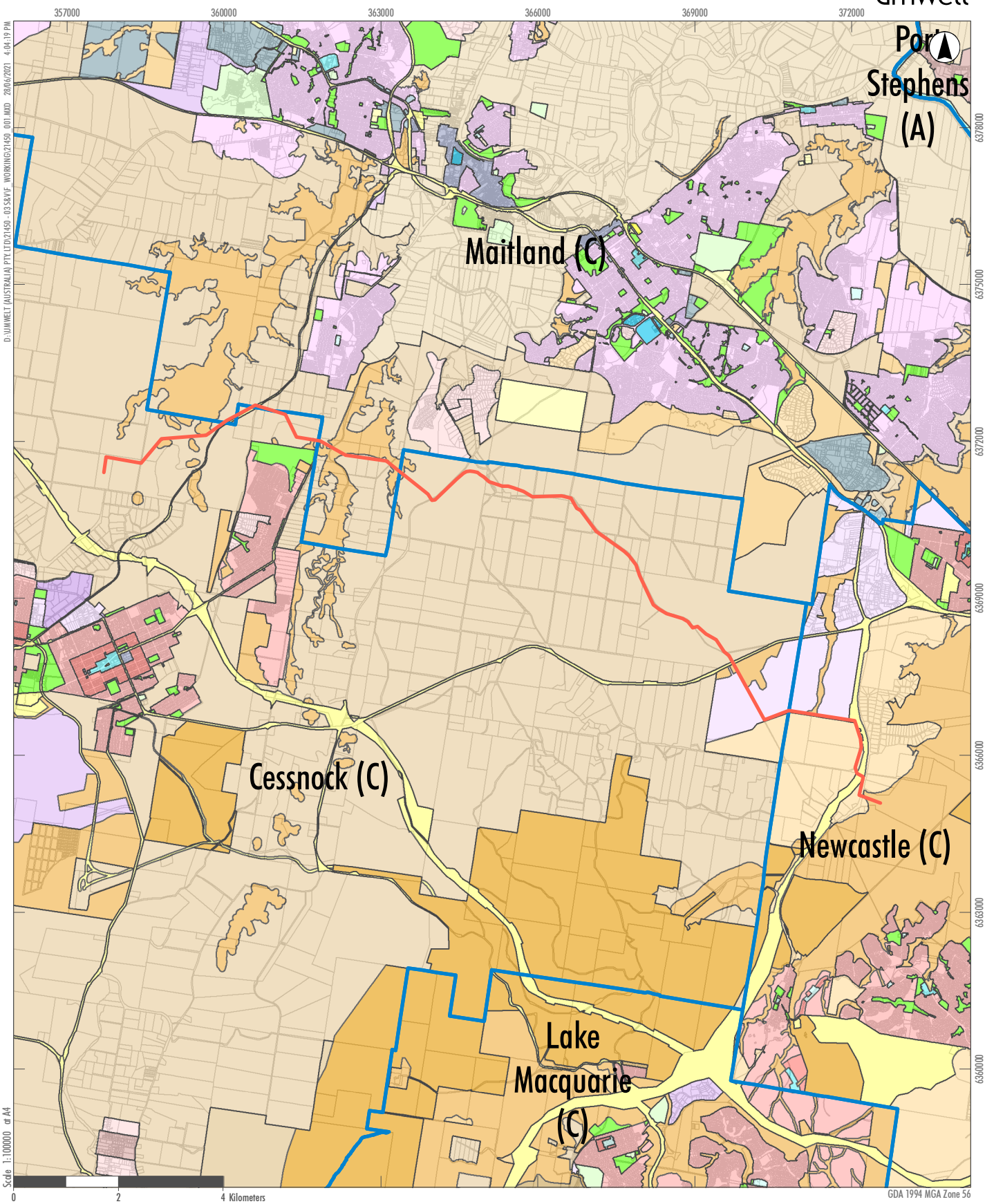

Legend

- Proposed Gas Pipeline
- Local Government Area
- Lot

Land Zoning

- B1 Neighbourhood Centre
- B2 Local Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- E1 National Parks and Nature Reserves
- E2 Environmental Conservation
- E3 Environmental Management
- E4 Environmental Living
- IN1 General Industrial
- IN2 Light Industrial
- IN3 Heavy Industrial
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R5 Large Lot Residential
- RE1 Public Recreation
- RE2 Private Recreation
- RU1 Primary Production
- RU2 Rural Landscape
- RU3 Forestry
- RU4 Primary Production Small Lots
- RU5 Village
- RU6 Transition
- SP1 Special Activities
- SP2 Infrastructure
- SP3 Tourist
- W2 Recreational Waterways

Image Source: ESRI Basemap (2021), NSW Deparment of Planning, Industry and Environment (2020) Data source: Umwelt (2021)

1.0 Description of the Project

The Project comprises three aspects:

- **Transmission pipeline** – Around 21 km in length, 14 inch (") diameter, buried, medium pressure (6.9 MPa) steel gas pipeline. The pipeline will connect the HPP to the existing Sydney to Newcastle pipeline near Lenaghan, north-west of Newcastle. The construction footprint for the pipeline will typically be 25 metres in width, with occasional additional work spaces extending up to 50m beyond this.

- **Compressor station** – A compressor station at the termination of the transmission pipeline and adjacent to the HPP is required to boost gas pressure to the inlet pressure of the HPP. The compressor configuration will be subject to detailed design. Electrical connection infrastructure and gas heaters are also required.

- **Storage pipeline** – 12 to 14 km of buried, steel, 42" high pressure (15.2 MPa) pipeline downstream of the compressors, located in the former smelter buffer zone, to store 43 terajoules of gas ready to supply the HPP at the required inlet pressure. The pipeline may be designed to incorporate several parallel loops to reduce the length of the construction footprint. The width of the construction footprint for the storage pipeline will depend on the selected pipeline configuration and may be up to 100 metres in width.

The compressor station and storage pipeline are required as part of the KKLP as the Sydney to Newcastle pipeline does not provide sufficient gas volumes or pressure to meet the supply requirements of the HPP.

At this stage, the design and exact location of the transmission and storage pipelines have not been finalised. The general alignment of the transmission pipeline, which falls within Cessnock, Maitland and Newcastle Local Government Areas (LGAs), is shown on **Figure 1.2** as a 400m wide corridor. The indicative alignment of the storage pipeline is shown on **Figure 1.3**. The preliminary layout will be subject to further refinement as engineering design and the environmental, cultural heritage and social impact assessments progress. The Project Area for the ACHA will include a 100m corridor for the transmission pipeline to allow for flexibility in design to minimise potential impact to cultural heritage where possible. The Project Area for the storage pipeline will be determine once the engineering design has progressed further.

Figure 1.2 Proposed transmission pipeline route (preliminary)

Figure 1.3 Storage pipeline – indicative alignment only

2.0 Methodology for the Aboriginal Cultural Heritage Assessment

The consultation process will be undertaken in accordance with the consultation requirements (DECCW 2010). The proposed methodology for the ACHA (pending comments from registered Aboriginal parties) is as follows:

1. Provision of a draft assessment methodology for review by the registered Aboriginal parties (this letter)
2. Provision of a review period during which Aboriginal parties can provide comment and propose amendments to the draft methodology (up to 28 days from receipt of this letter, with comments due by close of business on **27 August 2021**)
3. Completion of a survey of the Project Area in accordance with the draft methodology provided in Section 4 of this letter
4. The development of a draft ACHA report to include:
    - details of the nature of the project
    - a description of the potential impacts
    - full details of the registered Aboriginal party consultation process
    - the results of an Aboriginal Heritage Information Management System (AHIMS) search, Native Title search and other relevant searches
    - a review of the cultural context of the Project Area that will draw heavily on information provided by registered Aboriginal parties and the results of previous cultural heritage and archaeological assessments undertaken in the area
    - a review of background environmental and archaeological contextual information to gain an understanding of how Aboriginal people may have occupied/utilised the area and the likelihood that archaeological evidence may remain and be detectible within the project area
    - the preparation of a predictive model drawing on the above
    - details of the survey methodology and results
    - details of any sites/objects/potential archaeological deposits located during the survey
    - an assessment of the Aboriginal cultural heritage significance (as provided by the registered Aboriginal parties) of the Project Area
    - an assessment of the archaeological significance of any sites/objects/potential archaeological deposits identified within the Project Area
    - an assessment of the potential impact by the project to any sites/objects/potential archaeological deposits identified within the Project Area
    - a discussion of management options
    - management recommendations.
5. The provision of a draft ACHA report for comment by all registered Aboriginal parties (comment period extends for 28 days from receipt of draft ACHA report)
6. Discussion and incorporation of comments/amendments to develop and finalise the ACHA report

7. Provision of the final ACHA report to registered Aboriginal parties and Client.

3.0 Consultation with Aboriginal Parties During the Assessment Process

Umwelt and APA acknowledge and understand that cultural values, by definition, relate to values outside those associated with specific archaeological sites/objects. Throughout the assessment process, we invite comment from Aboriginal parties regarding any cultural values associated with the Project Area and will ensure that any information provided regarding cultural values (be they associated with a specific site or provided with reference to a landscape feature or within a broader context) are documented and recorded in accordance with the wishes of the relevant Aboriginal party for inclusion in the ACHA report. The inclusion of any such information in the final assessment is dependent on its provision by the Aboriginal parties and the way in which parties wish to share that information (for example, if information is particularly sensitive it can be excluded from documents placed on public exhibition).

We note that Section 3.2 of the consultation requirements specifies that the objective of consultation is to ensure 'that Aboriginal people have the opportunity to improve assessment outcomes'. Factors specified as assisting in meeting this objective include providing Aboriginal parties with the opportunity to provide information on cultural values (as invited in this draft methodology and throughout the assessment process), influence methods regarding assessment of significance for Aboriginal objects/places (which can be undertaken in response to this draft methodology, during fieldwork and in commenting on the draft ACHA report) and commenting on the draft ACHA report. Our approach is designed to ensure compliance with this objective, including the potential for in-field consultation with Aboriginal party representatives during fieldwork. Umwelt archaeologists are trained to seek, and document cultural feedback provided by Aboriginal party representatives during fieldwork. This is not limited to cultural values associated with archaeological sites but may encompass any values identified by Aboriginal people.

We look forward to working with you throughout the project to ensure that we adequately document any information you wish to provide regarding Aboriginal cultural values. Please feel free to contact us to request any additional information or assistance you may require to facilitate your input.

4.0 Survey Methodology

The draft survey methodology is designed to ensure compliance with requirements for archaeological survey as established in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code of Practice). This includes development of an appropriate sampling strategy and recording of information during survey. This will be a combination of vehicle and pedestrian survey based on a number of factors including landform and visibility.

It is proposed that the survey will be undertaken by two Umwelt archaeologists and representatives from the registered Aboriginal parties (as selected based on the process discussed in **Section 5**). At this stage, the survey will be conducted over 4 working days, with the number of field days to depend on a number of factors and to be adjusted as required. Representatives from APA may also be present for all or part of the field survey.

The field survey will also be undertaken with reference to any COVID-19 management requirements applicable at the time of the survey.

4.1 Recording information during survey

Survey units will be defined and named with reference to Requirement 5c of the Code of Practice, including recording start and finish points and/or boundaries for all survey units using a hand-held GPS receiver (set to allow recording of data with datum MGA94) and topographic mapping (where relevant), with track logs to be recorded for all pedestrian transects. Start and finish points/boundaries for survey units will be defined based on landforms, project area boundaries, access or other arbitrary terminations (as specified in the Code of Practice). The spacing between individuals will also be recorded for each survey unit.

Photographs will be taken of landforms/survey units (where informative). Information recorded for each survey unit will include:

- Landform (in units based on those established by McDonald et al 2009).
- Gradient (where relevant).
- Vegetation.
- Geology and soils (where suitable areas of exposure/visibility are present).
- Identified Aboriginal resources (food and medicine plants, prey animals, stone and water).
- Levels of average ground surface visibility within the survey unit (in accordance with the Requirement 9 of the Code of Practice).
- Extent and type of exposures within the survey unit (with reference to the factors leading to the exposure such as erosion, earth-moving activities, track establishment etc.).
- Any information provided by the registered Aboriginal parties in relation to cultural values, noting that such information will be recorded in accordance with the wishes of the party providing the information.
- Any site, area of Potential Archaeological Deposit (PAD) or landscape feature of Aboriginal cultural value present within the survey unit (see below for further information on site/PAD recording).

Any Aboriginal archaeological sites identified during the survey will be assessed with reference to the site boundaries as far as practicable. Factors that will be taken into consideration in defining and mapping site boundaries may include the distribution of surface artefacts, landforms or physical boundaries and cultural information.

Sufficient information will be recorded for all sites to meet Requirement 7 of the Code of Practice. The archaeological and Aboriginal and cultural significance of any site will be discussed with the registered Aboriginal parties participating in the survey.

The archaeological potential of landforms/specific areas within the Project Area will be assessed with reference to factors including the archaeological context of the local area, the evaluation of the soil profile (based on soil landscape mapping, exposed soil profiles identified during the survey and geomorphic understandings of the area) and the identification of landforms that may have greater archaeological sensitivity. The extent of any area of identified archaeological potential will be defined and documented for inclusion in subsequent reporting. The archaeological and Aboriginal cultural significance of any area of identified archaeological potential will be discussed with the registered Aboriginal parties participating in the survey.

5.0 Timing of fieldwork and Expressions of Interest

The dates proposed for the fieldwork will be provided when finalised; however, it is anticipated that the survey will commence in September 2021. APA will be offering paid engagement to representatives of selected registered Aboriginal parties. In order to assist in identifying the parties to be engaged, an invitation to submit an Expression of Interest is provided to all registered Aboriginal parties with this letter.

It is noted that, regardless of the outcomes of the Expression of Interest process, no Aboriginal parties will be excluded from participating in the fieldwork but are welcome to attend on a voluntary basis if not selected for paid engagement.

6.0 Summary

This letter provides details of the proposed methodology for an Aboriginal Cultural Heritage Assessment associated with the Project. In accordance with the consultation requirements (DECCW 2010), we ask that your group provides comments on the draft methodology by no later than close of business **27 August 2021** and include your completed Expression of Interest form (attached to this letter) and insurance details if you wish to be commercially engaged. Comments regarding the draft methodology can be provided verbally or in writing to:

Steph Howden
Archaeologist
Umwelt Environmental and Social Consultants
Phone: 1300 793 267
Email: showden@umwelt.com.au

In compliance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010) the contact details for the relevant Project Manager are as follows:

Name: Trent Williams
E: kklp@apa.com.au

We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further information.

Yours sincerely

Steph Howden
Archaeologist

Expressions of Interest for Engagement of Aboriginal Parties

1.0 Key Selection Criteria for Engagement

The key selection criteria for the engagement of Aboriginal parties are divided into two components: information provision and working requirements. These are outlined further below.

1.1 Information Provision

The completion of survey provides the opportunity for further interpretation of the cultural significance of the project area. In order to inform this process and in keeping with the intent of the Aboriginal Cultural Heritage Requirements for Proponents 2010, the intent is to engage Aboriginal parties who can provide this information. Section 3.3.1 of the Aboriginal Cultural Heritage Requirements for Proponents 2010 (DECCW 2010) specifies the following:

> Aboriginal people who can provide the information outlined above are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project. Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:
> - continue to maintain a deep respect for their ancestral belief system, traditional lore and custom
> - recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
> - have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.
> - In some cases, the information required for decision making will be held by Aboriginal people with statutory recognition for certain lands:
>   - Aboriginal owners in accordance with the *NSW Aboriginal Land Rights Act 1983*; and/or
>   - Native title holders or registered native title claimants in accordance with the *Native Title Act 1993 (Cth)* and *Native Title (New South Wales) Act 1994*

It is acknowledged that Aboriginal people who, through a historical presence in a particular area, may have developed cultural knowledge relevant to the Aboriginal objects and/or places based on knowledge passed down to them by Aboriginal people with a traditional connection to Country. We respect the rights of Aboriginal people with a historical connection to Country to, with their permission, act on behalf of Aboriginal people with a traditional connection to Country. It is acknowledged that in some cases it will only be Aboriginal people with a historical connection to an area who have the knowledge to inform the assessment of cultural significance of certain objects/places, e.g. on Aboriginal reserves and missions.

It is also noted that the Aboriginal Cultural Heritage Requirements for Proponents 2010 acknowledge the statutory obligations of Local Aboriginal Land Councils under the *Aboriginal Land Rights Act 1983*.

In your EOI, we ask that you address these key criteria. We understand that it may not be culturally appropriate to provide specific cultural information. Should you wish to provide verbal feedback, we are happy to discuss.

1.2 Working Requirements

In selecting your fieldwork representative, we ask that you ensure that the representative has appropriate experience and competence. Alternatively, if you wish to send a representative on a training basis, we ask that you just let us know so that we can account for this.
Key skills for fieldwork representatives include ability to identify stone artefacts, ability to undertake a full day of physically strenuous work (including walking 15-20 km per day across terrain of varying difficulty), ability to work as part of a team and recognition that the survey must be conducted in accordance with the methodology provided. There will be an emphasis on safe working in accordance with safety planning documents and policies. There must be commitment to work for the agreed daily hours (likely to be 7am to 4pm), unless otherwise discussed.

We cannot emphasise enough that the fieldwork may be quite physically challenging and that there will be limited capacity to provide an easier component of works. On this basis, we ask that you consider the physical fitness of any representative that you nominate and avoid sending out anyone with any health issues that may impact their capacity to safely undertake the survey.

Your nominated fieldwork representative/s must wear the following Personal Protective Equipment (PPE) on site:

1. Long-sleeved high visibility work shirt
2. Long trousers
3. Steel capped work boots
4. Necessary protection from the elements such as sunglasses, insect repellent and a wide brimmed hat

It is the responsibility of your organisation to ensure your fieldwork representative/s are equipped with the required PPE and are physically capable of undertaking the nominated fieldwork tasks.

Insurances and Rates
All Aboriginal parties undertaking fieldwork will be required to demonstrate that they hold relevant insurances, being workers compensation and public liability insurance.
If you would like to submit an EOI for commercial engagement, please provide the completed EOI including copies of insurances and daily rates by no later than **27 August 2021** to:

Name: Steph Howden
Address: 75 York St Teralba NSW 2284
Phone: (02) 4950 5322
Email: showden@umwelt.com.au

Should you require any further information or like to discuss the contents of this letter further, please do not hesitate to contact me on the details provided.

Expression of Interest

Aboriginal Cultural Heritage Assessment for Proposed Kurri Kurri Lateral Pipeline, between Kurri Kurri and Lenaghan NSW

Name of Registered Aboriginal Party:	
Address	
ABN	
Clarify your cultural connection to the area and the site with reference to the criteria in Section 1.1	
Name of Nominated Representatives:	
Nominated Representative's Contact Details: **(phone and/or email)**	
Prior Experience:	
Confirmation of fitness for work (all field staff to be able to undertake survey as described, including working in difficult terrain and at elevation)	
We agree to provide our representative with all the required PPE and understand that he/she will not be able to participate without the appropriate PPE or proof of insurance cover.	
Quoted Payment Rates:	Hourly - Daily -
Information provided by: **(please insert name)**	
Position in Registered Aboriginal Party:	
Signature:	

Page Break

Please provide details of your insurance cover below and attach copies of all appropriate insurances.

Insurance Details

Insurance Type	Insurance Company	Policy Number	Extent of Cover	Valid to
Public Liability				
Workers Compensation				

LIST OF ABORIGINAL STAKEHOLDERS FOR THE DEPARTMENT of PREMIER and CABINET (DPC) SOUTHERN REGION HELD BY DPC FOR THE PURPOSES OF THE OEH *ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010*

These lists are provided to proponents in accordance with section 4.1.2 of the *Aboriginal Cultural Heritage Consultation Requirements* for *Proponents 2010* (the "Consultation Requirements") which commenced on 12 April 2010.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

A copy of the Consultation Requirements can be found on the OEH website at:
http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements; a proponent is required to provide Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project.

The Consultation Requirements also state that:

> *Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:*
> - *continue to maintain a deep respect for their ancestral belief system, traditional lore and custom*
> - *recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country*
> - *have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.*

Please note: the placement of an organisation's name on any OEH Aboriginal stakeholder list for the Consultation Requirements does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 60 of the National Parks and Wildlife Regulation 2019.

How to use this list

1. **Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project**

Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.

Last updated 15 June 2021

Cessnock Local Government Area

Organisation/ Individual	Contact Name	Email Address/ Fax / Phone	Postal Address	Additional information
A1 Indigenous Services	Carolyn Hickey	Cazadirect@live.com 0411 650 057	10 Marie Pitt Place GLENMORE PARK NSW 2745	
Corroboree Aboriginal Corporation	Carroll-Johnson Marilyn	corroboreecorp@bigpond.com 0415 911 159 0288 244 324	PO Box 3340 ROUSE HILL NSW 2155	
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	Wonn1sites@gmail.com 0402 146 193 02 4954 7751	619 Main Road GLENDALE NSW 2285	
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com 0421 329 520	5 Killara Drive CARDIFF SOUTH NSW 2285	
Michael Green Cultural Heritage Consultant	Michael Green	bunyipnick50@gmail.com 0497120032	115A Lakeview Parade BLACKSMITHS NSW 2281	
Wattaka Wonnarua CC Service	Des Hickey	deshickey@bigpond.com 0432 977 178 02 6573 3786	4 Kennedy Street SINGLETON NSW 2330	
Widescope Indigenous Group	Steven Hickey	Widescope.group@live.com 0425 230 693 0425 232 056	73 Russell Street EMU PLAINS NSW 2750	
Didge Ngunawal Clan	Paul Boyd & Lilly Carroll	didgengunawalclan@yahoo.com.au 0426 823 944	33 Carlyle Crescent CAMBRIDGE GARDENS NSW 2747	
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarculturalservices@bigpond.com dontminemeay@gmail.com 0475 436 589	Lot 5 Westwood Estate MERRIWA NSW 2329	
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Kerrie@awabakal.com.au 0412 866 357	PO Box 122 RUTHERFORD NSW 2320	
Metropolitan Local Aboriginal Land Council	Nathan Moran	officeadmin@metrolalc.org.au (02) 83949666	PO Box 1103 Strawberry Hills NSW 2016	
Kevin Duncan	Kevin Duncan	kevin.duncan@bigpond.com 0431 224 099 02 4392 9346	95 Moala Parade CHARMHAVEN NSW 2263	

Awabakal & Guringai Pty Ltd	Tracey Howie & Kerrie Brauer	tracey@guringai.com.au, kerrie@awabakal.com.au Kerrie Brauer 0412 866 357 Tracey Howie 0404 182 049	PO Box 122 2259 RUTHERFORD NSW 2320 NSW	
Awabakal Descendants Traditional Owners	Peter Leven	awabakal.to@gmail.com 0405 149 684	PO Box 137 BUDGEWOI NSW 2262	
Sharon Hodgetts	Sharon Hodgetts	sharonhodgetts@hotmail.com 0405 288 814	47 Kent Street GRETA NSW 2334	
Metropolitan Local Aboriginal Land Council	CEO	metrolalc@metrolalc.org.au 02 8394 9666	PO Box 1103 STRAWBERRY HILLS NSW 2012	
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson & Darleen Johnson-Carroll	murrabidgeemullangari@yahoo.com.au 0497 983 332	PO Box 3035 Rouse hill 21765	
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball	lhwcs.lea@gmail.com 0472 698 659	712 Maitland Street KURRI KURRI NSW 2327	
Wonnarua Elders Council	Richard Edwards		PO Box 844 CESSNOCK NSW 2325	
Crimson-Rosie	Jeffery Matthews	02 6543 4791	6 Eucalypt Avenue MUSWELLBROOK NSW 2333	
Steve Talbott	Steve Talbott	gomeroi.namoi@outlook.com 0429 662 911	73 Kiah Road GILLIESTON HEIGHTS NSW 2321	
AGA Services	Ashley, Gregory & Adam Sampson	aga.services@hotmail.com Ashley Sampson 0401 958 050 Donna Sampson 0403 765 018	22 Ibis Parade NSW WOODBERRY 2322	
Cacatua Culture Consultants	Donna & George Sampson	cacatua4service@tpg.com.au 0403 765 019 0434 877 016	22 Ibis Parade WOODBERRY NSW 2322	
Myland Cultural & Heritage Group	Warren Schillings	warren@yarnteen.com.au 0431 392 554	30 Taurus Street ELERMORE VALE NSW 2287	
Deslee Talbott Consultants	Deslee Matthews	m-desley@hotmail.com 0431 205 336	Unit 2 / 19 South Street GUNNEDAH NSW 2380	
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Craig Horne Debbie Dacey-Sullivan	gidawaa.walang@hotmail.com Craig 0432 336 163	76 Lang Street KURRI KURRI NSW 2327	

		02 4937 1094		
Tocomwall Pty Ltd	Scott Franks	scott@tocomwall.com.au 0404 171 544	Po box 145, Miranda NSW 1490	
Aliera French Trading	Aliera French	alierafrenchtrading@outlook.com 0421 299 963	17 Kalinda St BLACKSMITHS NSW 2281	
Indigenous Learning	Craig Archibald	indiglearning@gmail.com 0467 229 507 0455 550 549	2 Victoria Street BELLBIRD HEIGHTS NSW 2325	
D F T V Enterprises	Derrick Vale Snr	deckavale@hotmail.com 0438 812 197	5 Mountbatten Close RUTHERFORD NSW 2320	
Jarban & Mugrebea	Les Atkinson	Les.atkinson@hotmail.com 0466 316 069	11 Nelson Street CESSNOCK NSW 2325	
Wonnarua Culture Heritage	Gordon Griffiths	0401 028 807 02 4934 6437	19 O'Donnell Crescent METFORD NSW 2323	
Kauma Pondee Inc.	Jill Green	kaumapondee@live.com.au 0434 210 190	Unit 6/1 Central Street LAMBTON NSW 2305	
Hunter Valley Cultural Surveying	Luke Hickey	Microlith99@gmail.com 0435 911 820	165 Susan Street SCONE NSW 2337	
Ungooroo Aboriginal Corporation	Alan Paget	admin@ungooroo.com.au 02 6571 5111	PO Box 3095 SINGLETON NSW 2330	
Wonnarua Nation Aboriginal Corporation	Laurie Perry	l.perry@optusnet.com.au 0412 593 020 02 6571 5419	254 John St SINGLETON NSW 2330	
Culturally Aware	Tracey Skene	tracey@marrung-pa.com.au 0474 106 537	7 Crawford Place MILFIELD NSW 2325	
Hunter Traditional Owner	Paulette Ryan	hto.paulette@gmail.com 0431 109 001	165 Susan Street SCONE NSW 2337	
Lower Wonnaruah Tribal Consultancy Pty Ltd	Barry Anderson	0417 403 153 02 6574 5303	156 The Inlet Road BULGA NSW 2330	
Wallagan Cultural Services	Maree Waugh	wallangan@outlook.com 0439 813 078	PO Box 40 CESSNOCK NSW 2325	

Wanaruah Local Aboriginal Land Council	CEO	ceo.wanarua@bigpond.com 02 6543 1288	17-19 Maitland Street MUSWELLBROOK NSW 2333	
Nunawanna Aboriginal Corporation	Colin Ahoy	cahoy7@myune.edu.au 0421 655 192	10 Dale Crescent ARMIDALE NSW 2350	
Mindaribba Local Aboriginal Land Council	CEO	ceo@mindaribbalalc.org 02 4934 8511	1A Chelmsford Drive METFORD NSW 2323	
Mayaroo	Tracey White	rara02@bigpond.com 0438 909 797	PO Box 168 KURRI KURRI NSW 2327	
Arwarbukarl Cultural Resource Association, Miromaa Aboriginal Language and Technology Centre	Darren McKenny	contact@acra.org.au 02 4940 9100	840 Hunter St NEWCASTLE WEST NSW 2302	
Awabakal Local Aboriginal Land Council	CEO	reception@awabakallalc.com.au 02 4965 4532	127 Maitland Road ISLINGTON NSW 2296	
Biraban Local Aboriginal Land Council	CEO	admin@birabanlalc.com.au 0411 650 057 02 4959 1829	68/A Middlepoint Road BOLTON POINT NSW 2283	
Aboriginal Native Title Consultants	Christine Paul	**christinepaul737@gmail.com** 0484 327 664	68 Tindale Street Muswellbrook NSW 2333	

Maitland Local Government Area

Organisation/ Individual	Contact Name	Email Address/ Fax / Phone	Postal Address	Additional information
A1 Indigenous Services	Carolyn Hickey	Cazadirect@live.com 0411 650 057	10 Marie Pitt Place GLENMORE PARK NSW 2745	
Corroboree Aboriginal Corporation	Carroll-Johnson Marilyn	corroboreecorp@bigpond.com 0415 911 159 0288 244 324	PO Box 3340 ROUSE HILL NSW 2155	
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	Wonn1sites@gmail.com 0402 146 193 02 4954 7751	619 Main Road GLENDALE NSW 2285	
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com 0421 329 520	5 Killara Drive CARDIFF SOUTH NSW 2285	
Michael Green Cultural Heritage Consultant	Michael Green	bunyipnick50@gmail.com 0497120032	115A Lakeview Parade BLACKSMITHS NSW 2281	
Wattaka Wonnarua CC Service	Des Hickey	deshickey@bigpond.com 0432 977 178 02 6573 3786	4 Kennedy Street SINGLETON NSW 2330	
Widescope Indigenous Group	Steven Hickey	Widescope.group@live.com 0425 230 693, 0425 232 056	73 Russell Street EMU PLAINS NSW 2750	
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarculturalservices@bigpond.com dontminemeay@gmail.com 0475 436 589	Lot 5 Westwood Estate MERRIWA NSW 2329	
Kevin Duncan	Kevin Duncan	kevin.duncan@bigpond.com 0431 224 099 02 4392 9346	95 Moala Parade CHARMHAVEN NSW 2263	
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson & Darleen Johnson-Carroll	murrabidgeemullangari@yahoo.com.au 0497 983 332	PO Box 3035 Rouse hill 2765	
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball	lhwcs.lea@gmail.com 0472 698 659	712 Maitland Street KURRI KURRI NSW 2327	
Wonnarua Elders Council	Richard Edwards		PO Box 844 CESSNOCK NSW 2325	

Steve Talbott	Steve Talbott	gomeroi.namoi@outlook.com 0429 662 911	73 Kiah Road GILLIESTON HEIGHTS NSW 2321	
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Hunter Valley Cultural Surveying	Luke Hickey	Microlith99@gmail.com 0435 911 820	165 Susan Street SCONE NSW 2337	
Ungooroo Aboriginal Corporation	Alan Paget	admin@ungooroo.com.au 02 6571 5111	PO Box 3095 SINGLETON NSW 2330	
Wonnarua Nation Aboriginal Corporation	Laurie Perry	l.perry@optusnet.com.au 0412 593 020 02 6571 5419	254 John St SINGLETON NSW 2330	
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Didge Ngunawal Clan	Paul Boyd & Lilly Carroll	didgengunawalclan@yahoo.com.au 0426 823 944	33 Carlyle Crescent CAMBRIDGE GARDENS NSW 2747	
AGA Services	Ashley, Gregory & Adam Sampson	aga.services@hotmail.com Ashley Sampson 0401 958 050 Donna Sampson 0403 765 018	22 Ibis Parade WOODBERRY NSW 2322	
Cacatua Culture Consultants	Donna & George Sampson	cacatua4service@tpg.com.au 0403 765 019 0434 877 016	22 Ibis Parade WOODBERRY NSW 2322	
Deslee Talbott Consultants	Deslee Matthews	m-desley@hotmail.com 0431 205 336	Unit 2 / 19 South Street GUNNEDAH NSW 2380	
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Tocomwall Pty Ltd	Scott Franks	scott@tocomwall.com.au 0404 171 544	Po box 145, Miranda NSW 1490	
D F T V Enterprises	Derrick Vale Snr	deckavale@hotmail.com 0438 812 197	5 Mountbatten Close RUTHERFORD NSW 2320	
Culturally Aware	Tracey Skene	tracey@marrung-pa.com.au 0474 106 537	7 Crawford Place MILFIELD NSW 2325	

Hunter Traditional Owner	Paulette Ryan	hto.paulette@gmail.com 0431 109 001	165 Susan Street SCONE NSW 2337	
Hunters & Collectors	Tania Matthews	Tamatthews10@hotmail.com 407348384	Unit 1/19 South Street Gunnedah NSW 2320	
Worimi Local Aboriginal Land Council	CEO	andrew@worimi.org.au 02 4965 1500	2163 Nelson Bay Road WILLIAMTOWN NSW 2318	
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Kerrie@awabakal.com.au 0412 866 357	PO Box 122 RUTHERFORD NSW 2320	
Awabakal & Guringai Pty Ltd	Tracey Howie & Kerrie Brauer	tracey@guringai.com.au, kerrie@awabakal.com.au Kerrie Brauer 0412 866 357 Tracey Howie 0404 182 049	PO Box 122 RUTHERFORD NSW 2320 NSW 2259	
Awabakal Descendants Traditional Owners	Peter Leven	awabakal.to@gmail.com 0405 149 684	PO Box 137 BUDGEWOI NSW 2262	
Crimson-Rosie	Jeffery Matthews	02 6543 4791	6 Eucalypt Avenue MUSWELLBROOK NSW 2333	
Aliera French Trading	Aliera French	alierafrenchtrading@outlook.com 0421 299 963	17 Kalinda St BLACKSMITHS NSW 2281	
Indigenous Learning	Craig Archibald	indiglearning@gmail.com 0467 229 507 0455 550 549	2 Victoria Street BELLBIRD HEIGHTS NSW 2325	
Jarban & Mugrebea	Les Atkinson	Les.atkinson@hotmail.com 0466 316 069	11 Nelson Street CESSNOCK NSW 2325	
Wonnarua Culture Heritage	Gordon Griffiths	0401 028 807 02 4934 6437	19 O'Donnell Crescent METFORD NSW 2323	
Kauma Pondee Inc.	Jill Green	kaumapondee@live.com.au 0434 210 190	Unit 6/1 Central Street LAMBTON NSW 2305	
Lower Wonnaruah Tribal Consultancy Pty Ltd	Barry Anderson	0417 403 153 02 6574 5303	156 The Inlet Road BULGA NSW 2330	
Wallagan Cultural Services	Maree Waugh	wallangan@outlook.com 0439 813 078	PO Box 40 CESSNOCK NSW 2325	
Mayaroo	Tracey White	rara02@bigpond.com 0438 909 797	PO Box 168 KURRI KURRI NSW 2327	

Arwarbukarl Cultural Resource Association, Miromaa Aboriginal Language and Technology Centre	Darren McKenny	contact@acra.org.au 02 4940 9100	840 Hunter St NEWCASTLE WEST NSW 2302	
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	jtmanagement@live.com.au 0413 718 149	17 Flobern Ave WAUCHOPE NSW 2446	
Aboriginal Native Title Consultants	Christine Paul	christinepaul737@gmail.com 0484 327 664	68 Tindale Street Muswellbrook NSW 2333	

Newcastle Local Government Area

Organisation/ Individual	Contact Name	Email Address/ Fax / Phone	Postal Address	Additional information
A1 Indigenous Services	Carolyn Hickey	Cazadirect@live.com 0411 650 057	10 Marie Pitt Place GLENMORE PARK NSW 2745	
Corroboree Aboriginal Corporation	Carroll-Johnson Marilyn	corroboreecorp@bigpond.com 0415 911 159 0288 244 324	PO Box 3340 ROUSE HILL NSW 2155	
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	Wonn1sites@gmail.com 0402 146 193 02 4954 7751	619 Main Road GLENDALE NSW 2285	
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com 0421 329 520	5 Killara Drive CARDIFF SOUTH NSW 2285	
Michael Green Cultural Heritage Consultant	Michael Green	bunyipnick50@gmail.com 0497120032	115A Lakeview Parade BLACKSMITHS NSW 2281	
Roger Matthews Consultancy	Roger Matthews	0455 671 288	105 View Street GUNNEDAH NSW 2380	
Wattaka Wonnarua CC Service	Des Hickey	deshickey@bigpond.com 0432 977 178 02 6573 3786	4 Kennedy Street SINGLETON NSW 2330	
Widescope Indigenous Group	Steven Hickey	Widescope.group@live.com 0425 230 693 0425 232 056	73 Russell Street EMU PLAINS NSW 2750	
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarculturalservices@bigpond.com dontminemeay@gmail.com 0475 436 589	Lot 5 Westwood Estate MERRIWA NSW 2329	
Kevin	Kevin Duncan	kevin.duncan@bigpond.com 0431 224 099 02 4392 9346	95 Moala Parade HARMHAVEN NSW 2263	
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson & Darleen Johnson-Carroll	murrabidgeemullangari@yahoo.com.au 0497 983 332	PO Box 3035 Rouse Hill NSW 2765	
Myland Cultural & Heritage Group	Warren Schillings	warren@yarnteen.com.au 0431 392 554	30 Taurus Street ELERMORE VALE NSW 2287	

Didge Ngunawal Clan	Paul Boyd & Lilly Carroll	didgengunawalclan@yahoo.com.au 0426 823 944	33 Carlyle Crescent CAMBRIDGE GARDENS NSW 2747	
Lower Hunter Wonnarua Cultural Services	Lea-Anne Ball	lhwcs.lea@gmail.com 0472 698 659	712 Maitland Street KURRI KURRI NSW 2327	
Wonnarua Elders Council	Richard Edwards		PO Box 844 CESSNOCK NSW 2325	
Deslee Talbott Consultants	Deslee Matthews	m-desley@hotmail.com 0431 205 336	Unit 2 / 19 South Street GUNNEDAH NSW 2380	
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Craig Horne Debbie Dacey-Sullivan	gidawaa.walang@hotmail.com Craig 0432 336 163 02 4937 1094	76 Lang Street KURRI KURRI NSW 2327	
Tocomwall Pty Ltd	Scott Franks	scott@tocomwall.com.au 0404 171 544	Po box 145, Miranda NSW 1490	
Crimson-Rosie	Jeffery Matthews	02 6543 4791	6 Eucalypt Avenue MUSWELLBROOK NSW 2333	
Aliera French Trading	Aliera French	alierafrenchtrading@outlook.com 0421 299 963	17 Kalinda St BLACKSMITHS NSW 2281	
Indigenous Learning	Craig Archibald	indiglearning@gmail.com 0467 229 507 0455 550 549	2 Victoria Street BELLBIRD HEIGHTS NSW 2325	
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	jtmanagement@live.com.au 0413 718 149	17 Flobern Ave WAUCHOPE NSW 2446	
D F T V Enterprises	Derrick Vale Snr	deckavale@hotmail.com 0438 812 197	5 Mountbatten Close RUTHERFORD NSW 2320	
Steve	Steve Talbott	gomeroi.namoi@outlook.com 0429 662 911	73 Kiah Road GILLIESTON HEIGHTS NSW 2321	
AGA Services	Ashley, Gregory & Adam Sampson	aga.services@hotmail.com Ashley Sampson 0401 958 050 Donna Sampson 0403 765 018	22 Ibis Parade WOODBERRY NSW 2322	
Cacatua Culture Consultants	Donna & George Sampson	cacatua4service@tpg.com.au 0403 765 019 0434 877 016	22 Ibis Parade WOODBERRY NSW 2322	

Jarban & Mugrebea	Les Atkinson	Les.atkinson@hotmail.com 0466 316 069	11 Nelson Street CESSNOCK NSW 2325	
Wonnarua Culture Heritage	Gordon Griffiths	0401 028 807 02 4934 6437	19 O'Donnell Crescent METFORD NSW 2323	
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Kerrie@awabakal.com.au 0412 866 357	PO Box 122 RUTHERFORD NSW 2320	
Awabakal & Guringai Pty Ltd	Tracey Howie & Kerrie Brauer	tracey@guringai.com.au, kerrie@awabakal.com.au Kerrie Brauer 0412 866 357 Tracey Howie 0404 182 049	PO Box 122 RUTHERFORD NSW 2320	
Awabakal Descendants Traditional Owners	Peter Leven	awabakal.to@gmail.com 0405 149 684	PO Box 137 BUDGEWOI NSW 2262	
Kauma Pondee Inc.	Jill Green	kaumapondee@live.com.au 0434 210 190	Unit 6/1 Central Street LAMBTON NSW 2305	
Arwarbukarl Cultural Resource Association, Miromaa Aboriginal Language and Technology Centre	Darren McKenny	contact@acra.org.au 02 4940 9100	840 Hunter St NEWCASTLE WEST NSW 2302	
Awabakal Local Aboriginal Land Council	CEO	reception@awabakallalc.com.au 02 4965 4532	127 Maitland Road ISLINGTON NSW 2296	
B-H Heritage Consultants	Nola Hampton, Darren Hampton & Raplh Hampton	kinghampton77@gmail.com (Nola), darrenhampton4@gmail.com (Darren), Hamptonralph46@gmail.com (Ralph) Nola 0401662531	95 Mount Ettalong Road UMINA BEACH NSW 2257	
Kyle	Kyle Howie	kyle@guringai.com.au 0413 500 031	25 Athol Street TOUKLEY NSW 2263	
Trudy	Trudy Smith	hunters_1@bigpond.com 0409 449 609	PO Box 141 TOUKLEY NSW 2263	

Yvette and Jackson	Yvette and Jackson Walker	yvettewalker1@hotmail.com 0459 194 215 0476 218 076	19 Wakehurst Drive WYONG NSW 2259	
Tamara	Tamara Towers	worimiacs@gmail.com 0402 360 356	Unit 4, 16-18 Simpson Court MAYFIELD NSW 2304	
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM	lennie.anderson011@bigpond.com 0431 334 365	22 Popplewell Road FERN BAY NSW 2295	
Mur-Roo-Ma Inc.	Anthony Anderson	murroomainc1@gmail.com 0402 827 482 02 4928 1910	7 Vardon Road FERN BAY NSW 2295	
Hunter Valley Cultural Surveying	Luke Hickey	Microlith99@gmail.com 0435 911 820	165 Susan Street SCONE NSW 2337	
Mindaribba Local Aboriginal Land Council	CEO	ceo@mindaribbalalc.org 02 4934 8511	1A Chelmsford Drive METFORD NSW 2323	
Worimi Local Aboriginal Land Council	CEO	andrew@worimi.org.au 02 4965 1500	2163 Nelson Bay Road WILLIAMTOWN NSW 2318	
Worimi Traditional Owners Indigenous Corporation	Candy Lee Towers	worimitoc@hotmail.com 0412 475 362	36 Avon St MAYFIELD NSW 2304	
Olivia	Olivia Connors	connorscelia@yahoo.com.au 434665810	6 Charlton Street LAMBTON NSW 2299	
Ron	Ron Smith	scottosmith@live.com.au 0401 167 950	Flat 8, 19-21 Burrawan St PORT MACQUARIE NSW 2444	

Stephanie Howden

From: Corrroboree Aboriginal Corporation <corroboreecorp@bigpond.com>
Sent: Wednesday, 4 August 2021 12:21 PM
To: Stephanie Howden
Subject: Re: Kurri Kurri Lateral Pipeline Project ACHA Methodology and Survey EoI

Hi Steph
We agree with the methodology.

Kind regards
Marilyn Carroll-Johnson
Director
Corroboree Aboriginal Corporation
Mob: 0415911159
Ph: 0288244324
E: corroboreecorp@bigpond.com
Address: PO Box 3340
ROUSE HILL NSW 2155

> On 4 Aug 2021, at 11:48 am, Stephanie Howden <showden@umwelt.com.au> wrote:
>
> Hi Marilyn
> Thanks for sending your details through and the completed EoI form. Did you have any feedback on the methodology?
>
> Cheers
> Steph
>
> **Stephanie Howden**
> Archaeologist
>
> <image001.png>
>
> **Umwelt (Australia) Pty Limited**
> 75 York St, Teralba NSW 2284
> Phone: 1300 793 267
> Mobile: 0456 196 274
>
> www.umwelt.com.au
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> **Newcastle | Perth| Canberra| Sydney| Brisbane**
>
>

From: Corrroboree Aboriginal Corporation <corroboreecorp@bigpond.com>
Sent: Monday, 2 August 2021 12:44 PM
To: Stephanie Howden <showden@umwelt.com.au>
Subject: Re: Kurri Kurri Lateral Pipeline Project ACHA Methodology and Survey EoI

Expression of Interest

Aboriginal Cultural Heritage Assessment for Proposed Kurri Kurri Lateral Pipeline, between Kurri Kurri and Lenaghan NSW

Name: Stephanie Howden - Archaeologist
Address:75 York St
Teralba NSW 2284
Ph: (02) 4950 532
Mob:0436 628 707
Em: nroche@umwelt.com.au

Name of Registered Aboriginal Party:	Corroboree Aboriginal Corporation
Address	15 Bardsley Circuit ROUSE HILL
ABN	**17569793106**
Clarify your cultural connection to the area and the site with reference to the criteria in Section 1.1	We are aboriginal people our connection is thru our Elders/ancestors present and past our history.Through the land upon which we have lived and the land which our ancestors have roamed. As Aboriginal we are abiding by legislation and therefore fulfil the Cultural Heritage Requirements as Aboriginal people to be consulted in areas we connect with via our Ancestors and our history. We connect to this area as Aboriginal people. We connect to this area as we have lived a very nomadic lifestyle and this is one of the areas our family lived on. We therefore are Aboriginal people who can assist with the information needed on this project. We are all skilled Aboriginal Cultural Heritage Officers. We all personally acknowledge Aboriginal lore & custom. All our members/RAPS do. Our members/RAPS are Aboriginal land custodians. As aboriginals we have deep respect for our ancestral beliefs. As Aboriginal people we have the trust of our community. As we are aboriginal we have right to speak as Aboriginal people and preserve aboriginal heritage all over Australia. All artefacts are important to us as aboriginal people.
Name of Nominated Representatives:	Marilyn Carroll-Johnson
Nominated Representative's Contact Details:	15 Bardsley Circuit ROUSE HILL NSW 2156
(phone and/or email)	corroboreecorp@bigpond.com
Name of Nominated Representatives:	Marilyn Carroll-Johnson
Nominated Representative's Contact Details:	15 Bardsley Circuit ROUSE HILL NSW 2155
(phone and/or email)	0415911159 or corroboreecorp@bigpond.com

Prior Excavation Experience:	Corroboree Aboriginal Corporation RAPS have years of experience on field surveys & excavations. We can identify artefacts. We are experienced with recording, soil testing, etc. We skills, taught by our elders. Our members have worked as a fieldworkers for over decades what we perceive as formally as we have the on field and received further training via the archeologists we have worked with for over a decade. Due to the years on site on projects we have the necessary field training in accessing and in identifying Aboriginal objects on project sites. This is demonstrated and documented by other archaeologists, that we have the abilities with years of experience by working with archeological companies. As such we've completed duties of the field requirements under the direction of the archaeologists.: We can site survey & identify known or potential sites. Our RAPS including myself have the heritage and the cultural knowledge as well as the requires skills. We at CAC fulfil the criteria for this project. We are fit and can work in a broad landscape. We have all the required PPE. We can; . •Peg locations – •Do test pits. •Correct use of shovels to avoid injuries , •brush and trowel test pits in excavation for pics . •Relocating above materials in buckets after sieving •.Sieving of the excavated material wet or dry. • Identifying then recording the finds •We have cultural awareness, heritage & skills

Quoted Payment Rates:	Hourly $123.75 Daily $990.00 Full daily rate applies after 4.5 hours
Information provided by: (please insert name)	Marilyn Carroll-Johnson. .
Position in Registered Aboriginal Party:	Director
Signature:	

Kind regards
Marilyn Carroll-Johnson
Director
Corroboree Aboriginal Corporation
Mob: 0415911159
Ph: 0288244324
E: corroboreecorp@bigpond.com
Address: PO Box 3340
ROUSE HILL NSW 2155

On 29 Jul 2021, at 3:36 pm, Stephanie Howden <showden@umwelt.com.au> wrote:

Nicola Roche

From: Corrroboree Aboriginal Corporation <corroboreecorp@bigpond.com>
Sent: Monday, 28 February 2022 9:47 PM
To: Nicola Roche
Subject: Re: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi Nic
We agree with the Assesment

Kind regards
Marilyn Carroll-Johnson
Director
Corroboree Aboriginal Corporation
Mob: 0415911159
Ph: 0288244324
E: corroboreecorp@bigpond.com
Address: PO Box 3340
ROUSE HILL NSW 2155

CAC acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, sea & community. We pay our respects to them and their cultures, to the Elders past and present, and emerging.

> On 28 Feb 2022, at 4:43 pm, Nicola Roche <nroche@umwelt.com.au> wrote:
>
> Hi all,
>
> Further to my email below, I haven't yet received any feedback from your organisation on the draft Kurri Kurri Lateral Pipeline ACHA. The comment period closed on 22nd Feb but if you can get comments to me by no later than CoB on Thursday 3rd of March, I will be able to include them in the final report.
>
> If you have any issues or questions, please just give me a call.
>
> Thanks
> Nic
>
> **Nicola Roche**
> Manager, Cultural Heritage (NSW, ACT &QLD)
> Heritage Technical Lead
>
> **Umwelt (Australia) Pty Limited**
> Phone: 1300 793 267
> Mobile: 0427 125 685
>
> www.umwelt.com.au
>
>

Nicola Roche

From: Tracey Skene <tracey@marrung-pa.com.au>
Sent: Friday, 4 March 2022 2:00 PM
To: Nicola Roche
Subject: Re: FW: FW: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi Nic I briefly read it been flat out.. but at this stage I have no issues at this stage
Trace

On Fri, 4 Mar 2022 at 1:58 pm, Nicola Roche <nroche@umwelt.com.au> wrote:

> Hi Tracey,
>
> Just checking if you wanted to provide any comment before I finalise the report? Happy to take feedback over the phone if that helps.
>
> Thanks
>
> Nic
>
> **Nicola Roche**
> Manager, Cultural Heritage (NSW, ACT &QLD)
>
> Heritage Technical Lead
>
> **Umwelt (Australia) Pty Limited**
> Phone: 1300 793 267
>
> Mobile: 0427 125 685
>
> www.umwelt.com.au
>
>
>
> **From:** Nicola Roche
> **Sent:** Wednesday, 2 March 2022 4:14 PM

Nicola Roche

From: rara02@bigpond.com
Sent: Wednesday, 2 March 2022 3:27 PM
To: Nicola Roche
Subject: RE: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal CulturalHeritage Assessment

HI Nic
No all good

Sent from Mail for Windows

From: Nicola Roche
Sent: Tuesday, 1 March 2022 7:42 PM
To: Tracey
Subject: RE: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal CulturalHeritage Assessment

Hi Tracey,

No problem. Did you have any comments on the draft that you want included in the final?

Thanks
Nic

Nicola Roche
Manager, Cultural Heritage (NSW, ACT &QLD)
Heritage Technical Lead

Umwelt (Australia) Pty Limited
Phone: 1300 793 267
Mobile: 0427 125 685

www.umwelt.com.au

From: Tracey <rara02@bigpond.com>
Sent: Tuesday, 1 March 2022 9:32 AM
To: Nicola Roche <nroche@umwelt.com.au>
Subject: Re: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi Nicola

Mayaroo would like a hard copy of the final report please.

Could you send it to
PO Box 168

Nicola Roche

From: Nicola Roche
Sent: Monday, 28 February 2022 4:43 PM
To: Marion O'Neil
Cc: Carolyn .H; christinepaul737@gmail.com; Corrroboree Aboriginal Corporation; tracey@marrung-pa.com.au; Lilly Carroll; jtmanagement@live.com.au; normarch60@gmail.com; lowerhunterai@gmail.com; rara02@bigpond.com; ceo@mindaribbalalc.org; connorscelia@yahoo.com.au; Danny Franks; sites@ungooroo.com.au; mschulz@ungooroo.com.au; widescope.group@live.com; Steven Johnson; laurie.perry2020@outlook.com
Subject: FW: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi all,

Further to my email below, I haven't yet received any feedback from your organisation on the draft Kurri Kurri Lateral Pipeline ACHA. The comment period closed on 22nd Feb but if you can get comments to me by no later than CoB on Thursday 3rd of March, I will be able to include them in the final report.

If you have any issues or questions, please just give me a call.

Thanks
Nic

Nicola Roche
Manager, Cultural Heritage (NSW, ACT &QLD)
Heritage Technical Lead

Umwelt (Australia) Pty Limited
Phone: 1300 793 267
Mobile: 0427 125 685

www.umwelt.com.au

From: Nicola Roche
Sent: Monday, 24 January 2022 4:40 PM
To: Nicola Roche <nroche@umwelt.com.au>
Cc: Marion O'Neil <moneil@umwelt.com.au>
Subject: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Good afternoon,

As a Registered Aboriginal Party for the Kurri Kurri Lateral Pipeline project, Umwelt on behalf of APA and in accordance with the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents*

2010, invite you to review and comment on the draft Aboriginal Cultural Heritage Assessment (ACHA) report for the project.

The ACHA has been prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011). It also includes all relevant archaeological information, in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

Please note that this report is provided in draft format only and has been developed to incorporate feedback and comments provided by registered Aboriginal parties to date. We ask that you please review the report and respond carefully. All comments received will be addressed in the finalised report.

In accordance with the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, we request that comments be provided by no later than close of business on **Tuesday 22 February 2022**.

If you require any further information or if you have any queries relating to this project, please do not hesitate to contact me. We request that the ACHA is treated as confidential and reviewed solely for the purpose of managing Aboriginal cultural heritage. Consultation with the wider community remains ongoing.

Please click on the link below to access the report or let me know if you would like to receive a hard copy version.

https://umwelt.sharefile.com/d-sd8b3ab16c8714f29a91f0d303655be31

If you would prefer to discuss the report with me directly, as always, please don't hesitate to give me a call.

Regards
Nic

Nicola Roche
Manager, Cultural Heritage (NSW, ACT &QLD)
Heritage Technical Lead

Umwelt (Australia) Pty Limited
Phone: 1300 793 267
Mobile: 0427 125 685

www.umwelt.com.au

From:	Jo Miller
To:	Stephanie Howden
Subject:	RE: Commencement of Aboriginal party consultation for an ACHA for Kurri Kurri Lateral Pipeline project (our ref: 21450)
Date:	Tuesday, 14 September 2021 10:48:41 AM
Attachments:	image003.png image004.png image005.png image001.png

Hi Stephanie,

Thank you for your email.

Please see below a list of Aboriginal and Torres Strait Islander stakeholder groups who may have interest in the proposed project area.

- Mindaribba Local Aboriginal Land Council - 4015 7000
- Barkuma Neighbourhood Centre – 4937 1094
- Wonnarua Elders Council (PO Box 884 Cessnock, NSW 2325)
- Wonnarua Nation Aboriginal Corporation – 6571 8598
  enquiries@wonnarua.org.au

Please feel free to contact me if I can be of any further assistance.

Kind Regards

Jo

Jo Miller Community and Cultural Development Officer
62-78 Vincent St | PO Box 152 | Cessnock NSW 2325
p 02 4993 4258 | **m** 0427 818 202
www.cessnock.nsw.gov.au

Integrity, Respect, Teamwork, Accountability and Excellence

I acknowledge Aboriginal people as the traditional custodians of the land on which Cessnock City Council offices and operations are located, and pay my respects to Elders past, present and future.

From: Stephanie Howden <showden@umwelt.com.au>
Sent: Friday, 25 June 2021 4:50 PM
To: council <council@cessnock.nsw.gov.au>
Subject: Commencement of Aboriginal party consultation for an ACHA for Kurri Kurri Lateral

Pipeline project (our ref: 21450)

Hello
Please find attached the notification of the commencement of Aboriginal party consultation for an Aboriginal Cultural Heritage Assessment for the proposed Kurri Kurri Lateral Pipeline project, between Kurri Kurri and Lenaghan, NSW.

In accordance with s4.1.2 of the *Aboriginal cultural heritage consultation requirements for proponents 2010*, Umwelt are seeking to identify Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places within the project area. If your organisation is aware of Aboriginal people or groups who may hold such cultural knowledge, please forward the relevant contact details by no later than 12 July 2021 to:

Steph Howden
Umwelt (Australia) Pty Ltd
75 York Street Teralba NSW 2284
E: showden@umwelt.com.au

Cheers Steph

Stephanie Howden
Archaeologist

Mon	Tue	Wed	Thu	Fri
✖	✖	✓	✓	✓

Umwelt (Australia) Pty Limited
75 York St, Teralba NSW 2284
Phone: 1300 793 267
Mobile: 0456 196 274

www.umwelt.com.au

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Nicola Roche

From: WIDESCOPE . <widescope.group@live.com>
Sent: Monday, 28 February 2022 5:43 PM
To: Nicola Roche
Subject: RE: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi Nicola,

I have reviewed and support the Kurri Kurri Lateral Pipeline draft ACHA. Thank you for keeping me up to date on the project

Regards
Steven Hickey

From: Nicola Roche <nroche@umwelt.com.au>
Sent: Monday, February 28, 2022 4:43:18 PM
To: Marion O'Neil <moneil@umwelt.com.au>
Cc: Carolyn .H <cazadirect@live.com>; christinepaul737@gmail.com <christinepaul737@gmail.com>; Corrroboree Aboriginal Corporation <corroboreecorp@bigpond.com>; tracey@marrung-pa.com.au <tracey@marrung-pa.com.au>; Lilly Carroll <didgengunawalclan@yahoo.com.au>; jtmanagement@live.com.au <jtmanagement@live.com.au>; normarch60@gmail.com <normarch60@gmail.com>; lowerhunterai@gmail.com <lowerhunterai@gmail.com>; rara02@bigpond.com <rara02@bigpond.com>; ceo@mindaribbalalc.org <ceo@mindaribbalalc.org>; connorscelia@yahoo.com.au <connorscelia@yahoo.com.au>; Danny Franks <danny@tocomwall.com.au>; sites@ungooroo.com.au <sites@ungooroo.com.au>; mschulz@ungooroo.com.au <mschulz@ungooroo.com.au>; widescope.group@live.com <widescope.group@live.com>; Steven Johnson <wokacorp@yahoo.com>; laurie.perry2020@outlook.com <laurie.perry2020@outlook.com>
Subject: FW: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Hi all,

Further to my email below, I haven't yet received any feedback from your organisation on the draft Kurri Kurri Lateral Pipeline ACHA. The comment period closed on 22nd Feb but if you can get comments to me by no later than CoB on Thursday 3rd of March, I will be able to include them in the final report.

If you have any issues or questions, please just give me a call.

Thanks
Nic

Nicola Roche
Manager, Cultural Heritage (NSW, ACT &QLD)
Heritage Technical Lead

Umwelt (Australia) Pty Limited
Phone: 1300 793 267
Mobile: 0427 125 685

www.umwelt.com.au

Stephanie Howden

From: WIDESCOPE . <widescope.group@live.com>
Sent: Monday, 2 August 2021 3:40 PM
To: Stephanie Howden
Subject: Feed back Re: Methodology for Aboriginal Cultural Heritage Assessment – Proposed Kurri Kurri Lateral Pipeline Project between Kurri Kurri and Lenaghan, NSW and Site Officer Application for Steven Hickey
Attachments: Allianz Cert Currency 2021-2022.jpg; Icare Workers Comp 2021-2022.jpg; Site Officer Application - Kurri Kurri.pdf

Hi Steph,

Thank you for providing the Draft Methodology for Aboriginal Cultural Assessment Re: Kurri Kurri Lateral Pipeline between Kurri Kurri and Lenaghan, NSW

I have reviewed and support the recommendations out lined in the daft Aboriginal Cultural Heritage Assessment (ACHA) Thank you, I look forward to assisting the team and sharing my cultural knowledge on the project.

Please see Site Officer Application and Relevant Insurances attached.
Preferred Method of Correspondence is via E-mail widescope.group@live.com or Mob:0425230693
(Admin) 0425232056

Regards
Steven Hickey

Stephanie Howden

From: Steven Johnson <wokacorp@yahoo.com>
Sent: Monday, 2 August 2021 1:47 PM
To: Stephanie Howden
Subject: Re: Kurri Kurri Lateral Pipeline Project ACHA Methodology and Survey EoI

Hey Steph

We agree with the methodology. Please also refer to our EOI for field work. Insurances to follow.

Cheers
Steve
Mob: 0406991221

Expression of Interest field work

Kurri Kurri Lateral Pipeline Project between Kurri Kurri and Lenaghan, NSW

Name: Steph Howden
Address:75 York St
Teralba NSW 2284
Ph: (02) 4950 532
Mob:0436 628 707
Em:showden@umwelt.com.au

Name of Registered Aboriginal Party:	Woka Aboriginal Corporation
Address	145 Carnarvon Road Schofields NSW 2762
ABN	**91731384933**
Clarify your cultural connection to the area and the site with reference to the criteria in Section 1.1	Our connection is that we are Aboriginal people our connection is thru our ancestors, past and present. Through our history as nomadic people. Our connection is through our Mother Earth. The land upon which we live and have lived upon. The grounds our Ancestors have hunted and lived upon. As legislation states Aboriginal people can participate as per the Cultural Heritage Requirements as such as people people we submit our expression of interest. We as Aboriginal people express interest for field work. We note that being a nomadic family, we connect to the area. We Aboriginal people have the knowledge to assist with Cultural Heritage requirements for this project. We are all Aboriginal Heritage Consultants. We have the utmost respect for our heritage and the preservation of our heritage. We practice our beliefs as Aboriginal people. Woka Aboriginal Corporation have the trust of our members to fulfil our heritage conservation duties in a sensitive manner. And we are aboriginal people that reserve right to speak as Aboriginal people to preserve our aboriginal heritage all over Australia. All artefacts are important to us as it's our role for the preservation of our history to pass down

	to all aboriginal people, especially the next generations of our people.
Name of Nominated Representatives:	Steven Johnson
Nominated Representative's Contact Details:	145 Carnarvon Road Schofields NSW 2762
Contact Details:	As above
(phone and/or email)	0406991221 or Email: wokacorp@yahoo.com.au
Prior Excavation Experience:	Woka RAPS have years of experience on field surveys, excavations. We can identify artefacts. We are experienced. I have lived in the area: We skills, taught by our elders that were passed down from our ancestors. Our members have worked as a fieldworkers for over decade formally. Due to a huge number of site projects we have on field training in identifying Aboriginal objects on project sites as well. This is demonstrated and documented by other archaeologists that we have the abilities with years of experience by working with archeological companies. As such we've completed duties of the field requirements under the direction of the archaeologist.: We can site survey & identify known or potential sites. Our RAPS including myself have the heritage the cultural knowledge. •Pegging locations - test pits. •Correct use of shovels, •brushes and trowels in test pits excavation . •Relocating above materials in buckets after sieving •.Sieving of the excavated material wet or dry. • Identifying then recording the finds •We have cultural awareness, heritage & skills

We agree to provide our representative with all the required PPE and understand that he/she will not be able to participate without the appropriate PPE or proof of insurance cover. Insurance attached

Quoted Payment Rates:	Hourly $137.50 Daily $1100.00 Daily rate applies after 4.5 hrs
Information provided by: (please insert name)	Steve Johnson
Position in Registered Aboriginal Party:	Director
Signature: Steve Johnson	

On Thursday, 29 July 2021, 03:36:25 pm AEST, Stephanie Howden <showden@umwelt.com.au> wrote:

Hello

Thank you for your interest in the proposed Kurri Kurri Lateral Pipeline project. Please find attached the Aboriginal Cultural Heritage Assessment methodology for your review and comment. Also included in the attached document is the survey Expression of Interest form that needs to be completed and returned including insurance details for consideration by the client, APA Group.

Please provide feedback and completed Expression of Interest form by no later than 27 August 2021.

Looking forward to hearing from you and feel free to give me a call if you have any questions

Cheers

Steph

Stephanie Howden
Archaeologist

Mon	Tue	Wed	Thu	Fri
✖	✖	✓	✓	✓

Umwelt (Australia) Pty Limited
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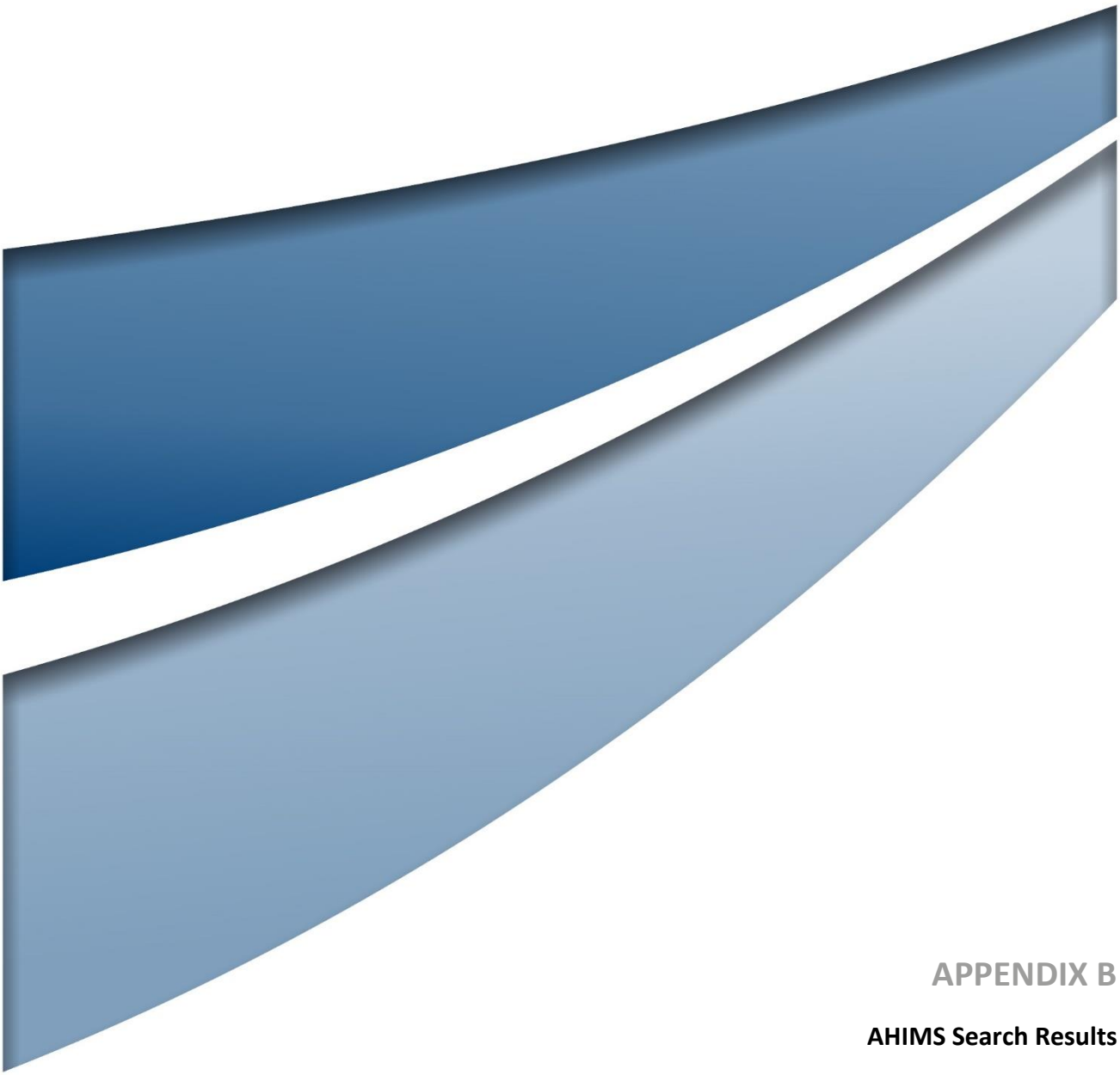
Nicola Roche

From: Arthur Fletcher <wonn1sites@gmail.com>
Sent: Thursday, 17 February 2022 1:18 PM
To: Nicola Roche
Subject: Re: 21450 - Kurri Kurri Lateral Pipeline DRAFT Aboriginal Cultural Heritage Assessment

Ala Nicola
First up thanks for the opportunity to respond to this project etc . And yes after reading the ACHA we are more than happy to be supportive in all ways. Ps All stay safe and all the best. Nginuwa. Arthur-Kauwul and Lynne.
On Mon, 24 Jan 2022 at 4:40 pm, Nicola Roche <nroche@umwelt.com.au> wrote:

> Good afternoon,
>
> As a Registered Aboriginal Party for the Kurri Kurri Lateral Pipeline project, Umwelt on behalf of APA and in accordance with the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, invite you to review and comment on the draft Aboriginal Cultural Heritage Assessment (ACHA) report for the project.
>
> The ACHA has been prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011). It also includes all relevant archaeological information, in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).
>
> Please note that this report is provided in draft format only and has been developed to incorporate feedback and comments provided by registered Aboriginal parties to date. We ask that you please review the report and respond carefully. All comments received will be addressed in the finalised report.
>
> In accordance with the requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, we request that comments be provided by no later than close of business on **Tuesday 22 February 2022**.
>
> If you require any further information or if you have any queries relating to this project, please do not hesitate to contact me. We request that the ACHA is treated as confidential and reviewed solely for the purpose of managing Aboriginal cultural heritage. Consultation with the wider community remains ongoing.
>
> Please click on the link below to access the report or let me know if you would like to receive a hard copy version.
>
> https://umwelt.sharefile.com/d-sd8b3ab16c8714f29a91f0d303655be31
>
> If you would prefer to discuss the report with me directly, as always, please don't hesitate to give me a call.
>
> Regards
>
> Nic



APPENDIX B

AHIMS Search Results

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594272

Note: This Excel report shows the sites found in AHIMS on the 27/05/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0463	Site 4;Beresfield;	AGD	56	373000	6368200	Open site	Valid		Artefact : -	Open Camp Site	Mr.Peter Kuskie	4211,102222,102568		151.64	-32.82
38-4-0465	Site 6;Beresfield;	AGD	56	372300	6368250	Open site	Partially Destroyed		Artefact : -	Open Camp Site	Mr.Peter Kuskie,Mr.Joh	4211,102222,102568,1	3432	151.64	-32.81
38-4-0466	Site 7;Beresfield;	AGD	56	372590	6368300	Open site	Valid		Artefact : -	Isolated Find	Mr.Peter Kuskie	4211,102222,102568,103619		151.64	-32.81
38-4-0472	Site 1;Beresfield;	AGD	56	372380	6367130	Open site	Valid		Artefact : -	Isolated Find	Mr.Peter Kuskie	4211,102222,102568		151.64	-32.82
38-4-0473	Site 2;Beresfield;	AGD	56	372650	6367770	Open site	Valid		Artefact : -	Isolated Find	Mr.Peter Kuskie	4211,102222,102568		151.64	-32.82
38-4-0646	L2 Lenaghans Drive 1(	AGD	56	372906	6366025	Open site	Valid		Artefact : 1		Rex Silcox	102222,102568	1456	151.64	-32.83
38-4-0639	Donaldson Monitoring !	AGD	56	370665	6368177	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	102222		151.62	-32.82
38-4-0621	Donaldson Monitoring !	AGD	56	370966	6368184	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty L	102222,102398	3144,3431	151.62	-32.82
38-4-0464	Site 5;Beresfield;	AGD	56	372350	6368170	Open site	Valid		Artefact : -	Open Camp Site	Mr.Peter Kuskie	4211,102222,102568		151.64	-32.82
38-4-1287	CTGM1 AT1	GDA	56	371995	6368278	Open site	Partially Destroyed		Artefact : 1		ERM Australia Pty Ltd-	103089	3374	151.63	-32.82
38-4-1288	CTGM2 BL	GDA	56	370364	6368087	Open site	Destroyed		Artefact : -		ERM Australia Pty Ltd-	103089	3374	151.62	-32.82
38-4-1289	CTGM3 AT3	GDA	56	370646	6368123	Open site	Partially Destroyed		Artefact : -		ERM Australia Pty Ltd-	103089	3374,4400	151.62	-32.82
38-4-1290	CTGM4 MC	GDA	56	370764	6368013	Open site	Valid		Artefact : 1		ERM Australia Pty Ltd-	103089	4400	151.62	-32.82
38-4-1210	Beresfield WP IF 1	GDA	56	372577	6368477	Open site	Destroyed	Mindaribba Local Abori	Artefact : 1		Doctor.Tim Owen,Kelle	101939,102568,10309(	3432	151.64	-32.81
38-4-1211	Beresfield WP IF 2	GDA	56	372697	6368494	Open site	Destroyed	Mindaribba Local Abori	Artefact : 1		Doctor.Tim Owen,Kelle	101939,102568,10309(	3432	151.64	-32.81
38-4-1213	Beresfield WP IF 4	GDA	56	372505	6368467	Open site	Destroyed	Mindaribba Local Abori	Artefact : 1		Doctor.Tim Owen,Kelle	101939,103090	3432	151.64	-32.81
38-4-1214	Beresfield WP AS 1	GDA	56	372802	6368511	Open site	Partially Destroyed	Mindaribba Local Abori	Artefact : 1		Doctor.Tim Owen,Kelle	101939,102568,10309(	3432	151.64	-32.81
38-4-1215	Beresfield WP AS 2	AGD	56	370765	6368186	Open site	Destroyed	Mindaribba Local Abori	Artefact : 15		Doctor.Tim Owen,Mr.Jc	101939,103089	3374	151.62	-32.82
38-4-1217	CTGM PAD2	GDA	56	372680	6368493	Open site	Partially Destroyed		Potential Archaeological Deposit (PAD) : 1		Doctor.Tim Owen,Mr.Jc	101939,102568,10309(	3432,3761	151.64	-32.81
38-4-1336	Black Hill 1	GDA	56	372098	6368010	Open site	Valid		Artefact : 1		Doctor.Tim Owen,ERM Australia Pty Ltd- Sydney CBD			151.63	-32.82
38-4-1337	Black Hill 2	GDA	56	371914	6366664	Open site	Valid		Artefact : 3		Doctor.Tim Owen,ERM Australia Pty Ltd- Sydney CBD			151.63	-32.83
38-4-1741	AVC5/A	GDA	56	370457	6366402	Open site	Valid		Artefact : -		Mr.Corey O'Driscoll			151.62	-32.83
38-4-1742	AVC13/A	GDA	56	370524	6366621	Open site	Valid		Artefact : -		Mr.Jason Barr		4400	151.62	-32.83
38-4-1743	DIOCESE 1	GDA	56	370732	6366463	Open site	Valid		Artefact : -		Mr.Corey O'Driscoll			151.62	-32.83
38-4-1744	DIOCESE 3	GDA	56	370202	6366294	Open site	Valid		Artefact : -		Mr.Corey O'Driscoll			151.61	-32.83
38-4-1745	BLACK HILL M12RT 1	GDA	56	373519	6368274	Open site	Valid		Artefact : 1, Potential Archaeological Deposit (P		Andrew Roberts,Jacobs Group (Australia) Pty Ltd - Newcastle,Mr.Andre			151.65	-32.82
38-4-1746	BLACK HILL M12RT 2	GDA	56	373131	6368424	Open site	Valid		Potential Archaeological Deposit (PAD) : -		Mr.Andrew Costello			151.64	-32.81
38-4-0686	ERM site 4	AGD	56	369275	6367572	Open site	Destroyed		Artefact : -		ERM - Thornton		1695,1696	151.60	-32.82
38-4-1953	Beresfield M1 South 1	GDA	56	372268	6368381	Open site	Destroyed		Artefact : 1		Niche Environment and	104012	4366	151.64	-32.82
38-4-0375	Black Hill 1, BH1	AGD	56	372900	6367200	Open site	Destroyed		Artefact : -	Open Camp Site	Gary Dunnett	102222,102568	658,745,819,831,1062,	151.64	-32.82
38-4-0376	ISF3/ISF4;	AGD	56	372050	6365250	Open site	Valid		Artefact : -	Open Camp Site	Sue Effenberger	100898,102222,10256(	1057,1083	151.63	-32.84
38-4-0425	Black Hill 3 BH3	AGD	56	373100	6365820	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	102568	983	151.65	-32.84
38-4-0410	Woods Gully	AGD	56	372200	6366100	Open site	Valid		Artefact : -	Open Camp Site	Sue Effenberger	4642,100898,102222,1	1083	151.64	-32.83
38-4-0551	John Renshaw Drive Is	AGD	56	371846	6368253	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	97572,102568		151.63	-32.81
38-4-0552	South Beresfield Freev	AGD	56	371575	6368060	Open site	Valid		Potential Archaeological Deposit (PAD) : -		Janice Wilson	97572,102222		151.63	-32.82
38-4-0604	BLACK HILL 7 (BH7)	AGD	56	372740	6367410	Open site	Valid		Artefact : -		Mr.Peter Kuskie	98227,102222,102568		151.64	-32.82
38-4-0901	Weakleys 1 Locus A (V	AGD	56	370990	6368270	Open site	Partially Destroyed	T Russell	Artefact : 1		Mr.Peter Kuskie,RPS A	102222,102398	3144,3431	151.62	-32.81
38-4-0909	Weakleys 7 Locus A (V	AGD	56	371340	6368240	Open site	Destroyed	T Russell	Artefact : 1		Mr.Peter Kuskie,RPS A	102398	3144,3431	151.63	-32.81
38-4-1687	Beresfiled WP-AS2 art	GDA	56	371048	6368217	Open site	Valid		Artefact : -		Mr.John Simpson		4400	151.62	-32.82
38-4-1688	CTGM PAD1 artefacts	GDA	56	370698	6368094	Open site	Valid		Artefact : -		Mr.John Simpson		4400	151.62	-32.82
38-4-1833	Black Hill M12RT 4	GDA	56	372643	6368470	Open site	Valid		Artefact : 1		Jacobs Group (Australi	103619		151.64	-32.81
38-4-1834	Black Hill Power Artefa	GDA	56	372538	6367984	Open site	Valid		Artefact : 1		Jacobs Group (Australia) Pty Ltd - Newcastle,Mr.Andy Roberts			151.64	-32.82

Report generated by AHIMS Web Service on 27/05/2021 for Steph Howden for the following area at Datum :GDA, Zone : 56, Eastings : 369304 - 373559, Northings : 6365202 - 6368536 with a Buffer of 0 meters. Additional Info : ACHA background. Number of Aboriginal sites and Aboriginal objects found is 42

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594230

Note: This Excel report shows the sites found in AHIMS on the 27/05/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0656	John Renshaw Drive 4	AGD	56	363150	6366750	Open site	Destroyed		Artefact : 2		Leila McAdam	98229	1695,1696	151.54	-32.83
38-4-0657	John Renshaw Drive 5	AGD	56	364586	6367409	Open site	Destroyed		Artefact : 10		Umwelt (Australia) Pty L	98229	1695,1696	151.55	-32.82
38-4-1360	Surveyors Creek RTA '	GDA	56	363510	6364700	Open site	Destroyed		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1361	Surveyors Creek RTA '	GDA	56	363487	6364657	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1362	Surveyors Creek RTA '	GDA	56	363417	6364627	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1326	Surveyors Creek RTA '	GDA	56	362126	6366877	Open site	Partially Destroyed		Artefact : 57		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1327	Surveyors Creek RTA1	GDA	56	362260	6366691	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1328	Surveyors Creek RTA1	GDA	56	362302	6366840	Open site	Destroyed		Artefact : 19		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1329	Surveyors Creek RTA2	GDA	56	362277	6366878	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-2015	TH-IF-001	GDA	56	361866	6371651	Open site	Valid		Artefact : 1		Kayandel Archaeological Services,Miss.Meg Walker			151.52	-32.78
38-4-0805	Surveyors Creek RTA '	AGD	56	363260	6365500	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0806	Surveyors Creek RTA ;	AGD	56	363592	6364893	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0807	Surveyors Creek RTA :	AGD	56	365299	6362568	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.56	-32.87
38-4-0808	Surveyors Creek RTA '	AGD	56	365435	6362520	Open site	Valid		Artefact : 5		Umwelt (Australia) Pty Limited - Individual users	2102		151.56	-32.87
38-4-0809	Surveyors Creek RTA !	AGD	56	364572	6363160	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.55	-32.86
38-4-0810	Surveyors Creek RTA !	AGD	56	362944	6366711	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0811	Surveyors Creek RTA '	AGD	56	362770	6366329	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.53	-32.83
38-4-0812	Surveyors Creek RTA !	AGD	56	362933	6365956	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0813	Swamp Creek RTA 1	GDA	56	363720	6367069	Open site	Valid		Artefact : 23		Umwelt (Australia) Pty L	101116,102113	2096,2562	151.54	-32.83
38-4-0816	Wallis Creek RTA 3	AGD	56	363615	6366879	Open site	Valid		Grinding Groove : -		Umwelt (Australia) Pty Limited - Individual users,Leila McAdam			151.54	-32.83
38-4-0823	PAD3 Surveyors Creek	AGD	56	363136	6365755	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096		151.54	-32.84
38-4-0824	Surveyors Creek RTA !	AGD	56	363578	6364579	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.54	-32.85
38-4-0825	Surveyors Creek RTA '	AGD	56	364946	6362924	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.56	-32.86
38-4-0826	Surveyors Creek RTA '	AGD	56	365509	6362290	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.56	-32.87
38-4-1047	Bloomfield 22	GDA	56	364820	6368380	Open site	Destroyed		Artefact : 2		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1048	Bloomfield 20	GDA	56	364780	6368530	Open site	Destroyed		Artefact : 4		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1049	Bloomfield 18	GDA	56	364580	6368530	Open site	Destroyed		Artefact : 18		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1050	Bloomfield 16	GDA	56	364750	6369020	Open site	Destroyed		Artefact : 1		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1051	Bloomfield 2	GDA	56	365140	6369510	Open site	Destroyed		Artefact : 1		Mr.Peter Kuskie,South East Archaeology			151.56	-32.80
38-4-1060	Bloomfield 19	GDA	56	364630	6368460	Open site	Destroyed		Artefact : 15		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1061	TN13	GDA	56	364201	6366100	Open site	Valid		Artefact : 104		Mr.Peter Kuskie			151.55	-32.83
38-4-0400	Surveyors Creek;	AGD	56	363290	6365300	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	3169,102135		151.54	-32.84
38-4-1151	Louth Park 1(LP1)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 5		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1152	Louth Park 2 (LP2)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 1		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1611	Surveyors Creek RTA ;	GDA	56	364790	6362974	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1612	Surveyors Creek RTA ;	GDA	56	364686	6363050	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1613	Surveyors Creek RTA ;	GDA	56	364575	6363185	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1614	Surveyors Creek RTA ;	GDA	56	364528	6363225	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1469	Surveyors Creek RTA ;	GDA	56	362241	6366487	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1386	Tasman Extension 1/A	GDA	56	363395	6363025	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.86
38-4-1387	Tasman Extension 1/B	GDA	56	363529	6362864	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Leigh Bate			151.54	-32.86
38-4-1388	Tasman Extension 10/	GDA	56	363472	6362509	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.87
38-4-1389	Tasman Extension 29/	GDA	56	363324	6361824	Open site	Valid		Artefact : 1		Mr.Stephen Mark Free			151.54	-32.87
38-4-1390	Tasman Extension 32/	GDA	56	363165	6361691	Open site	Valid		Grinding Groove : 12		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.87
38-4-1391	Tasman Extension 34/	GDA	56	362916	6361861	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Leigh Bate			151.53	-32.87
38-4-1392	Tasman Extension 39/	GDA	56	363211	6361246	Closed si	Valid		Potential Archaeological Deposit (PAD) : 1		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.88
38-4-1393	Tasman Extension 41/	GDA	56	363034	6361176	Open site	Valid		Grinding Groove : 1		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.88
38-4-1399	Tasman Extension 50/	GDA	56	362415	6361701	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Leigh Bate			151.53	-32.87
38-4-1400	Tasman Extension 51/	GDA	56	361975	6361038	Open site	Valid		Artefact : 5		South East Archaeology,Mr.Leigh Bate			151.52	-32.88
38-4-2012	BM1..	GDA	56	362402	6367185	Open site	Valid		Artefact : -		Mrs.Angela Besant,Insite Heritage Pty Ltd			151.53	-32.82
38-4-1997	TH-PAD-002	GDA	56	361760	6372040	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Kayandel Archaeological Services,Miss.Meg W	4580		151.52	-32.78
38-4-0160	Buttai 1	AGD	56	364200	6365700	Closed si	Valid		Grinding Groove : -, Art Axe Grinding Groove,S		Pam Dean-Jones,Janet	1674,102135		151.55	-32.84
38-4-0411	BQ2;	AGD	56	364540	6362920	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	98165,98218,102135		151.55	-32.86
38-4-0412	BQ1 / Surveyors Creek	AGD	56	364588	6363348	Open site	Valid		Artefact : 1	Open Camp Site	Umwelt (Australia) Pty L	98165,98218,102135	2037,2102	151.55	-32.86
38-4-0413	BQ3;	AGD	56	364900	6364250	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	102135		151.56	-32.85
38-4-0415	BQ4;	AGD	56	365040	6364130	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	102135	822	151.56	-32.85
38-4-0974	Wallis Creek 2	AGD	56	362440	6361318	Open site	Valid	Searle	Artefact : 4		Ms.Tudur Llwyd Davies			151.53	-32.88
38-4-0975	Wallis Creek 1	AGD	56	362624	6361265	Open site	Valid	Searle	Aboriginal Resource and Gathering : 1		Ms.Tudur Llwyd Davies			151.53	-32.88
38-4-0977	Mount Sugarloaf 2	AGD	56	365159	6360933	Open site	Valid	Searle	Artefact : 4		Ms.Tudur Llwyd Davies	100062	2520,2718	151.56	-32.88
38-4-1186	Orica AS	AGD	56	363136	6363127	Open site	Valid		Artefact : 3		Ms.Amanda Reynolds			151.54	-32.86
38-4-1633	Bloomfield 17	GDA	56	364694	6368939	Open site	Valid		Artefact : -		South East Archaeology			151.55	-32.81
38-4-1690	Surveyors Creek RTA ;	GDA	56	362172	6366481	Open site	Valid		Artefact : -		Ms.Amanda Reynolds			151.53	-32.83
38-4-1862	Worimi RVA 022	GDA	56	362989	6364870	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.54	-32.85
38-4-1866	Worimi RVA 026	GDA	56	362269	6364599	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.53	-32.85

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594177

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Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-1029	Kingston-Wentworth C	AGD	56	372785	6361016	Open site	Valid	S Scanlon	Artefact : -		Pam Dean-Jones	102568,103383	2829	151.64	-32.88
38-4-1338	MLR 1	GDA	56	371295	6359396	Open site	Valid		Grinding Groove : -		Doctor.Tim Owen,ERM Australia Pty Ltd- Sydney CBD			151.62	-32.90
38-4-1339	MLR 2	GDA	56	372124	6359288	Open site	Destroyed		Artefact : 12		Ms.Penny Mccardle,Doctor.Tim Owen,ERM Australia Pty Ltd- Sydney C			151.63	-32.90
38-4-1344	RPS MF1	GDA	56	372101	6363724	Open site	Partially Destroyed		Artefact : 2, Potential Archaeological Deposit (P		RPS Australia East Pty	103620	3452	151.63	-32.86
38-4-1783	MDS1(Minmi Developn	GDA	56	371321	6361512	Open site	Valid		Artefact : -		MCH - McCardle Cultural Heritage Pty Ltd,Ms.P	4354		151.62	-32.88
38-4-1736	OE-OS-01	GDA	56	372165	6361992	Open site	Valid		Artefact : -		Ms.Jenni Bate	103383		151.63	-32.87
38-4-1780	Lenaghan AS3	GDA	56	371941	6363815	Open site	Destroyed		Artefact : -		Mr.John Simpson,Mr.Jo	103620		151.63	-32.86
38-4-1781	Lenaghan AS4	GDA	56	372167	6363703	Open site	Valid		Artefact : -		Mr.John Simpson	103620		151.63	-32.86
38-4-1782	Lenaghan Artefact Kee	GDA	56	372272	6363687	Open site	Valid		Artefact : -		Mr.John Simpson			151.63	-32.86
38-4-1752	Minmi Development Sit	GDA	56	371388	6361567	Open site	Valid		Artefact : -, Potential Archaeological Deposit (P		MCH - McCardle Cultural Heritage Pty Ltd,Ms.P	4354		151.63	-32.88
38-5-0189	NL-IF-1	AGD	56	369839	6358948	Open site	Valid		Artefact : -	Isolated Find	Mary Dallas Consulting	98458,98459	3602	151.61	-32.90
38-4-0792	MR-05-1	AGD	56	371869	6361638	Open site	Valid	T Russell	Artefact : -		Mrs.Robynne Mills	98834,100793,102568,	2252	151.63	-32.87
38-4-0793	MR-05-3	AGD	56	372238	6361771	Open site	Valid	T Russell	Artefact : -		Mrs.Robynne Mills	98834,102568,102613,	2252	151.64	-32.87
38-4-0794	MR-05-4	AGD	56	372531	6361473	Open site	Valid		Artefact : -		Mrs.Robynne Mills	98834,100793,102568,	2252	151.64	-32.88
38-4-0795	MR-0S-2	AGD	56	372030	6362002	Open site	Valid	T Russell	Artefact : 15		Mrs.Robynne Mills	100793,102568,102613,103383		151.63	-32.87
38-4-1072	NR-OCS-4	GDA	56	373040	6361900	Open site	Valid		Artefact : -		Mrs.Robynne Mills	97813,102568,103383		151.64	-32.87
38-4-0070	Minmi Road	AGD	56	370266	6363377	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw			151.61	-32.86
38-4-1519	SANCTUAARY - ESTA	GDA	56	372744	6362863	Open site	Valid		Artefact : 1, Non-Human Bone and Organic Mat		Awabakal LALC	103383		151.64	-32.86
38-4-1602	AS1 FLETCHER	GDA	56	372283	6361002	Open site	Valid		Artefact : 1		Awabakal LALC,Mr.Pet	103383		151.63	-32.88
38-4-1377	Lenaghans AS1	GDA	56	372199	6363630	Open site	Partially Destroyed		Artefact : -		Ms.Mary-Jean Sutton,I	103620	3452	151.63	-32.86
38-4-1378	Lenaghans AS2	GDA	56	372246	6363538	Open site	Partially Destroyed		Artefact : -		Ms.Mary-Jean Sutton,I	103620	3452	151.63	-32.86
38-4-2010	Hidden Waters Stage 9	GDA	56	372139	6361284	Open site	Valid		Artefact : -		MCH - McCardle Cultural Heritage Pty Ltd,Ms.P	4430		151.63	-32.88
38-4-0376	ISF3/ISF4;	AGD	56	372050	6365250	Open site	Valid		Artefact : -	Open Camp Site	Sue Effenberger	100898,102222,10256	1057,1083	151.63	-32.84
38-4-0557	M-GG-2	AGD	56	372240	6361140	Open site	Valid		Grinding Groove : -		Gavin Martin	102568,103383		151.64	-32.88
38-4-0553	M-GG-1	AGD	56	372190	6361120	Open site	Valid		Grinding Groove : -		Australian Museum Cor	102568,103383		151.63	-32.88
38-4-0555	M-1F-1	AGD	56	371840	6361170	Open site	Valid		Artefact : -		Australian Museum Cor	103383		151.63	-32.88
38-4-0556	M-GG-3	AGD	56	372310	6361140	Open site	Valid		Grinding Groove : -		Australian Museum Cor	102568,103383		151.64	-32.88
38-4-1923	Richmond Vale Rail Tr	GDA	56	372644	6362761	Open site	Valid		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.64	-32.87
38-4-1880	RVRT AS7	GDA	56	372625	6362695	Open site	Not a Site		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.64	-32.87
38-4-1792	Yutilliko (AHCA 1 Sanc	GDA	56	372710	6362286	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Alison Lamond			151.64	-32.87
38-4-2057	WR Maryland Creek Tf	GDA	56	372483	6359072	Open site	Valid		Modified Tree (Carved or Scarred) : -		Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic u			151.64	-32.90

Report generated by AHIMS Web Service on 27/05/2021 for Steph Howden for the following area at Datum :GDA, Zone : 56, Eastings : 369544 - 373041, Northings : 6358917 - 6365518 with a Buffer of 0 meters. Additional Info : ACHA background. Number of Aboriginal sites and Aboriginal objects found is 31

Office of Environment & Heritage

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594172

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Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0665	FMC3 Donaldson Mine	AGD	56	368300	6368900	Open site	Valid		Artefact : 5, Grinding Groove : 1		Sue Effenberger	98344		151.59	-32.81
38-4-0666	FMC4 Donaldson Mine	AGD	56	368250	6368650	Open site	Valid		Artefact : 2		Sue Effenberger	98344	2809,3011	151.59	-32.81
38-4-0667	FMC5 Donaldson Mine	AGD	56	368500	6368700	Open site	Valid		Artefact : 3		Sue Effenberger	98344		151.60	-32.81
38-4-0668	FMC6 Donaldson Mine	AGD	56	368400	6366100	Open site	Valid		Artefact : 5		Sue Effenberger	98344		151.60	-32.83
38-4-0669	FMC7 Donaldson Mine	AGD	56	367600	6366500	Open site	Valid		Artefact : 3		Sue Effenberger	98344		151.59	-32.83
38-4-0670	FMC8 Donaldson Mine	AGD	56	367600	6366850	Open site	Valid		Modified Tree (Carved or Scarred) : 1		Sue Effenberger	98344		151.59	-32.83
38-4-0672	ISF3 Donaldson Mine	AGD	56	368700	6368625	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	98344		151.60	-32.81
38-4-0640	Donaldson Monitoring S	AGD	56	368649	6368181	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	100960		151.60	-32.81
38-4-0620	Donaldson Monitoring S	AGD	56	369090	6367962	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	100960	1902	151.60	-32.82
38-4-0759	Sugarloaf Range 1 Arte	AGD	56	368369	6360333	Open site	Valid		Artefact : -, Potential Archaeological Deposit (P		Umwelt (Australia) Pty Limited - Individual users		1940,1944	151.59	-32.89
38-4-0760	Blue Gum Creek 1 Arte	AGD	56	366987	6360938	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users		1940,1944	151.58	-32.88
38-4-0761	Blue Gum Creek 2 Arte	AGD	56	366834	6360928	Open site	Valid		Artefact : 4		Umwelt (Australia) Pty Limited - Individual users		1940,1944	151.58	-32.88
38-4-0762	Blue Gum Creek 3 Isol	AGD	56	365827	6361018	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users		1940,1944	151.57	-32.88
38-4-0763	Blue Gum Creek 4 Arte	AGD	56	366320	6361101	Open site	Valid		Artefact : 2, Potential Archaeological Deposit (P		Umwelt (Australia) Pty Limited - Individual users		1940,1944	151.57	-32.88
38-4-1009	F2/A	AGD	56	368810	6366880	Open site	Valid	T Russell	Artefact : 2		South East Archaeology			151.60	-32.83
38-4-1010	A17/C	AGD	56	367920	6369120	Open site	Valid	T Russell	Artefact : -		South East Archaeology			151.59	-32.81
38-4-1011	A15/1	AGD	56	367770	6369590	Open site	Valid	T Russell	Artefact : 10		South East Archaeolog	102388		151.59	-32.80
38-4-1012	A7/A	AGD	56	366730	6370500	Open site	Valid	T Russell	Artefact : 1		South East Archaeolog	102388		151.58	-32.79
38-4-0984	A17/A	AGD	56	368090	6369580	Open site	Valid	T Russell	Artefact : -, Grinding Groove : -		Mr.Edward Clarke			151.59	-32.80
38-4-0985	Abel 1	AGD	56	367720	6364240	Open site	Valid		Artefact : -, Grinding Groove : -		Mr.Peter Kuskie			151.59	-32.85
38-4-0986	Abel 2	AGD	56	367400	6364140	Open site	Valid	T Russell	Artefact : -, Grinding Groove : -		Mr.Peter Kuskie			151.58	-32.85
38-4-0987	A22/A	AGD	56	368730	6367650	Open site	Valid	T Russell	Artefact : -, Grinding Groove : -		Mr.Edward Clarke			151.60	-32.82
38-4-1014	A17/B	AGD	56	367690	6369200	Open site	Valid	T Russell	Artefact : 2		Mr.Edward Clarke	102388		151.59	-32.81
38-4-1008	A21/A	AGD	56	368510	6368460	Open site	Valid	T Russell	Artefact : 3		South East Archaeology			151.60	-32.81
38-4-1363	Minmi Creek RTA 3 IF	GDA	56	368369	6359467	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.59	-32.90
38-4-1364	Minmi Creek RTA 4 IF	GDA	56	368588	6359792	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.60	-32.89
38-4-1351	Blue Gum Creek RTA 1	GDA	56	367407	6361266	Open site	Valid		Shell : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.58	-32.88
38-4-1352	Blue Gum Creek RTA 5	GDA	56	367920	6361562	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.88
38-4-1353	Blue Gum Creek RTA 2	GDA	56	367559	6361529	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.58	-32.88
38-4-1354	Blue Gum Creek RTA 3	GDA	56	367780	6361896	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.87
38-4-1355	Blue Gum Creek RTA 4	GDA	56	367278	6361967	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.58	-32.87
38-4-1356	Blue Gum Creek RTA 6	GDA	56	367608	6361900	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.58	-32.87
38-4-1357	Blue Gum Creek RTA 7	GDA	56	367675	6361884	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.87
38-4-1358	Minmi Creek RTA 2	GDA	56	368700	6360268	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.60	-32.89
38-4-1359	Surveyors Creek RTA 1	GDA	56	366505	6361705	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.57	-32.87
38-4-1348	Blue Gum Creek RTA 4	GDA	56	367873	6361570	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.88
38-4-1349	Blue Gum Creek RTA 5	GDA	56	367854	6361479	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.88
38-4-1350	Blue Gum Creek RTA 6	GDA	56	367643	6361402	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.59	-32.88
38-4-1345	Minmi Creek RTA 1	GDA	56	367548	6360288	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Ms.Amanda Reynolds			151.58	-32.89
38-4-1346	Blue Gum Creek RTA 8	GDA	56	367880	6361503	Open site	Valid		Modified Tree (Carved or Scarred) : -		Ms.Amanda Reynolds			151.59	-32.88
38-4-1740	ABB64/A	GDA	56	366950	6365655	Closed si	Valid		Potential Archaeological Deposit (PAD) : -		Mr.Jason Barr			151.58	-32.84
38-4-0684	ERM site 1-3	AGD	56	368360	6367205	Open site	Destroyed		Artefact : -		ERM - Thornton		1695,1696	151.59	-32.82
38-4-0685	ERM site 5-6	AGD	56	369148	6367385	Open site	Destroyed		Artefact : -		ERM - Thornton		1695,1696	151.60	-32.82
38-4-0686	ERM site 4	AGD	56	369275	6367572	Open site	Destroyed		Artefact : -		ERM - Thornton		1695,1696	151.60	-32.82
38-4-0687	ERM site 7	AGD	56	366500	6367650	Open site	Destroyed		Artefact : -		ERM - Thornton		1695,1696	151.57	-32.82
38-4-0817	Blue Gum Creek 5 Grir	AGD	56	365898	6361380	Open site	Valid		Grinding Groove : 17		Umwelt (Australia) Pty Limited - Individual users,Leila McAdam			151.57	-32.88
38-4-0818	Isolated Find 5	AGD	56	368420	6360120	Open site	Valid		Artefact : 1		Helen Brayshaw,Umwelt (Australia) Pty Limited - Individual users,Leila I			151.59	-32.89
38-4-0820	Restriction applied. Ple					Open site	Deleted				Umwelt (Australia) Pty Limited - Individual users,Leila McAdam				
38-4-1136	HLA Risk Assessment	AGD	56	368563	6369052	Open site	Valid		Artefact : 1		AECOM Australia Pty Ltd - Sydney		2809,3011	151.60	-32.81
38-4-1470	Minmi Creek RTA 5	GDA	56	368473	6360564	Open site	Destroyed		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.59	-32.89
38-4-1471	Minmi Creek 1 Grindin	GDA	56	368832	6360360	Open site	Valid		Grinding Groove : 2		Umwelt (Australia) Pty Limited - Individual users,Mr.Julian Travaglia			151.60	-32.89
38-4-1526	Stockrington IF 1	GDA	56	367602	6362633	Open site	Destroyed		Artefact : 1		Miss.Steph Howden		3541	151.58	-32.87
38-4-1495	AMC5/A	GDA	56	367641	6364252	Open site	Valid		Artefact : 1		South East Archaeology			151.59	-32.85
38-4-1496	AMC10/A	GDA	56	366935	6363192	Open site	Valid		Grinding Groove : 10		South East Archaeology			151.58	-32.86
38-4-1497	AMC12/A	GDA	56	367576	6363045	Open site	Valid		Modified Tree (Carved or Scarred) : 1		South East Archaeology			151.58	-32.86
38-4-1498	AMC16/A	GDA	56	367903	6363467	Open site	Valid		Grinding Groove : 3		South East Archaeology			151.59	-32.86
38-4-1499	AMC2/A	GDA	56	367343	6364155	Open site	Valid		Grinding Groove : 9		South East Archaeology			151.58	-32.85
38-4-1500	AMC2/B	GDA	56	367340	6364645	Closed si	Valid		Habitation Structure : 1		South East Archaeology			151.58	-32.85
38-4-1501	AMC2/C	GDA	56	367624	6364425	Open site	Valid		Grinding Groove : 1		South East Archaeology			151.59	-32.85
38-4-1502	AMC2/D	GDA	56	367346	6364645	Open site	Valid		Modified Tree (Carved or Scarred) : 1		South East Archaeology			151.58	-32.85
38-4-1503	AMA2/A	GDA	56	368590	6366390	Open site	Valid		Artefact : 6		South East Archaeology			151.60	-32.83
38-4-1504	AMA2/B	GDA	56	368703	6366603	Open site	Valid		Artefact : 3		South East Archaeology			151.60	-32.83
38-4-1505	AMA2/C	GDA	56	368640	6366511	Open site	Valid		Artefact : 1		South East Archaeology			151.60	-32.83
38-4-1506	AMB1/A	GDA	56	369242	6364779	Open site	Valid		Grinding Groove : 2		South East Archaeology			151.60	-32.85
38-4-0137	Site 3 (Newcaslte, Wes	AGD	56	366750	6358750	Open site	Valid		Artefact : -	Open Camp Site	Denise Donlon	1022,1221,98165,98218		151.58	-32.90
38-4-0138	Site 4;	AGD	56	367900	6359200	Open site	Valid		Stone Arrangement : -	Stone Arrangement	Denise Donlon	1221,98165,98218,100916		151.59	-32.90
38-4-0139	Four Mile Creek 1;	AGD	56	368130	6367020	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	580,1221		151.59	-32.83
38-4-0140	Four Mile Creek 2;	AGD	56	367820	6366880	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	580,1221		151.59	-32.83
38-4-0158	Reynolds Rock.;	AGD	56	366250	6364610	Open site	Valid		Grinding Groove : -	Axe Grinding Groove	Warren Bluff	1333		151.57	-32.85
38-4-0297	George Booth 3;	AGD	56	366820	6358900	Open site	Valid		Artefact : -	Isolated Find	Anne Lloyd	607,2067,98165,98218	390	151.58	-32.90
38-4-0222	Blue Gum Creek;	AGD	56	367250	6361340	Open site	Valid		Grinding Groove : -	Axe Grinding Groove	Warren Bluff	1333,98165,98218,102164		151.58	-32.88
38-4-0235	Blue Gum Creek Grind	AGD	56	366040	6361050	Open site	Valid		Grinding Groove : -	Axe Grinding Groove	Warren Bluff,Umwelt (A	1333,98165,98218,102164		151.57	-32.88

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594172

Note: This Excel report shows the sites found in AHIMS on the 27/05/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0236	Blue Gum Creek Grind	AGD	56	365990	6361050	Open site	Valid		Grinding Groove : 6	Axe Grinding Groove	Warren Bluff,Umwelt (A	1333,98165,98218,102164		151.57	-32.88
38-4-0338	Ironbark 1;	AGD	56	367590	6369690	Open site	Valid		Artefact : -	Isolated Find	Ms.Jill Ruig	2681,102388		151.59	-32.80
38-4-0339	Ironbark 2;	AGD	56	369190	6367890	Open site	Valid		Artefact : -	Isolated Find	Ms.Jill Ruig	2681	1902	151.60	-32.82
38-4-0341	Black Hill Quarry 1;	AGD	56	369240	6364730	Open site	Valid		Artefact : -	Isolated Find	Ms.Jill Ruig	2746		151.60	-32.85
38-4-0392	Seahampton 3 Grindin	AGD	56	368320	6360090	Open site	Deleted		Grinding Groove : -	Axe Grinding Groove	Doctor.Julie Dibden,Un	98165,98218,101113		151.59	-32.89
38-4-0393	Seahampton 2 Grindin	AGD	56	368680	6359980	Open site	Valid		Grinding Groove : 6	Axe Grinding Groove	Doctor.Julie Dibden,Un	98165,98218		151.60	-32.89
38-4-0394	Seahampton 1 Grindin	AGD	56	368470	6359680	Open site	Valid		Grinding Groove : 17	Axe Grinding Groove	Doctor.Julie Dibden,Un	98165,98218		151.59	-32.89
38-4-0106	Black Hill Open Site;	AGD	56	367450	6365400	Open site	Valid		Artefact : -	Open Camp Site	Shelly Greer			151.58	-32.84
38-4-0109	Stockrington Grooves;	AGD	56	366380	6360280	Open site	Valid		Grinding Groove : -	Axe Grinding Groove	G Happ	98165,98218		151.57	-32.89
38-4-0852	Restriction applied. Ple					Open site	Valid	T Russell			Awabakal LALC				
38-4-0976	Mount Sugarloaf 1	AGD	56	366335	6360331	Open site	Valid	Searle	Artefact : 6		Ms.Tudur Llwyd Davies	100062	2520,2718	151.57	-32.89
38-4-0958	A20/C	AGD	56	368730	6367910	Open site	Valid	S Scanlon	Aboriginal Resource and Gathering : 1		Mr.Edward Clarke			151.60	-32.82
38-4-0959	A20/A	AGD	56	368570	6368450	Open site	Valid	S Scanlon	Artefact : 1		Mr.Edward Clarke			151.60	-32.81
38-4-0979	F1/C	AGD	56	368270	6366880	Open site	Valid		Artefact : -		Mr.Edward Clarke			151.59	-32.83
38-4-0980	F1/B	AGD	56	368230	6366600	Open site	Valid		Artefact : -		Mr.Edward Clarke			151.59	-32.83
38-4-0981	F1/A	AGD	56	368760	6367030	Open site	Valid		Artefact : -, Grinding Groove : -		Mr.Edward Clarke			151.60	-32.83
38-4-0955	Slatey Creek 1	AGD	56	366030	6359200	Open site	Valid	Searle	Artefact : 3		Umwelt (Australia) Pty Limited - Individual users			151.57	-32.90
38-4-1791	SMP4/83/A	GDA	56	368106	6365782	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Jason Barr			151.59	-32.84
38-4-1911	Richmond Vale Rail Tra	GDA	56	368695	6362819	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.86
38-4-1912	Richmond Vale Rail Tra	GDA	56	368897	6362975	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.86
38-4-1913	Richmond Vale Rail Tra	GDA	56	369122	6363174	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.86
38-4-1823	RPS MY MD1	GDA	56	369143	6366997	Open site	Valid		Shell : -		RPS Australia East Pty Ltd - Hamilton,Mr.Ben Slack			151.60	-32.83
38-4-1924	Richmond Vale Rail Tra	GDA	56	368898	6362819	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.86
38-4-1825	AMD36/A	GDA	56	366460	6363412	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Corey O'Driscoll			151.57	-32.86
38-4-1826	AMD54/A	GDA	56	366883	6362807	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		South East Archaeology,Mr.Jason Barr			151.58	-32.86
38-4-1827	AMD138/A	GDA	56	368364	6362255	Open site	Valid		Grinding Groove : 1		South East Archaeology,Mr.Corey O'Driscoll			151.59	-32.87
38-4-1828	AMD203/A	GDA	56	368172	6364928	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		South East Archaeology,Mr.Corey O'Driscoll			151.59	-32.85
38-4-1829	AMD244/A	GDA	56	367952	6364488	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		South East Archaeology,Ms.Frances Wiig			151.59	-32.85
38-4-1830	AMD284/A	GDA	56	368183	6363637	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		South East Archaeology,Mr.Jason Barr			151.59	-32.86
38-4-1915	Richmond Vale Rail Tra	GDA	56	368981	6363059	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.86
38-4-1916	Richmond Vale Rail Tra	GDA	56	368604	6362742	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.60	-32.87
38-4-1921	Richmond Vale Rail Tra	GDA	56	367812	6361459	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.59	-32.88
38-4-1809	Hunter River AS2 with	GDA	56	368904	6368061	Open site	Valid		Artefact : 1, Potential Archaeological Deposit (F		Virtus Heritage - Pottsville,Mrs.Mary-Jean Sutto	4421		151.60	-32.82
38-4-1877	RVRT AS4	GDA	56	368985	6363067	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.86
38-4-1878	RVRT AS5	GDA	56	368897	6362975	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.86
38-4-1879	RVRT AS6	GDA	56	368604	6362742	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.87
38-4-1884	RVRT IF4	GDA	56	369122	6363174	Open site	Not a Site		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.86
38-4-1885	RVRT IF5	GDA	56	368898	6362819	Open site	Not a Site		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.86
38-4-1886	RVRT IF6	GDA	56	368695	6362819	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.60	-32.86
38-4-1887	RVRT IF7	GDA	56	367812	6361459	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.59	-32.88

Report generated by AHIMS Web Service on 27/05/2021 for Steph Howden for the following area at Datum :GDA, Zone : 56, Eastings : 365782 - 369544, Northings : 6358917 - 6371360 with a Buffer of 0 meters. Additional Info : ACHA background. Number of Aboriginal sites and Aboriginal objects found is 112

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594162

Note: This Excel report shows the sites found in AHIMS on the 27/05/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0656	John Renshaw Drive 4	AGD	56	363150	6366750	Open site	Destroyed		Artefact : 2		Leila McAdam	98229	1695,1696	151.54	-32.83
38-4-0657	John Renshaw Drive 5	AGD	56	364586	6367409	Open site	Destroyed		Artefact : 10		Umwelt (Australia) Pty L	98229	1695,1696	151.55	-32.82
38-4-1360	Surveyors Creek RTA	GDA	56	363510	6364700	Open site	Destroyed		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1361	Surveyors Creek RTA	GDA	56	363487	6364657	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1362	Surveyors Creek RTA	GDA	56	363417	6364627	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1326	Surveyors Creek RTA	GDA	56	362126	6366877	Open site	Partially Destroyed		Artefact : 57		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1327	Surveyors Creek RTA1	GDA	56	362260	6366691	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1328	Surveyors Creek RTA1	GDA	56	362302	6366840	Open site	Destroyed		Artefact : 19		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1329	Surveyors Creek RTA2	GDA	56	362277	6366878	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1735	LP3	GDA	56	363979	6372660	Open site	Valid		Modified Tree (Carved or Scarred) : -		Ms.Viki Gordon			151.55	-32.78
38-4-0805	Surveyors Creek RTA	AGD	56	363260	6365500	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0806	Surveyors Creek RTA	AGD	56	363592	6364893	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0809	Surveyors Creek RTA	AGD	56	364572	6363160	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.55	-32.86
38-4-0810	Surveyors Creek RTA	AGD	56	362944	6366711	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0811	Surveyors Creek RTA	AGD	56	362770	6366329	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.53	-32.83
38-4-0812	Surveyors Creek RTA	AGD	56	362933	6365956	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0813	Swamp Creek RTA 1	GDA	56	363720	6367069	Open site	Valid		Artefact : 23		Umwelt (Australia) Pty L	101116,102113	2096,2562	151.54	-32.83
38-4-0816	Wallis Creek RTA 3	AGD	56	363615	6366879	Open site	Valid		Grinding Groove : -		Umwelt (Australia) Pty Limited - Individual users,Leila McAdam			151.54	-32.83
38-4-0823	PAD3 Surveyors Creek	AGD	56	363136	6365755	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096		151.54	-32.84
38-4-0824	Surveyors Creek RTA	AGD	56	363578	6364579	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.54	-32.85
38-4-0825	Surveyors Creek RTA	AGD	56	364946	6362924	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.56	-32.86
38-4-1047	Bloomfield 22	GDA	56	364820	6368380	Open site	Destroyed		Artefact : 2		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1048	Bloomfield 20	GDA	56	364780	6368530	Open site	Destroyed		Artefact : 4		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1049	Bloomfield 18	GDA	56	364580	6368530	Open site	Destroyed		Artefact : 18		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1050	Bloomfield 16	GDA	56	364750	6369020	Open site	Destroyed		Artefact : 1		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1060	Bloomfield 19	GDA	56	364630	6368460	Open site	Destroyed		Artefact : 15		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1061	TN13	GDA	56	364201	6366100	Open site	Valid		Artefact : 104		Mr.Peter Kuskie			151.55	-32.83
38-4-0400	Surveyors Creek;	AGD	56	363290	6365300	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	3169,102135		151.54	-32.84
38-4-1151	Louth Park 1(LP1)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 5		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1152	Louth Park 2 (LP2)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 1		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1153	Louth Park PAD1 (LP F	GDA	56	363550	6372330	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		MCH - McCardle Cultur	101348,102231	4587	151.54	-32.78
38-4-1155	Louth Park PAD3 (LP F	GDA	56	363800	6372400	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		MCH - McCardle Cultur	101348,102231		151.55	-32.78
38-4-1611	Surveyors Creek RTA	GDA	56	364790	6362974	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1612	Surveyors Creek RTA	GDA	56	364686	6363050	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1613	Surveyors Creek RTA	GDA	56	364575	6363185	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1614	Surveyors Creek RTA	GDA	56	364528	6363225	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1469	Surveyors Creek RTA	GDA	56	362241	6366487	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1386	Tasman Extension 1/A	GDA	56	363395	6363025	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.86
38-4-1387	Tasman Extension 1/B	GDA	56	363529	6362864	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Leigh Bate			151.54	-32.86
38-4-1388	Tasman Extension 10/	GDA	56	363472	6362509	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.87
38-4-2012	BM1..	GDA	56	362402	6367185	Open site	Valid		Artefact : -		Mrs.Angela Besant,Insite Heritage Pty Ltd			151.53	-32.82
38-4-0160	Buttai 1	AGD	56	364200	6365700	Closed si	Valid		Grinding Groove : -, Art Axe Grinding Groove,S		Pam Dean-Jones,Janet	1674,102135		151.55	-32.84
38-4-0411	BQ2;	AGD	56	364540	6362920	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	98165,98218,102135		151.55	-32.86
38-4-0412	BQ1 / Surveyors Creek	AGD	56	364588	6363348	Open site	Valid		Artefact : 1	Open Camp Site	Umwelt (Australia) Pty L	98165,98218,102135	2037,2102	151.55	-32.86
38-4-0413	BQ3;	AGD	56	364900	6364250	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	102135		151.56	-32.85
38-4-1186	Orica AS	AGD	56	363136	6363127	Open site	Valid		Artefact : 3		Ms.Amanda Reynolds			151.54	-32.86
38-4-1633	Bloomfield 17	GDA	56	364694	6368939	Open site	Valid		Artefact : -		South East Archaeology			151.55	-32.81
38-4-1690	Surveyors Creek RTA	GDA	56	362172	6366481	Open site	Valid		Artefact : -		Ms.Amanda Reynolds			151.53	-32.83
38-4-1862	Worimi RVA 022	GDA	56	362989	6364870	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.54	-32.85
38-4-1866	Worimi RVA 026	GDA	56	362269	6364599	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.53	-32.85

Report generated by AHIMS Web Service on 27/05/2021 for Steph Howden for the following area at Datum :GDA, Zone : 56, Eastings : 362091 - 365091, Northings : 6361928 - 6372661 with a Buffer of 0 meters. Additional Info : ACHA background. Number of Aboriginal sites and Aboriginal objects found is 50

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594162

Note: This Excel report shows the sites found in AHIMS on the 27/05/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0656	John Renshaw Drive 4	AGD	56	363150	6366750	Open site	Destroyed		Artefact : 2		Leila McAdam	98229	1695,1696	151.54	-32.83
38-4-0657	John Renshaw Drive 5	AGD	56	364586	6367409	Open site	Destroyed		Artefact : 10		Umwelt (Australia) Pty L	98229	1695,1696	151.55	-32.82
38-4-1360	Surveyors Creek RTA	GDA	56	363510	6364700	Open site	Destroyed		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1361	Surveyors Creek RTA	GDA	56	363487	6364657	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1362	Surveyors Creek RTA	GDA	56	363417	6364627	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.54	-32.85
38-4-1326	Surveyors Creek RTA	GDA	56	362126	6366877	Open site	Partially Destroyed		Artefact : 57		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1327	Surveyors Creek RTA1	GDA	56	362260	6366691	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1328	Surveyors Creek RTA1	GDA	56	362302	6366840	Open site	Destroyed		Artefact : 19		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1329	Surveyors Creek RTA2	GDA	56	362277	6366878	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1735	LP3	GDA	56	363979	6372660	Open site	Valid		Modified Tree (Carved or Scarred) : -		Ms.Viki Gordon			151.55	-32.78
38-4-0805	Surveyors Creek RTA	AGD	56	363260	6365500	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0806	Surveyors Creek RTA	AGD	56	363592	6364893	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.84
38-4-0809	Surveyors Creek RTA	AGD	56	364572	6363160	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.55	-32.86
38-4-0810	Surveyors Creek RTA	AGD	56	362944	6366711	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0811	Surveyors Creek RTA	AGD	56	362770	6366329	Open site	Valid		Artefact : 2		Umwelt (Australia) Pty Limited - Individual users	2102		151.53	-32.83
38-4-0812	Surveyors Creek RTA	AGD	56	362933	6365956	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users	2102		151.54	-32.83
38-4-0813	Swamp Creek RTA 1	GDA	56	363720	6367069	Open site	Valid		Artefact : 23		Umwelt (Australia) Pty L	101116,102113	2096,2562	151.54	-32.83
38-4-0816	Wallis Creek RTA 3	AGD	56	363615	6366879	Open site	Valid		Grinding Groove : -		Umwelt (Australia) Pty Limited - Individual users,Leila McAdam			151.54	-32.83
38-4-0823	PAD3 Surveyors Creek	AGD	56	363136	6365755	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096		151.54	-32.84
38-4-0824	Surveyors Creek RTA	AGD	56	363578	6364579	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.54	-32.85
38-4-0825	Surveyors Creek RTA	AGD	56	364946	6362924	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users	2096,2562		151.56	-32.86
38-4-1047	Bloomfield 22	GDA	56	364820	6368380	Open site	Destroyed		Artefact : 2		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1048	Bloomfield 20	GDA	56	364780	6368530	Open site	Destroyed		Artefact : 4		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1049	Bloomfield 18	GDA	56	364580	6368530	Open site	Destroyed		Artefact : 18		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1050	Bloomfield 16	GDA	56	364750	6369020	Open site	Destroyed		Artefact : 1		Mr.Peter Kuskie,South East Archaeology			151.56	-32.81
38-4-1060	Bloomfield 19	GDA	56	364630	6368460	Open site	Destroyed		Artefact : 15		Mr.Peter Kuskie,South East Archaeology			151.55	-32.81
38-4-1061	TN13	GDA	56	364201	6366100	Open site	Valid		Artefact : 104		Mr.Peter Kuskie			151.55	-32.83
38-4-0400	Surveyors Creek;	AGD	56	363290	6365300	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	3169,102135		151.54	-32.84
38-4-1151	Louth Park 1(LP1)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 5		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1152	Louth Park 2 (LP2)	GDA	56	364435	6371717	Open site	Destroyed		Artefact : 1		MCH - McCardle Cultur	101348		151.55	-32.78
38-4-1153	Louth Park PAD1 (LP F	GDA	56	363550	6372330	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		MCH - McCardle Cultur	101348,102231	4587	151.54	-32.78
38-4-1155	Louth Park PAD3 (LP F	GDA	56	363800	6372400	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		MCH - McCardle Cultur	101348,102231		151.55	-32.78
38-4-1611	Surveyors Creek RTA	GDA	56	364790	6362974	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1612	Surveyors Creek RTA	GDA	56	364686	6363050	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1613	Surveyors Creek RTA	GDA	56	364575	6363185	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1614	Surveyors Creek RTA	GDA	56	364528	6363225	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.55	-32.86
38-4-1469	Surveyors Creek RTA	GDA	56	362241	6366487	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.53	-32.83
38-4-1386	Tasman Extension 1/A	GDA	56	363395	6363025	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.86
38-4-1387	Tasman Extension 1/B	GDA	56	363529	6362864	Open site	Valid		Artefact : 3		South East Archaeology,Mr.Leigh Bate			151.54	-32.86
38-4-1388	Tasman Extension 10/	GDA	56	363472	6362509	Open site	Valid		Artefact : 1		South East Archaeology,Mr.Stephen Mark Free			151.54	-32.87
38-4-2012	BM1..	GDA	56	362402	6367185	Open site	Valid		Artefact : -		Mrs.Angela Besant,Insite Heritage Pty Ltd			151.53	-32.82
38-4-0160	Buttai 1	AGD	56	364200	6365700	Closed si	Valid		Grinding Groove : -, Art Axe Grinding Groove,S		Pam Dean-Jones,Janet	1674,102135		151.55	-32.84
38-4-0411	BQ2;	AGD	56	364540	6362920	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	98165,98218,102135		151.55	-32.86
38-4-0412	BQ1 / Surveyors Creek	AGD	56	364588	6363348	Open site	Valid		Artefact : 1	Open Camp Site	Umwelt (Australia) Pty L	98165,98218,102135	2037,2102	151.55	-32.86
38-4-0413	BQ3;	AGD	56	364900	6364250	Open site	Valid		Artefact : -	Open Camp Site	Ms.Alison Nightingale	102135		151.56	-32.85
38-4-1186	Orica AS	AGD	56	363136	6363127	Open site	Valid		Artefact : 3		Ms.Amanda Reynolds			151.54	-32.86
38-4-1633	Bloomfield 17	GDA	56	364694	6368939	Open site	Valid		Artefact : -		South East Archaeology			151.55	-32.81
38-4-1690	Surveyors Creek RTA	GDA	56	362172	6366481	Open site	Valid		Artefact : -		Ms.Amanda Reynolds			151.53	-32.83
38-4-1862	Worimi RVA 022	GDA	56	362989	6364870	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.54	-32.85
38-4-1866	Worimi RVA 026	GDA	56	362269	6364599	Open site	Valid		Shell : 1		Mr.Warren Mayers			151.53	-32.85

Office of Environment & Heritage

AHIMS Web Services (AWS)

Your Ref/PO Number : 21450

Client Service ID : 594144

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Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
38-4-0654	John Renshaw Drive 2	AGD	56	360705	6366390	Open site	Destroyed		Artefact : 5		Leila McAdam	98229	1695,1696	151.51	-32.83
38-4-0655	John Renshaw Drive (J	AGD	56	360832	6366411	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty L	98229	1695,1696	151.51	-32.83
38-4-1303	RPS STANFORD MET	GDA	56	360240	6366913	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.51	-32.83
38-4-1305	RPS STANFORD MET	GDA	56	360124	6367312	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.51	-32.82
38-4-1306	STANFORD MERTHYI	GDA	56	359890	6367977	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.50	-32.82
38-4-1307	RPS STANFORD MET	GDA	56	359865	6366923	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.50	-32.83
38-4-1308	RPS STANFORD MET	GDA	56	359982	6368022	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.50	-32.82
38-4-1309	RPS STANFORD MET	GDA	56	360196	6368134	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.51	-32.82
38-4-1310	RPS STANFORD MET	GDA	56	360233	6368157	Open site	Valid		Artefact : -		RPS Australia East Pty Ltd - Hamilton,Ms.Laraine Nelson			151.51	-32.82
38-4-1365	Wallis Creek RTA 7	GDA	56	361275	6367160	Open site	Valid		Artefact : -		Kym McNamara,Umwelt (Australia) Pty Limited - Individual users			151.52	-32.82
38-4-1366	Wallis Creek RTA 8	GDA	56	360032	6368267	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.50	-32.81
38-4-1367	Wallis Creek RTA 9	GDA	56	359970	6368362	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.50	-32.81
38-4-1368	Wallis Creek RTA 10 IF	GDA	56	360221	6367962	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.51	-32.82
38-4-1369	Wallis Creek RTA 11 IF	GDA	56	360275	6367838	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.51	-32.82
38-4-1330	Wallis Creek RTA19IF	GDA	56	360092	6367526	Open site	Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden,Ms			151.51	-32.82
38-4-1331	Wallis Creek RTA20IF	GDA	56	360110	6367448	Open site	Destroyed		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden,Ms			151.51	-32.82
38-4-1332	Wallis Creek RTA21IF	GDA	56	360123	6367319	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.51	-32.82
38-4-1333	Wallis Creek RTA22IF	GDA	56	360116	6367307	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.51	-32.82
38-4-1334	Wallis Creek RTA23IF	GDA	56	359942	6367838	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.50	-32.82
38-4-1335	Wallis Creek RTA24IF	GDA	56	360006	6367695	Open site	Valid		Artefact : -		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.50	-32.82
37-6-0865	KK-IF-2	GDA	56	358141	6369492	Open site	Valid		Artefact : -	Isolated Find	Mrs.Robynne Mills,Miss	98174,102135		151.48	-32.80
37-6-0866	KK-IF-1	GDA	56	358157	6369780	Open site	Valid		Artefact : -	Isolated Find	Mrs.Robynne Mills,Miss	98174,102231		151.49	-32.80
38-4-0801	Wallis Creek RTA 4 IF	AGD	56	361437	6366577	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users		2102	151.52	-32.83
38-4-0802	Wallis Creek RTA 1	AGD	56	360886	6367033	Open site	Valid		Artefact : 3		Umwelt (Australia) Pty Limited - Individual users		2102	151.51	-32.82
38-4-0898	Cliftleigh 1	AGD	56	361284	6371336	Open site	Valid	T Russell	Artefact : 1		Ms.Penny Mccardle	102231,102388		151.52	-32.79
38-4-0814	Swamp Creek RTA 2	AGD	56	359614	6368267	Open site	Destroyed		Artefact : 6		Umwelt (Australia) Pty Limited - Individual users		2102	151.50	-32.81
37-6-1355	Swamp Creek RTA 3	AGD	56	359052	6369135	Open site	Valid		Artefact : 10		Umwelt (Australia) Pty L	102388	2102	151.50	-32.81
37-6-1357	Swamp Creek RTA 5 IF	AGD	56	358943	6368993	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	102388	2102	151.49	-32.81
37-6-1358	Swamp Creek RTA 6 IF	AGD	56	359229	6369057	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	102388	2102	151.50	-32.81
37-6-1359	Swamp Creek RTA 7 IF	AGD	56	358425	6369259	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	102388	2102	151.49	-32.80
37-6-1360	Swamp Creek RTA 8 IF	AGD	56	357269	6370282	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users		2102	151.48	-32.79
37-6-1361	Swamp Creek RTA 9	AGD	56	357005	6370549	Open site	Valid		Artefact : 7		Umwelt (Australia) Pty Limited - Individual users		2102	151.47	-32.79
38-4-0815	Wallis Creek RTA 2	AGD	56	360662	6366964	Open site	Valid		Artefact : 40		Umwelt (Australia) Pty L	101116,102113	2096,2562	151.51	-32.82
38-4-0821	Wallis Creek RTA 4 (fo	AGD	56	361056	6366940	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users		2096,2562	151.52	-32.83
38-4-0827	PAD7 Wallis Creek	AGD	56	360946	6366984	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users		2096	151.52	-32.82
38-4-0828	PAD8 Wallis Creek	AGD	56	360622	6366967	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty Limited - Individual users		2096,2562	151.51	-32.82
37-6-1362	Swamp Creek RTA 11	AGD	56	357630	6369700	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users		2096,2562	151.48	-32.80
37-6-1957	KK09	GDA	56	358372	6371638	Open site	Valid		Artefact : 1		Australian Museum Cor	102231	3203	151.49	-32.78
37-6-1958	KK10	GDA	56	357407	6371800	Open site	Valid		Artefact : 3		Australian Museum Cor	102231	3203	151.48	-32.78
38-4-0822	Wallis Creek RTA 6 (fo	AGD	56	361490	6366776	Open site	Valid		Potential Archaeological Deposit (PAD) : 1, Arte		Umwelt (Australia) Pty Limited - Individual users		2096,2562	151.52	-32.83
37-6-2004	KR01	GDA	56	357959	6370106	Open site	Valid		Artefact : -		Australian Museum Consulting (AM Consulting)		3201	151.48	-32.80
37-6-2005	KR02	GDA	56	357528	6370404	Open site	Valid		Artefact : -		Australian Museum Consulting (AM Consulting)		3201	151.48	-32.80
37-6-2006	KR03	GDA	56	357491	6370454	Open site	Valid		Artefact : -		Australian Museum Consulting (AM Consulting)		3201	151.48	-32.79
37-6-2007	KR04	GDA	56	357367	6370539	Open site	Valid		Artefact : -		Australian Museum Consulting (AM Consulting)		3201	151.48	-32.79
37-6-2008	KR05	GDA	56	357171	6370683	Open site	Valid		Artefact : -		Australian Museum Consulting (AM Consulting)		3201	151.47	-32.79
38-4-1149	KKO1 (Beresfield)	GDA	56	359679	6369869	Open site	Valid		Artefact : 3		Australian Museum Consulting (AM Consulting)		3151	151.50	-32.80
38-4-1150	KKO2 (Beresfield)	GDA	56	359819	6369944	Open site	Valid		Artefact : 3		Australian Museum Consulting (AM Consulting)		3151	151.50	-32.80
37-6-1953	KK03	GDA	56	359355	6370790	Open site	Valid		Artefact : 10		Australian Museum Consulting (AM Consulting)		3203	151.50	-32.79
45-3-3387	KK04 (Wyong)	GDA	56	357942	6371717	Open site	Valid		Artefact : 103, Potential Archaeological Deposit		Australian Museum Consulting (AM Consulting)		3151,3203	151.48	-32.78
37-6-1954	KK05	GDA	56	358577	6371627	Open site	Valid		Artefact : 17		Australian Museum Cor	102231	3203	151.49	-32.78
37-6-1956	KK08	GDA	56	359497	6370657	Open site	Destroyed		Artefact : 1		Australian Museum Cor	103000,103001	3203,3640	151.50	-32.79
38-4-1615	Wallis Creek RTA 26 IF	GDA	56	360164	6368047	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.51	-32.82
38-4-1466	Wallis Creek RTA 14 IF	GDA	56	360909	6366943	Open site	Partially Destroyed		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Andrew Roberts			151.51	-32.83
38-4-1467	Wallis Creek RTA 13 IF	GDA	56	360056	6368233	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users,Mr.Kirwan Williams			151.51	-32.81
38-4-1468	Wallis Creek RTA 12	GDA	56	360583	6367333	Open site	Destroyed		Artefact : 4		Umwelt (Australia) Pty Limited - Individual users,Miss.Steph Howden			151.51	-32.82
38-4-1714	Hydro-AS05-14	GDA	56	360256	6373012	Open site	Valid		Artefact : -		Andrew McLaren			151.51	-32.77
38-4-1715	Hydro-AS06-14	GDA	56	359994	6373142	Open site	Valid		Artefact : -		Andrew McLaren			151.51	-32.77
37-6-3050	Hydro-AS07-14	GDA	56	359003	6372353	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.78
37-6-3051	Hydro-AS08-14	GDA	56	358265	6372585	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.78
37-6-3052	Hydro-AS09-14	GDA	56	358412	6372339	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.78
37-6-3053	Hydro-AS10-14	GDA	56	358096	6372326	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3054	Hydro-AS11-14	GDA	56	357628	6372468	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3055	Hydro-AS12-14	GDA	56	357175	6372186	Open site	Valid		Artefact : -		Andrew McLaren			151.47	-32.78
37-6-3056	Hydro-AS13-14	GDA	56	357378	6372130	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3057	Hydro-AS14-14	GDA	56	357432	6372247	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3058	Hydro-AS15-14	GDA	56	357565	6372127	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3061	Hydro-AS18-14	GDA	56	358062	6372025	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3062	Hydro-AS19-14	GDA	56	357827	6371996	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3063	Hydro-AS20-14	GDA	56	358459	6371828	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.78
37-6-3064	Hydro-AS21-14	GDA	56	357637	6371864	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3065	Hydro-AS22-14	GDA	56	357458	6371685	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3059	Hydro-AS16-14	GDA	56	357531	6372061	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78

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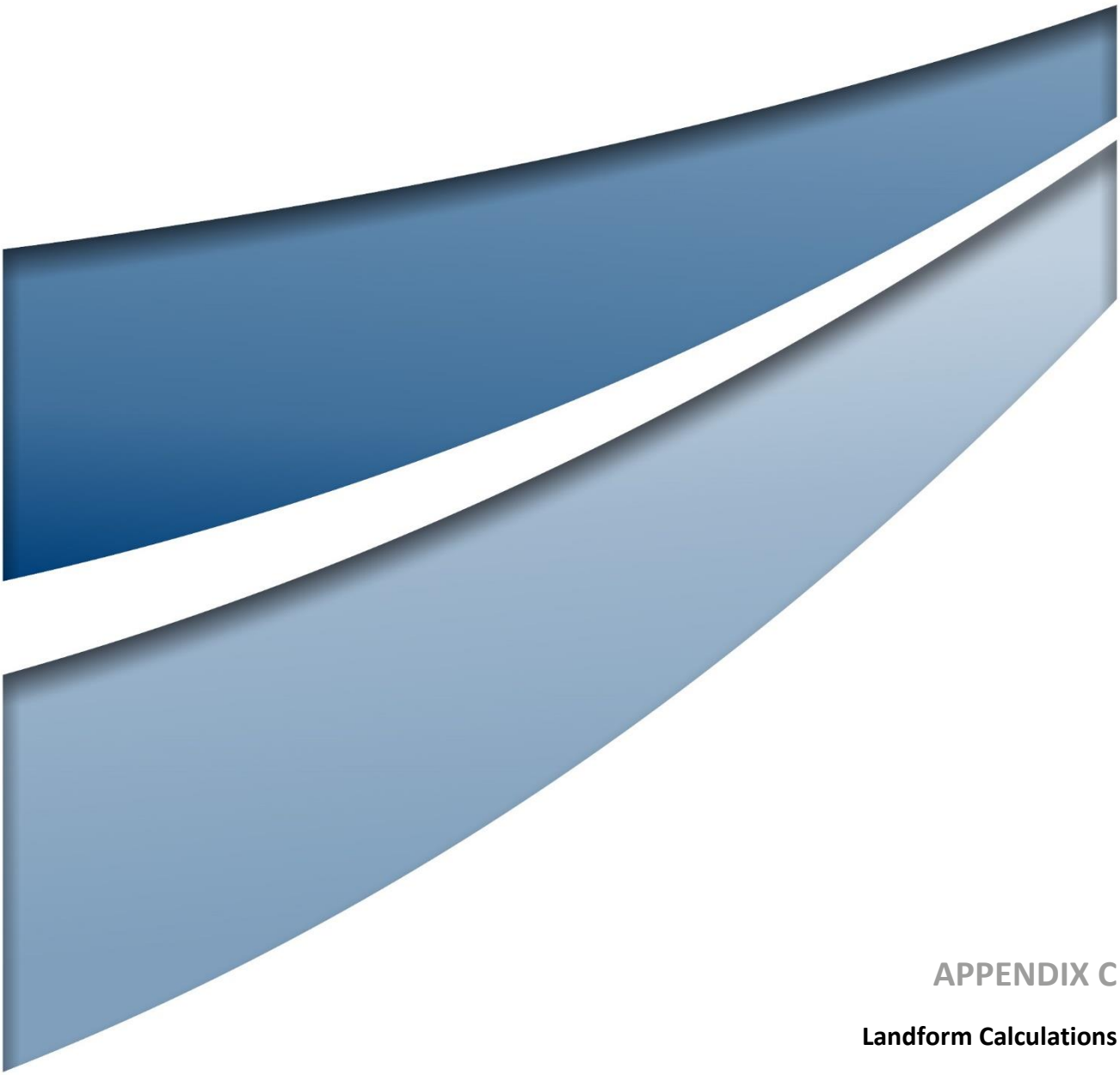
Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
37-6-3060	Hydro-AS17-14	GDA	56	357897	6372119	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.78
37-6-3049	Hydro-AS01-14	GDA	56	357780	6374463	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.76
38-4-1711	Hydro-AS02-14	GDA	56	359766	6374324	Open site	Valid		Artefact : -		Andrew McLaren			151.50	-32.76
38-4-1712	Hydro-AS03-14	GDA	56	360138	6373383	Open site	Valid		Artefact : -		Andrew McLaren			151.51	-32.77
38-4-1713	Hydro-AS04-14	GDA	56	360085	6373261	Open site	Valid		Artefact : -		Andrew McLaren			151.51	-32.77
37-6-3068	Hydro-AS26-14	GDA	56	357247	6371141	Open site	Valid		Artefact : -		McLachlan Thorpe Partners			151.48	-32.79
37-6-3069	Hydro-AS27-14	GDA	56	357148	6370939	Open site	Valid		Artefact : -		Andrew McLaren			151.47	-32.79
37-6-3070	Hydro-AS28-14	GDA	56	357219	6370703	Open site	Valid		Artefact : -		Andrew McLaren			151.48	-32.79
37-6-3071	Hydro-AS29-14	GDA	56	358225	6371002	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.79
37-6-3072	Hydro-AS30-14	GDA	56	358420	6371046	Open site	Valid		Artefact : -		Andrew McLaren			151.49	-32.79
37-6-3073	Hydro-AS31-14	GDA	56	359541	6371256	Open site	Valid		Artefact : -		Andrew McLaren			151.50	-32.79
37-6-3872	Hydro PAD 1	GDA	56	357445	6371592	Open site	Valid		Potential Archaeological Deposit (PAD) : -		AECOM Australia Pty Ltd - Sydney,Doctor.Andrew Peter Mclaren			151.48	-32.78
38-4-1997	TH-PAD-002	GDA	56	361760	6372040	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Kayandel Archaeological Services,Miss.Meg W 4580			151.52	-32.78
38-4-1998	TH-AS-001	GDA	56	361660	6371648	Open site	Valid		Artefact : 1, Potential Archaeological Deposit (F		Kayandel Archaeological Services,Miss.Meg W 4580			151.52	-32.78
37-6-3926	RPS HG01	GDA	56	359573	6369800	Open site	Destroyed		Artefact : 1		RPS Australia East Pty Ltd - Hamilton,RPS Aus 4597			151.50	-32.80
38-4-0406	Wallis Creek;	AGD	56	361510	6367010	Open site	Valid		Artefact : -	Open Camp Site	Helen Brayshaw	3169		151.52	-32.82
37-6-0267	Kurri Kurri No.1;	AGD	56	359420	6369460	Open site	Valid		Artefact : -	Open Camp Site	A Djekic	783,102388		151.50	-32.80
37-6-0268	Kurri Kurri No 2.;	AGD	56	359450	6369680	Open site	Valid		Artefact : -	Open Camp Site	A Djekic	783		151.50	-32.80
37-6-0269	Kurri Kurri No.3;	AGD	56	359480	6369790	Open site	Valid		Artefact : -	Open Camp Site	A Djekic	783,102388		151.50	-32.80
37-6-0270	No. 4 Kurri	GDA	56	359490	6369810	Closed si	Destroyed		Artefact : -	Open Camp Site	A Djekic,RPS Australia	783,102135,102388	4597	151.50	-32.80
37-6-0271	Kurri Kurri No.5;	AGD	56	359520	6369890	Open site	Valid		Artefact : -	Open Camp Site	A Djekic	102135,102388		151.50	-32.80
38-4-0617	6 WALLIS CREEK	AGD	56	360920	6366780	Open site	Valid		Artefact : -		Helen Brayshaw	4151,102135		151.52	-32.83
37-6-1559	HEZ 5	AGD	56	357915	6364821	Open site	Destroyed	Searle	Artefact : 1		Mr.Neville Baker		2853,2856	151.48	-32.84
37-6-1645	Swamp Creek Catchm	AGD	56	357603	6369908	Open site	Valid	Searle	Artefact : 1		Ms.Tudur Llwyd Davies	100062	2520,2660	151.48	-32.80
37-6-1651	Northern Swamp Tribu	AGD	56	357052	6374611	Open site	Valid	Searle	Artefact : 40		Ms.Tudur Llwyd Davies	100062,102231	2520,2660,3151,3203	151.48	-32.76
38-4-1702	Heddon Greta Rezono	GDA	56	361133	6368759	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		Ms.Penny Mccardle,Mr.Jeremy Hill		3757	151.52	-32.81
38-4-1703	Heddon Greta Rezono	GDA	56	360901	6368469	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		Ms.Penny Mccardle,Ms.Jo Nelson		3757	151.51	-32.81
38-4-1704	Heddon Greta Rezono	GDA	56	361135	6367845	Open site	Destroyed		Potential Archaeological Deposit (PAD) : -		Ms.Penny Mccardle,Ms.Jo Nelson		3936	151.52	-32.82
38-4-1691	Wallis Creek RTA 17	GDA	56	360788	6366957	Open site	Valid		Artefact : -		Miss.Steph Howden			151.51	-32.83
38-4-1692	Wallis Creek RTA 25 IF	GDA	56	360102	6367483	Open site	Valid		Artefact : -		Miss.Steph Howden			151.51	-32.82
38-4-1839	PAD GH1	GDA	56	361758	6373304	Open site	Not a Site		Potential Archaeological Deposit (PAD) : -		RPS Australia East Pty Ltd - Hamilton,RPS Aus 4066			151.52	-32.77
37-6-3794	Kurri Kurri SC01	GDA	56	357447	6369296	Open site	Valid		Artefact : -		EMM Consulting - St Leonards - Individual users,Mr.Andrew Crisp			151.48	-32.81
37-6-3832	Richmond Vale Rail Tra	GDA	56	359039	6365545	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.49	-32.84
37-6-3833	Richmond Vale Rail Tra	GDA	56	359085	6365592	Open site	Not a Site		Artefact : -		Artefact - Cultural Heritage Management - Pyrmont,Mr.ryan taddeucci			151.49	-32.84
37-6-3807	RVRT IF9	GDA	56	359085	6365592	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.49	-32.84
37-6-3808	RVRT IF10	GDA	56	359039	6365545	Open site	Valid		Artefact : 1		Artefact - Cultural Heritage Management - Pyrmont,Mr.Duncan Jones			151.49	-32.84
37-6-3969	Hydro-IA35-15	GDA	56	357209	6371474	Open site	Valid		Artefact : -		AECOM Australia Pty Ltd - Sydney,Doctor.Andrew Peter Mclaren			151.48	-32.79

Report generated by AHIMS Web Service on 27/05/2021 for Steph Howden for the following area at Datum :GDA, Zone : 56, Eastings : 357098 - 361782, Northings : 6364875 - 6374999 with a Buffer of 0 meters. Additional Info : ACHA background. Number of Aboriginal sites and Aboriginal objects found is 109

AHIMS Web Services (AWS)

Note: This Excel report shows the sites found in AHIMS on the 13/12/2021. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
37-6-1962	KK14	GDA	56	356727	6372857	Open site	Valid		Artefact : 1		Australian Museum Cor	102231	3203	151.47027135	-32.77286808
37-6-1964	KK16	GDA	56	356790	6373144	Open site	Valid		Artefact : -		Australian Museum Cor	102231		151.47098806	-32.77028827
37-6-1652	Northern Swamp Tribut	AGD	56	356637	6372207	Open site	Valid	Searle	Artefact : 2		Ms.Tudur Llwyd Davies	100062,102231	2520,2660,3151,3203	151.47035727	-32.77702034
37-6-1341	Black Waterholes Cree	AGD	56	355826	6371730	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users		2102	151.46162648	-32.78121561
37-6-1961	KK13	GDA	56	356713	6372765	Open site	Valid		Artefact : 1		Australian Museum Cor	102231	3203	151.47010772	-32.77369586
37-6-1959	KK11	GDA	56	357079	6371849	Open site	Valid		Artefact : 1		Australian Museum Cor	102231	3203	151.47387332	-32.78200354
37-6-3066	Hydro-AS24-14	GDA	56	355859	6372140	Open site	Valid		Artefact : -		Andrew McLaren			151.46089526	-32.77922009
37-6-1363	PAD11 Black Waterhol	AGD	56	356091	6371356	Open site	Valid		Potential Archaeological Deposit (PAD) : 1		Umwelt (Australia) Pty L	102231	2096	151.46439731	-32.78462284
37-6-1343	Black Waterholes Cree	AGD	56	356293	6371108	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty L	102231	2102	151.46651530	-32.78688559
37-6-1963	KK15	GDA	56	356790	6373144	Open site	Valid		Artefact : 1		Australian Museum Cor	102231		151.47098806	-32.77028827
37-6-1960	KK12	GDA	56	356887	6371887	Open site	Valid		Artefact : 1		Australian Museum Cor	102231	3203	151.47182961	-32.78163588
37-6-1644	Swamp Creek Catchme	AGD	56	356949	6370574	Open site	Valid	Searle	Artefact : 2		Ms.Tudur Llwyd Davies	100062	2520,2660	151.47343606	-32.79178647
37-6-3067	Hydro-AS25-14	GDA	56	356555	6371753	Open site	Valid		Artefact : -		Andrew McLaren			151.46826488	-32.78280093
37-6-1650	Northern Swamp Tribut	AGD	56	356724	6371757	Open site	Valid	Searle	Artefact : 29		Ms.Tudur Llwyd Davies	100062,102231	2520,2660,3151,3203	151.47121651	-32.78108953
37-6-2009	KR06	GDA	56	356187	6371481	Open site	Valid		Artefact : -		Australian Museum Cor	102231	3201	151.46429437	-32.78520556
37-6-1325	Swamp Creek RTA 10	AGD	56	356447	6370271	Open site	Valid		Artefact : 1		Umwelt (Australia) Pty Limited - Individual users		2102	151.46802987	-32.79445330
37-6-1356	Swamp Creek RTA 4	AGD	56	356557	6370688	Open site	Valid		Artefact : 4		Umwelt (Australia) Pty Limited - Individual users		2102	151.46926870	-32.79070739
37-6-1955	KK07	GDA	56	356742	6372396	Open site	Valid		Artefact : 2		Australian Museum Cor	102231	3151,3203	151.47036033	-32.77702709



APPENDIX C

Landform Calculations

Survey Unit	Landform	Area (ha)
1	Flat	0.38
	Ridge/crests	1.55
	Spur	0.84
	Valley	3.31
	Footslopes	2.15
	Disturbed terrain	0.80
	Slopes comprising:	
	Gently inclined	2.01
	Moderately inclined	1.12
	Steep slopes	0.04
	TOTAL	**12.19**
2	Flat	1.98
	Ridge/crests	1.30
	Spur	0.00
	Valley	0.18
	Footslopes	0.05
	Disturbed terrain	3.41
	Slopes comprising:	
	Gently inclined	2.29
	Moderately inclined	0.41
	Steep slopes	9.63
	TOTAL	**19.26**
3	Flat	
	Ridge/crests	3.43
	Spur	0.45
	Valley	0.29
	Disturbed terrain	3.87
	Slopes comprising:	
	Gently inclined	0.31
	Moderately inclined	0.44
	Steep slopes	0.00
	TOTAL	**8.79**
4	Flat	0.28
	Ridge/crests	3.70
	Spur	3.80
	Valley	3.87
	Footslopes	0.97
	Disturbed terrain	3.31
	Slopes comprising:	
	Gently inclined	3.38
	Moderately inclined	5.13
	Steep slopes	0.08
	TOTAL	**24.53**
5	Ridge/crests	0.42
	Spur	0.47
	Valley	1.75
	Footslopes	0.05
	Disturbed terrain	3.85
	Slopes comprising:	
	Gently inclined	0.27
	Moderately inclined	2.04
	Steep slopes	0.04
	TOTAL	**8.89**

Survey Unit	Landform	Area (ha)
6	Flat	7.02
	Ridge/crests	0.00
	Spur	0.11
	Valley	0.46
	Footslopes	0.93
	Disturbed terrain	0.48
	Slopes comprising:	
	Gently inclined	1.61
	Moderately inclined	0.15
	Steep slopes	10.75
	TOTAL	**21.50**
7	Flat	0.66
	Ridge/crests	0.59
	Spur	0.23
	Valley	1.20
	Footslopes	2.04
	Slopes comprising:	
	Gently inclined	3.58
	Moderately inclined	1.11
	TOTAL	**9.41**
8	Flat	11.13
	Ridge/crests	1.07
	Spur	0.32
	Valley	0.17
	Footslopes	0.84
	Disturbed terrain	0.32
	Slopes comprising:	
	Gently inclined	1.84
	Moderately inclined	0.56
	TOTAL	**16.24**
9	Flat	4.42
	Ridge/crests	4.37
	Spur	0.59
	Valley	0.96
	Footslopes	9.50
	Slopes comprising:	
	Gently inclined	10.35
	Moderately inclined	7.98
	TOTAL	**38.16**
10	Flat	3.24
	Ridge/crests	0.22
	Footslopes	0.37
	Slopes comprising:	
	Gently inclined	1.84
	Moderately inclined	0.06
	TOTAL	**5.72**

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