

Appendix D: Aboriginal Cultural Heritage Assessment Report





View east across the south of the solar farm and north of the Newell Highway.

ABORIGINAL AND HISTORIC CULTURAL HERITAGE ASSESSMENT REPORT

WYALONG SOLAR FARM

“GLENROY AND GLENEE” 1409 NEWELL HIGHWAY, WYALONG
NSW

OCTOBER 2018

Report Prepared by
OzArk Environmental & Heritage Management Pty Ltd
for ESCO Pacific Pty Ltd



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ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT COVER SHEET

Report Title	Aboriginal & Historic Cultural Heritage Assessment Report: Wyalong Solar Farm "Glenroy and Glenee" 1409 Newell Highway, Wyalong NSW.
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Client			
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Acknowledgement

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

EXECUTIVE SUMMARY

OzArk Environmental & Heritage Management (OzArk) has been engaged by ESCO Pacific Pty Ltd (the proponent) to complete an Aboriginal and Historic Cultural Heritage Assessment Report (AHCHAR) for the proposed development of the Wyalong Solar Farm (the project). The Project Area is located within the Bland Shire Council Local Government Area. The proposed solar farm development applicable to this AHCHAR is referred to as the 'Project Area' and encompasses approximately 260 hectares of land.

The proponent is seeking development consent to develop the project. The project is classified as a State Significant Development (SSD) under the provisions of Part 4 Division 4.7 of the *Environmental Planning and Assessment Act 1979* in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011*. This AHCHAR forms part of the Environmental Impact Statement (EIS) prepared to accompany the development application to the Department of Planning & Environment (DP&E). The purpose of the project is for the development of a utility scale renewable energy project which will aim to generate up to 130MW of electricity. The proposed solar farm will consist of up to 350,000 solar panels, which will be similar to those used within residential contexts, though larger in size.

The fieldwork component of this assessment was undertaken by OzArk from Tuesday 25 to Thursday 27 September 2018. Registered Aboriginal Party (RAP) representatives from the West Wyalong Local Aboriginal Land Council participated in the field survey of the Project Area. The field survey identified 12 new Aboriginal sites (Glenroy-OS1 and Glenroy-OS2 [artefact scatters]; Glenroy-IF1 to Glenroy-IF10 [isolated finds]), within and in the boundary of the Project Area and Development impact footprint. These sites will require management and mitigation prior to the proposed work of the project commencing.

The historic heritage field survey component of the assessment was undertaken concurrently with the Aboriginal heritage field survey. As a result, no items of historic heritage significance were identified and it was assessed that the Project Area has no potential for historic archaeological deposits.

The following archaeological recommendations are made in regards to the Aboriginal heritage components of the assessment.

Aboriginal heritage

- 1) Should development consent for the project be granted, the Statement of Commitments set out in **Section 6.4** will be followed.

- 2) All land-disturbing activities must be confined to within the assessed Project Area. Should the parameters of the proposed work extend beyond the assessed area, then further archaeological assessment may be required.
- 3) Inductions for staff undertaking the proposed activity shall include the legislative protection requirements for Aboriginal sites and items in NSW and the relevant fines for non-compliance.
- 4) Should any items of Aboriginal cultural heritage significance (including human remains) be uncovered then the *Unanticipated Finds Protocol* (**Appendix 3**) should be followed.

Historic heritage

- 1) The activities of the project can proceed without further historic heritage investigation provided that all ground disturbance activities are confined to within the Project Area. If the parameters of the proposed activity extend beyond the assessed area, then further archaeological assessment may be required.
- 2) This assessment has concluded that there is a low likelihood that the proposed work would harm historic items. If objects are encountered that are suspected to be historic heritage items, all work must stop and the *Unanticipated Finds Protocol* (**Appendix 4**) should be followed.
- 3) Inductions for staff undertaking the proposed activity shall include the legislative protection requirements for historic sites and items in NSW and the relevant fines for non-compliance.

CONTENTS

Aboriginal Cultural Heritage Assessment Report Cover Sheet	i
Executive Summary	v
1 Introduction	1
1.1 Brief description of the proposal.....	1
1.2 Proposed work	1
1.3 Project area	2
1.4 Relevant Legislation.....	2
1.4.1 State Legislation	3
1.4.2 Commonwealth Legislation	4
1.4.3 Applicability to the project	4
1.5 Assessment Approach	4
Aboriginal Cultural Heritage Assessment Report.....	1
2 The Archaeological Assessment	2
2.1 Purpose and objectives.....	2
2.1.1 Aboriginal archaeological assessment objectives	2
2.2 Date of archaeological assessment	2
2.3 Aboriginal community involvement.....	2
2.3.1 Stage 1: Notification of the development and registration of interest	2
2.3.2 Stage 2/3: Presentation of information about the proposed development and gathering information about cultural significance.....	3
2.3.3 Stage 4: Review of draft AHCHAR.....	4
2.4 OzArk involvement.....	4
2.4.1 Field Assessment	4
2.4.2 Reporting	4
3 Landscape Context	5
3.1 Topography.....	5
3.2 Geology and Soils.....	7
3.3 Hydrology	7

3.4	Vegetation	8
3.5	Climate	8
3.6	Land–Use History and Existing Levels of Disturbance	9
3.7	Conclusion	10
4	Aboriginal Archaeology Background	12
4.1	Ethno-historic sources of regional aboriginal culture	12
4.2	Regional archaeological context	13
4.2.1	Aboriginal cultural heritage values	15
4.3	Local archaeological context.....	16
4.3.1	Desktop Database Searches Conducted	16
4.4	Previous archaeological surveys.....	19
4.5	Predictive Model for Site Location.....	20
5	Results of Aboriginal Archaeological Assessment.....	24
5.1	Sampling Strategy and Field Methods.....	24
5.2	Project Constraints.....	25
5.3	Effective Survey Coverage.....	25
5.4	Aboriginal sites recorded.....	27
5.4.1	Artefact scatters.....	29
	Glenroy-OS1	29
	Glenroy-OS2.....	31
5.4.2	Isolated finds.....	33
	Glenroy-IF1	34
	Glenroy-IF2.....	36
	Glenroy-IF3.....	37
	Glenroy-IF4.....	38
	Glenroy-IF5.....	39
	Glenroy-IF6.....	40
	Glenroy-IF7.....	41
	Glenroy-IF8.....	42

Glenroy-IF9.....	43
Glenroy-IF10.....	44
5.5 Previously Recorded Aboriginal Sites Located.....	46
5.6 Aboriginal Community Input.....	46
5.7 Discussion	46
5.8 Representativeness, rarity and integrity	47
5.9 Assessment of Significance	48
5.9.1 Introduction.....	48
5.9.2 Assessed Significance of the Recorded Sites	49
5.10 Likely Impacts to Aboriginal Heritage from The Proposal	51
5.10.1 Ecological sustainable development principles	52
5.11 Overall value of potential impact on heritage items	52
6 Management and Mitigation: Aboriginal Heritage	55
6.1 General Principles for the Management of Aboriginal Sites.....	55
6.2 Management and mitigation of recorded aboriginal sites.....	55
6.3 Management process	57
6.3.1 Archaeological salvage: surface artefact collection	57
6.4 Statement of commitments	58
Historic Heritage Assessment Report.....	61
7 Historic Heritage Assessment: Introduction.....	63
7.1 Brief description of the project.....	63
7.2 Relevant legislation.....	63
7.2.1 State legislation	63
7.2.2 Commonwealth legislation	63
7.2.3 Applicability to the project	63
7.3 Historic heritage assessment objectives	64
7.4 Date of historic heritage Assessment.....	64
7.5 Landscape Context.....	64
8 Historic Heritage Assessment: Background	65

8.1	Brief history of the Central Western Slopes and Wyalong	65
8.2	Local context.....	65
8.2.1	Desktop database searches conducted	65
8.3	Survey methodology	66
9	Results of Historic Heritage Assessment	67
10	Management and Mitigation: Historic Heritage	69
10.1	General Principles for the Management of Historic Sites.....	69
10.2	Management and Mitigation of Recorded Historic Sites	69
11	Recommendations	70
11.1	Aboriginal heritage	70
11.2	Historic heritage.....	70
	References	72
	Plates.....	74
	Appendix 1: ACHCRs documentation	80
	Log of Aboriginal community consultation	80
	Stage 1 newspaper advertisements: <i>West Wyalong Advocate</i> , <i>Narrandera Argus</i> , and <i>Temora Independent</i> – June 2018.	84
	Stage 1 letter to government agencies and Aboriginal community organisations.	87
	Stage 2/3 Aboriginal heritage survey methodology document.	88
	Appendix 2: AHIMS extensive search results.....	94
	Appendix 3: Aboriginal Heritage: Unanticipated Finds Protocol.....	95
	Appendix 4: Historic heritage: Unanticipated finds protocol.....	96

FIGURES

Figure 1-1: Location of the Project Area in a regional context.	1
Figure 1-2: Location of the Project Area and Development impact footprint.	2
Figure 3-1: Map showing the topographical and hydrological features of the Project Area and surrounding landforms.	6
Figure 3-2: Topography of the Project Area.	6
Figure 3-3: Map showing the Project Area in relation to soil landscape units (King 1998).	7

Figure 3-4: Project Area in relation to vegetation landscapes.....	9
Figure 4-1: Location of the Project Area in relation to Tindale (1974).....	12
Figure 4-2: Project Area in relation to the recorded AHIMS sites.....	18
Figure 4-3: Map showing the location of the closest previous assessment in the relation to the recorded AHIMS and Project Area.	20
Figure 5-1: The Project Area showing the pedestrian transects.	25
Figure 5-2: Typical view of GSV within the Project Area.....	27
Figure 5-3: Aerial showing the location of all newly recoded Aboriginal sites.	28
Figure 5-4: Aerial showing the location of newly recorded artefact scatters.....	29
Figure 5-5: Aerial showing the location and extent of Glenroy-OS1.....	30
Figure 5-6: Photographs showing an overview and details of Glenroy-OS1.	30
Figure 5-7: Aerial showing the location and extent of Glenroy-OS2.....	32
Figure 5-8: Photographs showing an overview and details of Glenroy-OS2.	33
Figure 5-9: Aerial showing the location of newly recorded isolated finds.	34
Figure 5-10: Aerial showing location of Glenroy-IF1 and Glenroy-IF2.	35
Figure 5-11: Photographs showing an overview and details of Glenroy-IF1.	36
Figure 5-12: Photographs showing an overview and details of Glenroy-IF2.	37
Figure 5-13: Aerial showing location of Glenroy-IF3 to Glenroy-IF5.	38
Figure 5-14: Photographs showing an overview and details of Glenroy-IF3.	38
Figure 5-15: Photographs showing an overview and details of Glenroy-IF4.	39
Figure 5-16: Photographs showing an overview and details of Glenroy-IF5.	40
Figure 5-17: Aerial showing location of Glenroy-IF6 to Glenroy-IF8.	41
Figure 5-18: Photographs showing an overview and details of Glenroy-IF6.	41
Figure 5-19: Photographs showing an overview and details of Glenroy-IF7.	42
Figure 5-20: Photographs showing an overview and details of Glenroy-IF8.	43
Figure 5-21: Aerial showing location of Glenroy-IF9.....	44
Figure 5-22: Photographs showing an overview and details of Glenroy-IF9.	44
Figure 5-23: Aerial showing location of Glenroy-IF10.....	45
Figure 5-24: Photographs showing an overview and details of Glenroy-IF10.	46
Figure 5-25: Potential impact to heritage items reference matrix.....	53
Figure 6-1: Aerial showing the proposed relocation of the Aboriginal artefacts, outside of the development impact footprint and inside of the Project Area boundary.	60
Figure 9-1: Detailed view of the exposed glass and ceramic fragments in the Project Area.	67
Figure 9-2: View northwest showing the dam drain where the majority of the glass and ceramic fragments were identified.	68

TABLES

Table 4-1: Association of all recorded sites to landscape units (OzArk 2016).....	14
Table 4-2: Frequency of site types in association with landscape types (OzArk 2016).	15
Table 4-3: Aboriginal heritage: desktop-database search results.	16
Table 4-4: AHIMS site types and frequencies.....	17
Table 5-1: Survey coverage data.	26
Table 5-2: Landform summary—sampled areas.....	26
Table 5-3: Survey results.	27
Table 5-4: Glenroy-OS1. Artefact attributes.	31
Table 5-5: Glenroy-OS2. Artefact attributes.	33
Table 5-6: Recorded isolated finds artefact attributes and coordinates.	33
Table 5-7: Significance assessment.....	50
Table 5-8: Impact assessment.	51
Table 5-9: Overall value of potential impact on heritage item.	54
Table 6-1: Management recommendations for sites within or adjacent to the development impact footprint of the project.	56
Table 8-1: Historic heritage: desktop-database search results.	66

PLATES

Plate 1: View of the cropped paddock and survey team transecting the Project Area.....	74
Plate 2: Typical ground exposure available between within the crop furrows.	74
Plate 3: One of a number of mature native trees inspected in the Project Area.	75
Plate 4: Ground surface visibility identified at the base of one of the electricity structures.....	75
Plate 5: Broken glass shards identified in the vicinity of the dam in the south of the Project Area.	76
Plate 6: View south along the access track situated on the western boundary of the Project Area.	76
Plate 7: View west across the southern dam into the area of native vegetation not proposed for impact by the development.	77
Plate 8: View south showing the survey team transecting the Project Area and the existing electricity easement.	77
Plate 9: View southwest along a formed contour bank adjoining a dam in the north of the Project Area.	78

Plate 10: View east showing the recently harvested canola crops in the north of the Project Area.	78
Plate 11: Inspecting a mature native tree for cultural scarring.	79
Plate 12: View east along the ephemeral drainage line in the north of the Project Area.	79

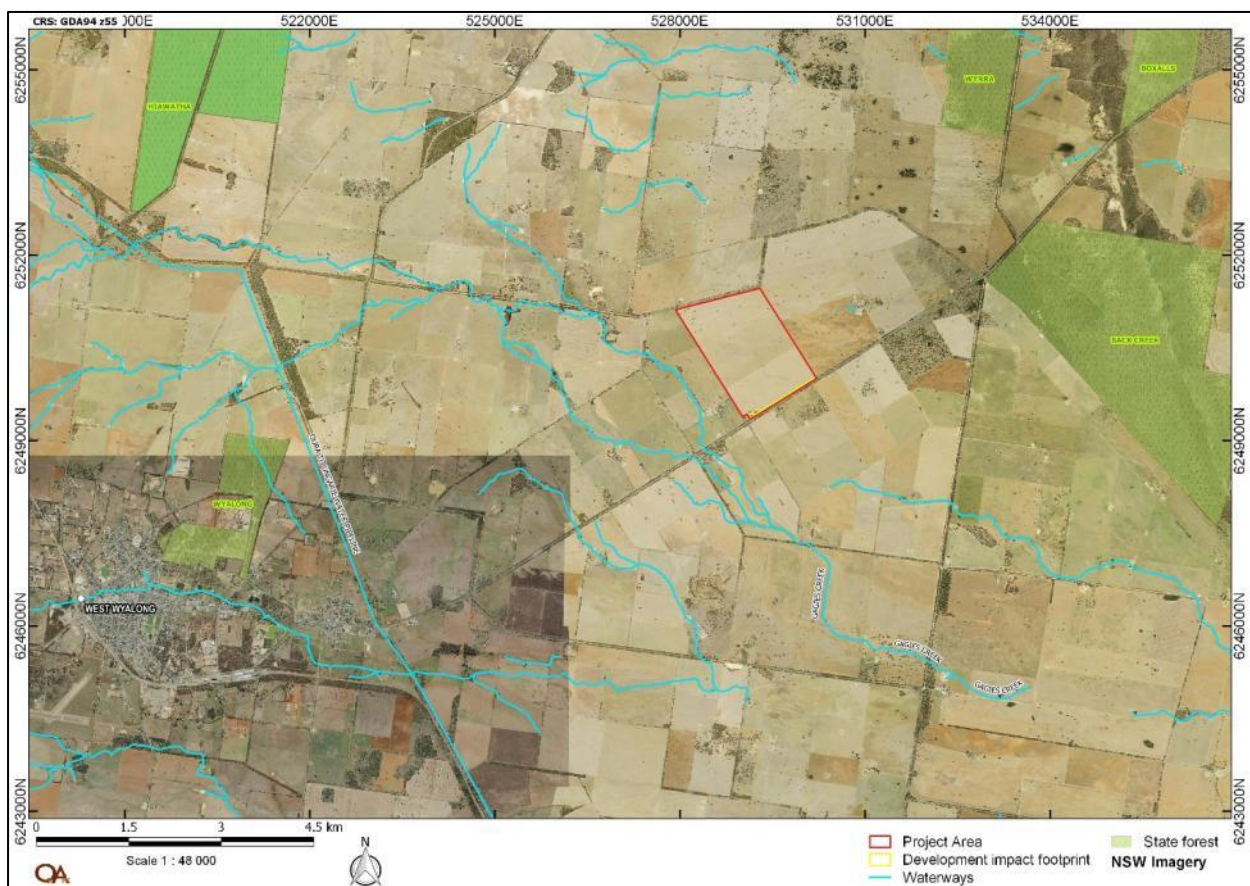
1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE PROPOSAL

OzArk Environmental & Heritage Management (OzArk) has been engaged by ESCO Pacific Pty Ltd (the proponent) to complete an Aboriginal and Historic Cultural Heritage Assessment Report (AHCHAR) for the proposed development of the Wyalong Solar Farm (the project). The Project Area is located within the Bland Shire Council Local Government Area (LGA) (**Figure 1-1**).

The proponent is seeking development consent to develop the project. The project is classified as a State Significant Development (SSD) under the provisions of Part 4 Division 4.7 of the *Environmental Planning and Assessment Act 1979* in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011*. This AHCHAR forms part of the Environmental Impact Statement (EIS) prepared to accompany the development application to the Department of Planning & Environment (DP&E).

Figure 1-1: Location of the Project Area in a regional context.



1.2 PROPOSED WORK

The proposed work is for the development of a utility scale renewable energy project which aims to generate up to 130 MW of electricity. The solar farm will consist of up to 350,000 solar panels. The panels will be similar to those used in residential contexts though larger in size.

Installation of the solar panels will use a ground mounted frame that will allow the panels to track the sun. The panels will generate Direct Current (DC) which is inverted to Alternating Current (AC) and exported to the existing electricity network via connections to electricity transmission lines which already transect the Project Area.

1.3 PROJECT AREA

The Project Area is located at 1409 Newell Highway, Wyalong, and is situated within land parcel Lot 160 DP750615. The Project Area is approximately seven kilometres (km) northeast of West Wyalong, NSW. It is bounded to the north by an existing vegetated paper road, to the east and west by cultivated paddocks and to the south by the Newell Highway. The Project Area includes the property area boundary and the development impact footprint. As such the solar farm development applicable to this AHCHAR is herein referred to as the 'Project Area' and will encompass the development impact footprint and approximately 260 hectares (ha) of land (Figure 1-2).

Figure 1-2: Location of the Project Area and Development impact footprint.



1.4 RELEVANT LEGISLATION

Cultural heritage is managed by a number of state and national Acts. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of

heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a state level.

A number of Acts of parliament provide for the protection of heritage at various levels of government.

1.4.1 State Legislation

***Environmental Planning and Assessment Act 1979* (EP&A Act)**

This Act, amended by the *Environmental Planning and Assessment Amendment Act 2017*, establishes requirements relating to land use and planning. The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- **Part 4:** Local government development assessments, including heritage. May include schedules of heritage items;
 - **Division 4.7:** Approvals process for state significant development;
- **Part 5:** Environmental impact assessment on any heritage items which may be impacted by activities undertaken by a state government authority or a local government acting as a self-determining authority; and
 - **Division 5.2:** Approvals process for state significant infrastructure.

***National Parks and Wildlife Act 1974* (NPW Act)**

Amended during 2010, the NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (Part 6), an Aboriginal object is defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the NPW Act to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or

unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, such as:

- The harm was authorised by and conducted in accordance with the requirements of an *Aboriginal Heritage Impact Permit* (AHIP) under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the Office of Environment and Heritage (OEH) Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS).

1.4.2 Commonwealth Legislation

***Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)**

Matters of National Environmental Significance listed under the EPBC Act include the National Heritage List and the Commonwealth Heritage List, both administered by the Commonwealth Department of the Environment and Energy. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to National/Commonwealth heritage places.

1.4.3 Applicability to the project

The current project will be assessed under Part 4, Division 4.7 of the EP&A Act. As a Division 4.7 consent, management of Aboriginal cultural heritage can be conducted under an approved *Aboriginal Cultural Heritage Management Plan* (ACHMP) rather than an AHIP.

The *Secretary's Environmental Assessment Requirements* (SEARs) issued for the project (issued 18 September 2018) pertaining to Aboriginal cultural heritage and historic heritage have been followed in this assessment.

Any Aboriginal sites within the Project Area are afforded legislative protection under the NPW Act.

It is noted there are no Commonwealth or National heritage listed places within the Project Area, and as such, the heritage provisions of the EPBC Act do not apply.

1.5 ASSESSMENT APPROACH

The current assessment follows the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010). Field assessment and reporting followed the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011).

The historic heritage assessment component follows the Heritage Council's *Historical Archaeology Code of Practice* (Historical Code of Practice; Heritage Council 2006).

The Aboriginal Cultural Heritage Assessment Report (ACHAR) is presented in **Sections 2 to 6** of this report and the Historic Heritage Assessment Report is presented in **Sections 7 to 10** of this report.

Recommendations regarding Aboriginal cultural heritage and historic heritage are provided in **Section 11**.

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

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2 THE ARCHAEOLOGICAL ASSESSMENT

2.1 PURPOSE AND OBJECTIVES

The purpose of the current study is to identify and assess heritage constraints relevant to the proposed works.

2.1.1 Aboriginal archaeological assessment objectives

The current assessment will apply the Code of Practice, in the completion of an Aboriginal archaeological assessment, in order to meet the following objectives:

Objective One: To undertake Aboriginal archaeological survey of the Project Area as per the Code of Practice;

Objective Two: To assess the significance of any recorded Aboriginal sites, objects or places likely to be impacted by the project, in consultation with the RAPs, consistent with the Code of Practice and *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs; DECCW 2010b); and

Objective Three: To assess the likely impacts of the project to any recorded Aboriginal sites, objects, places or cultural values, and to develop management recommendations, in consultation with RAPs, consistent with the Code of Practice and the ACHCRs.

2.2 DATE OF ARCHAEOLOGICAL ASSESSMENT

The fieldwork component of this assessment was undertaken by OzArk from Tuesday 25 to Thursday 27 September 2018.

2.3 ABORIGINAL COMMUNITY INVOLVEMENT

The assessment has followed the ACHCRs which was initiated and undertaken by ESCO Pacific Pty Ltd. Information regarding the ACHCRs, detailing the main stages, are as follows:

2.3.1 Stage 1: Notification of the development and registration of interest

- Advertisement placed in the below newspapers by ESCO Pacific (**Appendix 1**):
 - West Wyalong Advocate, Friday 15 June 2018 – closed 6 July 2018.
 - Narrandera Argus, Wednesday 18–20 June 2018 – closed 6 July 2018.
 - Temora Independent, Friday 22 June 2018 – closed 6 July 2018.

- Letter seeking information from government agencies sent on 15 June 2018 (**Appendix 1**¹). Letters were sent to NTSCORP, Local Land Services, National Native Title Tribunal, OEH, West Wyalong Local Aboriginal Land Council (LALC), Griffith LALC, Leeton LALC, Wagga Wagga LALC, Narrandera LALC and the Registrar Aboriginal Land Rights Act 1983.
- The registration of interest for the project includes three groups/individuals to be consulted as a RAP for the project:
 - Mark Saddler (individual)
 - West Wyalong LALC
 - Young LALC

2.3.2 Stage 2/3: Presentation of information about the proposed development and gathering information about cultural significance

On 19 July RAPs were sent (**Appendix 1**):

- Project information
- Methodology for fieldwork

On 31 August ESCO Pacific provided a further project update to all RAPs and discussed the upcoming fieldwork.

- Mark Saddler
 - Raised no issues with the fieldwork approach and for it to be led by West Wyalong LALC. He re-confirmed that he had no comments on the proposed methodology for the upcoming fieldwork.
- West Wyalong LALC
 - Leanne Hampton stated she had no issues with the methodology and that she would follow up with email confirmation.
- Young LALC
 - Norma Freeman requested another copy of the methodology information from ESCO Pacific and that she would review over the coming days. Raised no issues with the fieldwork approach and for it to be led by West Wyalong LALC.

2.3.2.1 Field survey participation

The following RAPs participated in the fieldwork:

- Leanne Hampton – West Wyalong LALC
- Linton Howarth – West Wyalong LALC

¹ Please note that **Appendix 1** contains only a sample of each stage letter sent. Should OEH require every letter sent to all agencies and RAPs, ESCO Pacific and OzArk can provide these.

- Nayah Freeman – West Wyalong LALC

2.3.3 Stage 4: Review of draft AHCHAR

Insert once responses received from RAPs.

2.4 OZARK INVOLVEMENT

2.4.1 Field Assessment

The fieldwork component of the assessment was undertaken by:

- Archaeologist: Philippa Sokol (OzArk Project Archaeologist, BA (Archaeology) and DipScience, University of New England).; and
- Archaeologist: Stephanie Rusden (OzArk Archaeologist; BSc - University of Wollongong, BA - University of New England (Archaeology)).

2.4.2 Reporting

The reporting component of the assessment was undertaken by:

- Report Author: Philippa Sokol;
- Contributor: Stephanie Rusden.
- Reviewers: Dr Alyce Cameron (OzArk Archaeologist, BA [Hons] and PhD [Archaeology & palaeoanthropology] Australian National University).

3 LANDSCAPE CONTEXT

An understanding of the environmental contexts of a Project Area is requisite in any Aboriginal archaeological investigation (DECCW 2010b). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. In addition, natural geomorphic processes of erosion and/or deposition, as well as humanly activated landscape processes, influence the degree to which these material culture remains are retained in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings.

The Project Area is wholly located within the Lower Slopes subregion of the South Western Slopes Bioregion (NPWS 2016). This bioregion represents the extensive area of foothills and isolated ranges comprising the lower slopes of the Great Dividing Range extending from the north of Cowra through southern NSW into western Victoria. The South Western Slopes bioregion includes parts of the Murray, Murrumbidgee, Lachlan and Macquarie River Catchments (NPWS 2016).

3.1 TOPOGRAPHY

Topography of the Lower Slopes subregion is primarily comprised of undulating and hilly ranges and isolated peaks set in wide valleys at the apices of the Riverina alluvial flats (NPWS 2016). The topography of the Project Area is low lying and presents no distinct change in elevation and landform unit. Essentially, the topographic nature of the Project Area would have encouraged past Aboriginal land use and easy movement through the landscape. Aboriginal land use of the area would have been encouraged through features, including:

- The gentle low lying landform of the Project Area would have allowed for Aboriginal people to traverse the land where intermittent occupation may have occurred or Aboriginal objects were potentially discarded.
- Gages Creek is situated 520 metres (m) and 1.2km to the west of the Project Area. These are the closest water sources and could increase the potential for Aboriginal objects present within the Project Area landform.

Figure 3-1 illustrates the limited topographical features of the Project Area and the nearby hydrological features. Representative photos of the landforms in the Project Area are shown in **Figure 3-2**.

Figure 3-1: Map showing the topographical and hydrological features of the Project Area and surrounding landforms.

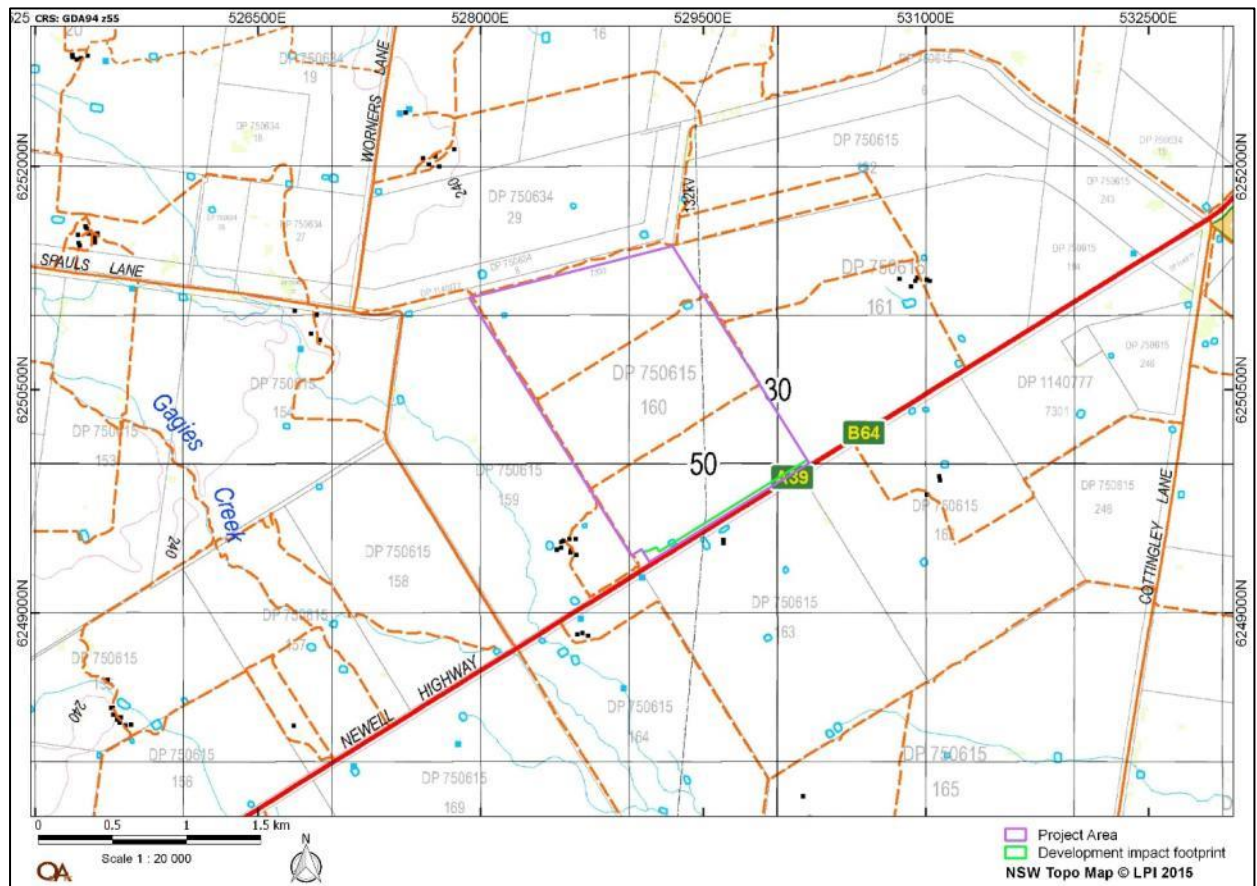
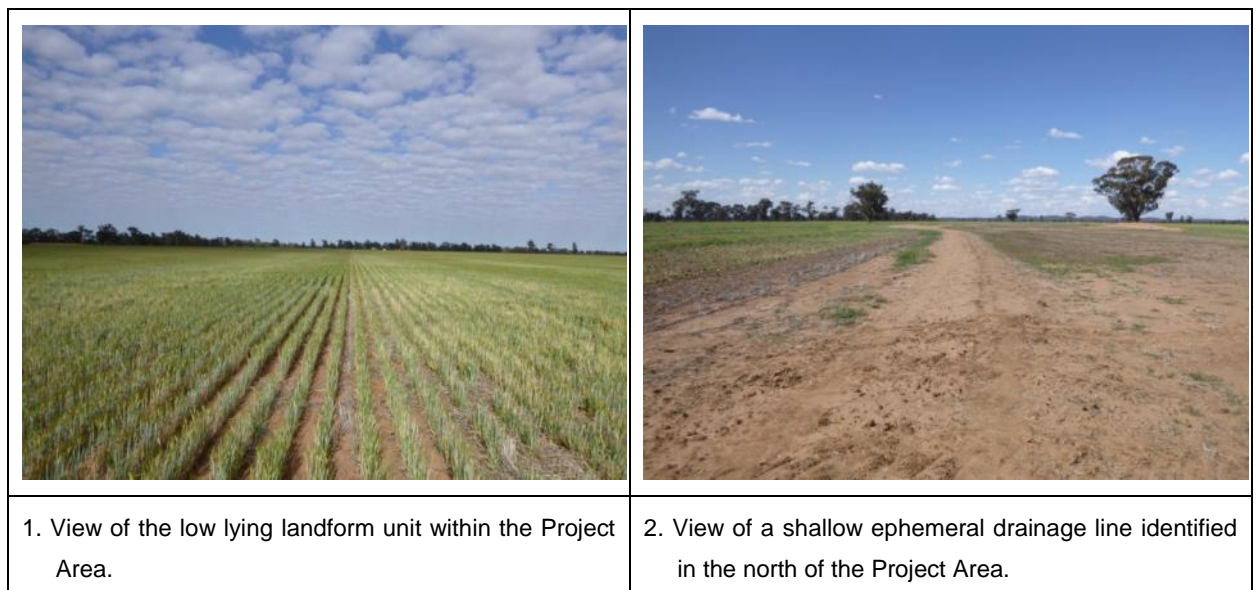


Figure 3-2: Topography of the Project Area.



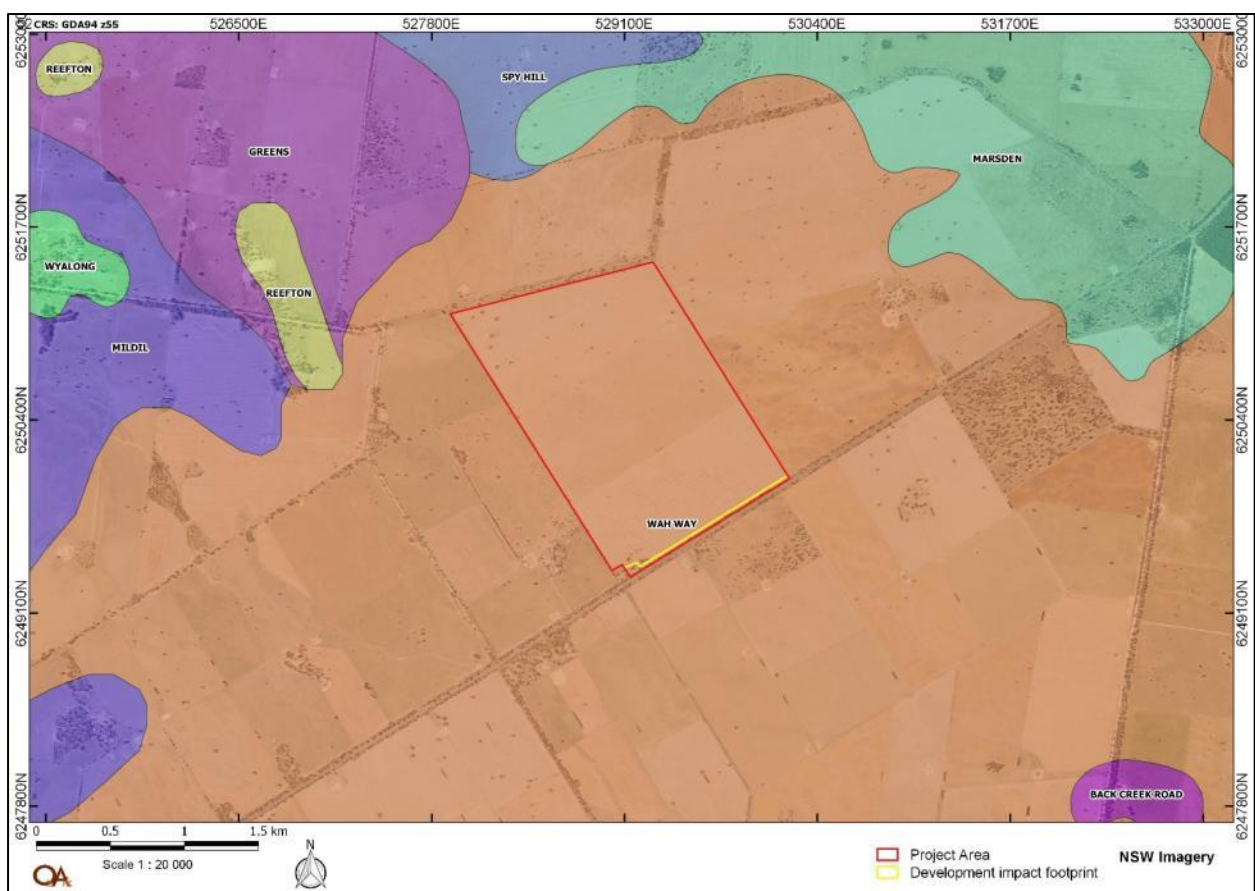
3.2 GEOLOGY AND SOILS

Understanding land formation processes is an important part of assessing the availability of exploitable resources in the landscape and predicting the ability of that landscape to preserve archaeological material (DECCW 2010).

Geology of the Lower Slopes subregion is typically characterised by Ordovician to Devonian folded and faulted sedimentary sequences with interbedded volcanic rocks and intrusive granites, generally bordering large areas of tertiary and Quaternary alluvium (NPWS 2016). The Project Area is wholly situated within the Wah Way soil landscape (**Figure 3-3**).

The Wah Way soil landscape is characterised by plains country extending westward to parts of the Barmedman Creek floodplain, with slope gradients generally <1% and local relief of <5 m. Soils of this landscape are predominantly very deep (>150 centimetres [cm]) poorly drained clays with Red Clays, Grey Clays, and Brown Clays. Localised small areas of gilgai occur. On slightly more elevated plains very deep (150cm), imperfectly drained red brown earths/red clay intergrades occur (King 1998: 198).

Figure 3-3: Map showing the Project Area in relation to soil landscape units (King 1998).



3.3 HYDROLOGY

The South Western Slopes Bioregion includes parts of the Murray, Murrumbidgee, Lachlan and Macquarie River Catchments (NPWS 2016). The primary water source of the landscape

immediately surrounding the Project Area is Gagies Creek, meandering southeast to northwest on the western boundary of the Project Area at a distance of approximately 520m. Hydrological resources directly within the Project Area are limited, with a very shallow ephemeral drainage line present in the north-western portion of the area (see **Figure 3-1**, **Figure 3-3** and **Plate 2**).

3.4 VEGETATION

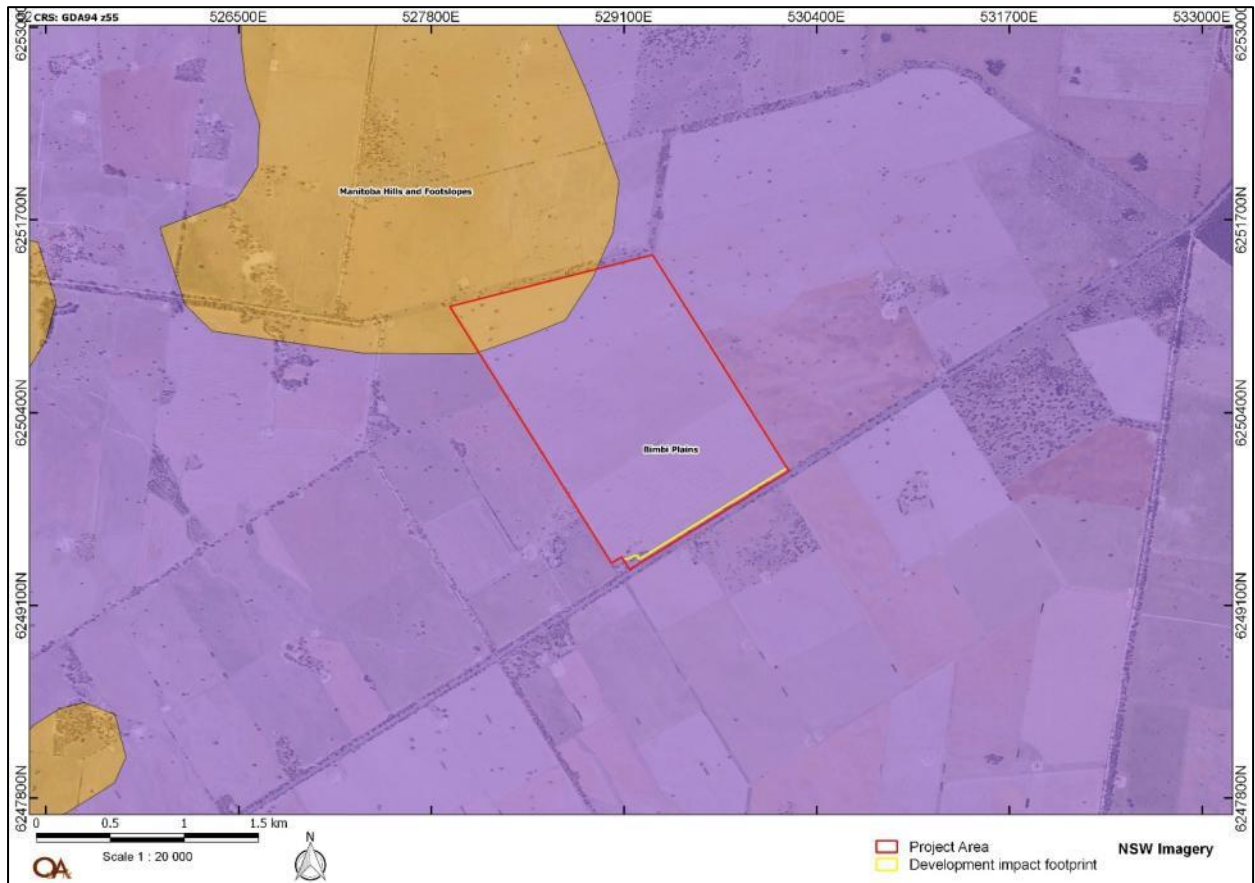
Recorded vegetation within the Lower Slopes subregion is largely comprised of Dwyer's gum on granite, red ironbark on sedimentary rocks, Hill red gum, white cypress pine and red stringybark in the ranges. Grey box woodlands with yellow box, white cypress pine and belah are often located in the lower landform areas (NPWS 2016). Much of this characterisation is likely to be representative of the landscape pre-1788. The Project Area is situated across two vegetation landscapes: Bimbi Plains and a small portion of Manitoba Hills and Foothills in the northwest (**Figure 3-4**).

Bimbi Plains is predominantly characterised by grey box and white cypress pine, originally dominant, and sparse bumble box along creek lines. This vegetation is mostly cleared and cultivated (Mitchell 2002: 90).

Manitoba Hills and Foothills is characterised by moderate to open Dwyer's mallee gum, tumbledown gum, white cypress pie, red box, kurrajongs, bumble box, scattered western golden wattle, variable spear grass and wire grass. River red gum and bumble box are often found along major creek lines (Mitchell 2002: 94).

3.5 CLIMATE

The Bureau of Meteorology (BOM) record station nearest to the Project Area is located at the West Wyalong airport approximately 12km to the southwest (BOM 2018). Climate statistics from West Wyalong airport indicate that the region experiences warm to hot temperatures in the summer with temperatures dropping just above zero in the cooler months. The climate statistics show that the highest mean maximum temperatures are in January (34.1°C) and the lowest mean minimum temperatures are in July (2.9°C). Rainfall is greatest in December (mean rainfall: 53.6 millimetres [mm]) and the lowest in April (mean rainfall: 18.8mm). The average annual rainfall is 453.8mm. As such, the climate of the region for the majority of the year would have been suitable for past Aboriginal occupation.

Figure 3-4: Project Area in relation to vegetation landscapes.

3.6 LAND-USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Crucial for the preservation of archaeological deposits is the history of past land use in a particular area, particularly the European settlement and associated agricultural practices of a given area. Satellite imagery of the Project Area shows that the immediate landscape, including surrounding areas, have been subject to extensive historical clearing and agriculture, with many of the surrounding areas representing cultivated paddocks. Scattered trees are likely to be present, where they have deliberately been retained by farmers for livestock grazing purposes. Mature trees are likely to be present. The cleared portions of the Project Area were done for cultivation purposes and would have disturbed and displaced the upper layers of any archaeological deposits that may still be present in the landscape. Due to this, any archaeological deposits present may be in a displaced context. The Project Area has moderate to high levels of disturbance mostly consisting of impacts related to the area's agricultural use. Disturbances across the Project Area are summarised as:

- **Vegetation removal:** the Project Area has been subject to significant levels of vegetation removal. Culturally modified trees may have been removed during the clearance phase in the area, thereby distorting the archaeological landscape by removing this site type.

- Cultivation: the entirety of the Project Area has been subjected to repeated cultivation. Repeated cultivation since the commencement of European settlement will have altered soil profiles and potentially disturbed the integrity of sites and any potential sub-surface archaeological deposits. Research into the impacts upon archaeological sites as a result of agricultural practices, termed plough zone archaeology, has demonstrated that artefacts can move in excess of 8m per season of cultivation (Frink 1984; Gaynor 2001).
- Grazing: the Project Area has been used historically and is currently used for low-intensity livestock grazing. The presence of hooved livestock is likely to have resulted in trampling and compaction of the ground surface which accelerates soil loss.
- Farm infrastructure and remediation works: the Project Area has overall low levels of disturbance generated by the construction of dams, contour banks, an electricity easement and fencing. Earthworks associated with contour banking and dams can reveal lithic artefacts which may have been otherwise concealed by low ground surface visibility (GSV).
- Transport: a number of graded and formed access tracks are situated within the Project Area generally following boundary fences. In the case of unsealed tracks, this disturbance tends to provide exposures, thus enabling the identification of otherwise obscured artefacts.
- Erosion: erosion can also include gully erosion and sheet wash erosion, primarily adjacent to waterways. Varying scales of erosion on the archaeological landscape has the capacity to completely remove archaeological sites. However, in the process of erosion, many archaeological sites can become freshly exposed.

3.7 CONCLUSION

A review of the environmental features and the surrounding landforms identified that the flat landforms which dominate the Project Area would not have been an impediment to use of the area by Aboriginal people in the past. However, the occupation of the area by Aboriginal people would most likely have been limited to transient inhabitation resulting from movement across the landscape to other areas which provide more stable resources such as Gagies Creek and Barmedman Creek approximately 12km to the east. Landforms surrounding the Project Area which comprise outcropping rock, such as the Booberoi Hills, approximately five km east, could have been used as a source of stone procurement for artefact manufacture. Outcropping rock is not present in the Project Area. Soils that characterise the majority of the Project Area are relatively stable, however, repeated ground surface disturbance by ploughing and vegetation clearing will have allowed the soil to become more susceptible to erosion. Mature, native species known to be previously present within the Project Area would have provided resources for Aboriginal people in the past, however, resources likely to have supported a large population of people would have been present closer to the banks of more permanent water sources in the

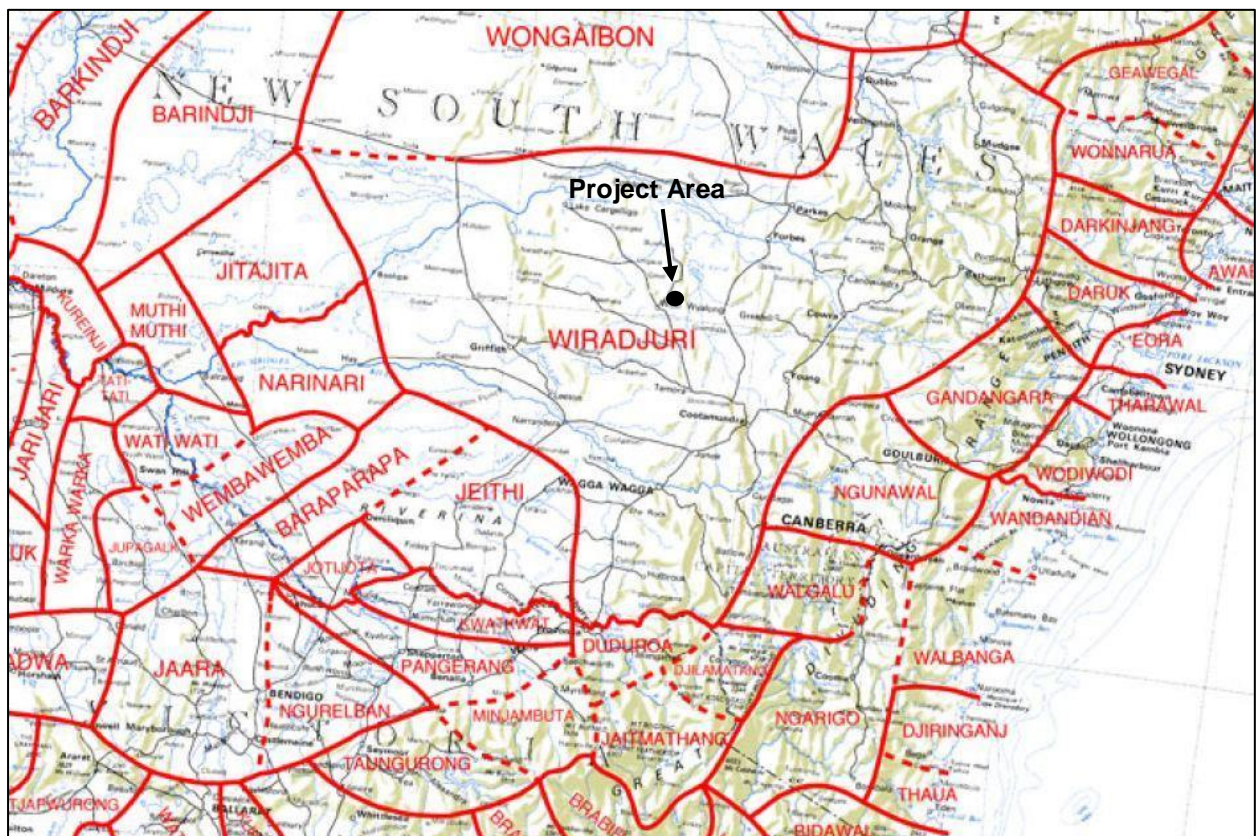
region. Given the presence of scattered trees, it is possible that culturally modified trees may exist within the Project Area, despite the broad-scale vegetation clearance which reduces the likelihood that any culturally modified trees remain present. Disturbances arising from past land use have resulted in localised, significant changes to the landscape. The majority of the Project Area has been subject to extensive levels of disturbance from continued ploughing and cultivation. Unobtrusive sites such as open artefact scatters and isolated finds have a greater ability to withstand disturbances and persist within the landscape, however where present, such sites are likely to be disturbed.

4 ABORIGINAL ARCHAEOLOGY BACKGROUND

4.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

According to Tindale (1974), the current Project Area falls within the central portion of the lands occupied by the Wiradjuri people (**Figure 4-1**). The Wiradjuri tribal area is situated within the Murray Darling Basin, covering three primary physiographic divisions: the riverine plains in the west, the transitional western slopes in between and the highlands or central tablelands in the east (White 1986).

Figure 4-1: Location of the Project Area in relation to Tindale (1974).



The recorded history of the Wiradjuri people and the interactions with their country witnessed at the time of Europeans contact can often be fragmented, providing an incomplete picture of the way Aboriginal people were living prior to European contact. Nevertheless, it is known that the Wiradjuri people regularly communicated, moved, traded and participated in ceremonial activity between their country and neighbouring areas. Despite the differences in dialect, the Wiradjuri are identified as a coherent group as they maintained a cycle of ceremonies that moved around the whole tribal area. This cycle led to tribal coherence despite the large occupied area. Gatherings and alliances would have been of various sizes, with the largest being tribal gatherings (about 500 people) for ceremonies, initiation and trade, with mutual obligations between groups being an important factor in the social and cultural stability of the Wiradjuri (Kabaila 2005).

The fertility and quality of the Wiradjuri lands meant that they were greatly affected by European settlement in the area. The gold rush of the 1850s in the eastern Wiradjuri lands saw the local European population boom. This subjected the Wiradjuri people to new diseases, which would have spread beyond the new colonist's population centres, and combined with the pastoral settling of the slopes and plains, would have displaced many Wiradjuri people placing pressure on the traditional cultural systems (Kabaila 2005).

4.2 REGIONAL ARCHAEOLOGICAL CONTEXT

The most relevant research-based studies over the central west and region of the Project Area applicable to the current assessment, were undertaken by Witter (2004) and OzArk (2016). Although centred in the regions further north, these studies together still provide baseline data for placing past Aboriginal sites within a regional landscape context.

Witter (2004) compiled a broad scale review of the archaeological context of western NSW, including the region of Lake Cowal approximately 26km northeast of the Project Area. Witter described the area as including the western flank of the Great Dividing Range and demographically as “a traditional zone between the high plateaus of the Dividing Range and the vast plains to the west”. Witter postulated that open camp sites (stone artefacts scattering the ground surface) are an extremely common site type and that they occur in all parts of the region although are most frequently found in stream valleys and crests. The region has experienced extensive agricultural development, with ploughing harming many sites. Quartz material was commonly used for the manufacture of stone artefacts in the region. Regionally, site types other than open camp sites are relatively rare, with heat retainer ovens and ground stones (axes) being uncommon, as are suitable rocky outcrops for raw material procurement. Witter also noted that sites of Pleistocene age (generally older than 10,000 years) would be rare due to poor landscape preservation conditions.

More recently in 2016, OzArk was engaged by the Central West Local Land Services (CWLLS) to formulate and test a predictive model for Aboriginal site location within Travelling Stock Reserves (TSRs) across the CWLLS area. In formulating a predictive model for site location, Mitchell (2002) landscapes were used to understand the underlying landform type. The resolution of the Mitchell landscape units was too fine to be of use and OzArk (2016) used a higher-level classification within the Mitchell landscape units to describe the landscapes within the CWLLS area. Landscapes were divided into the following types:

- Channels and floodplains;
- Alluvial plains;
- Slopes;
- Uplands; and

- Downs.

Previously recorded AHIMS sites were plotted against these landscape types and the following observations made:

- A high number of sites (n=876) were located within slopes landscapes, however, this result could be due to the fact that Dubbo is located within a slopes landscape and the highest number of sites in the CWLLS area is recorded in and around Dubbo;
- The highest density of sites is within channels and floodplains landscapes (n=927);
- Alluvial plains landscapes have the third highest density of sites (n=770);
- Relatively small numbers of sites are recorded in uplands (n=5) and plateau (n=34) landscapes; and
- A moderate number of sites are recorded in downs landscapes (n=255). Three or four clusters of sites exist in downs landscapes, which may have skewed the data. If the veracity of all site recordings in this category could be verified, it is suspected that the actual number of sites in downs landscapes would be lower.

OzArk (2016) divided the CWLLS area into two stream orders—major watercourses (normally named rivers) and minor watercourses (normally named creeks and their larger tributaries)—and buffers were established for each watercourse type as follows:

- **Drainage 1 buffer:** 200m either side of a major watercourse; and
- **Drainage 2 buffer:** 100m either side of a minor watercourse.

As such, the OzArk (2016) CWLLS predictive model made predictions based on the landscape type and distance to watercourses. The predictive model was tested by assessing 32 TSRs within the CWLLS area located in a variety of landscape types with variable distances to water. As a result of the assessment, 59 sites were recorded. Twenty six (44%) of the recorded sites were modified trees, 22 (37%) were artefact scatters and 11 (19%) were isolated finds. The majority of recorded sites were located in channels and floodplains landscapes (35 sites or 59% of all sites), followed by 10 in slopes landscapes, four in alluvial plains landscapes and one in a downs landscape. No sites were recorded in uplands or plateau landscapes.

Table 4-1 demonstrates that the most archaeologically sensitive landscape in the CWLLS area is channels and floodplains, followed by slopes landscapes. Other landscape types have a low representation but demonstrate that low densities of sites exist in other landscape types.

Table 4-1: Association of all recorded sites to landscape units (OzArk 2016).

Landscape unit	Number of sites	Percentage of total (n=59)
Channels and floodplains	36	61
Alluvial plains	6	10
Slopes	14	23
Downs	1	2

Uplands	2	4
Plateau	0	0

Site types associated with the landscapes most-frequently recording sites (channels and floodplains and slopes) show that channels and floodplains landscapes are more likely to contain modified trees and that slopes landscapes are more likely to contain artefact scatters and isolated finds (**Table 4-2**).

Table 4-2: Frequency of site types in association with landscape types (OzArk 2016).

Site type	Channels and floodplains	Slopes	Alluvial Plains
Artefact scatter	11 (30.5%)	7 (50%)	3 (50%)
Isolated finds	4 (11%)	3 (21%)	3 (50%)
Modified trees	21 (58.5%)	4 (29%)	0 (0%)

In terms of drainage buffers, OzArk (2016) found that 27 sites (or 46% of all sites) were recorded with the Drainage 1 buffer and 10 sites (or 17% of all sites) were recorded within the Drainage 2 buffer. Therefore, more than 63% of all sites were recorded within the two drainage buffers, with a clear bias toward Drainage 1 buffers.

4.2.1 Aboriginal cultural heritage values

The cultural heritage values of a landscape are important to the Aboriginal community as they often are represented by objects and features that were either traditionally used as a food/medicinal resource or for cultural events such as ceremonial activities. Unfortunately the majority of the Project Area has been heavily cleared and cultivated for an extensive period of time, leaving behind little evidence of the resources that may have once been available in the area.

Linton Howarth of the West Wyalong LALC was invaluable imparting information on the cultural value and use of native vegetation and resources local to the Project Area and surrounding landscapes:

- Western grey box: often procured for its resin and bark resources to construct implements like coolamons and canoes. The weeping myall tree was also known to be procured for these uses.
- Yellow box: bark commonly used to cure sore throats.
- Belah: often used for the manufacture of hard implements such as boomerangs and bundi (short throwing club).
- Cypress pine: often procured for its resin resource.
- Beefwood and Wilga: commonly used in ceremonial activities, especially for use in smoking babies and children for protection.

- Ruby salt bush: could be used for food. The seeds in the berries could be ground to create a type of flour and leaves used as a vegetable. The red pigment in the berries could also be used for painting.
- Waaylong: a Wiradjuri term for a hard shell nut often found in the area.
- Booberoi hills: located approximately 6km east of the Project Area and contain mineral resources such as outcropping quartz.

4.3 LOCAL ARCHAEOLOGICAL CONTEXT

4.3.1 Desktop Database Searches Conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the Project Area. The results of this search are summarised in **Table 4- 1** and presented in detail in **Appendix 2**.

Table 4-3: Aboriginal heritage: desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth and National Heritage Listings	17/10/2018	NSW and Bland Shire LGA	No places listed on either the National or Commonwealth heritage lists are located within the Project Area
National Native Title Claims Search	17/10/2018	NSW	No Native Title Claims cover the Project Area.
OEHS AHIMS	20/9/2018	30 x 30 km centred on the Project Area	No sites are located within the Project Area.
Local Environment Plan (LEP)	17/10/2018	Schedule 5 of the Bland LEP of 2011	No places listed on the LEP are located within or adjacent to the Project Area.

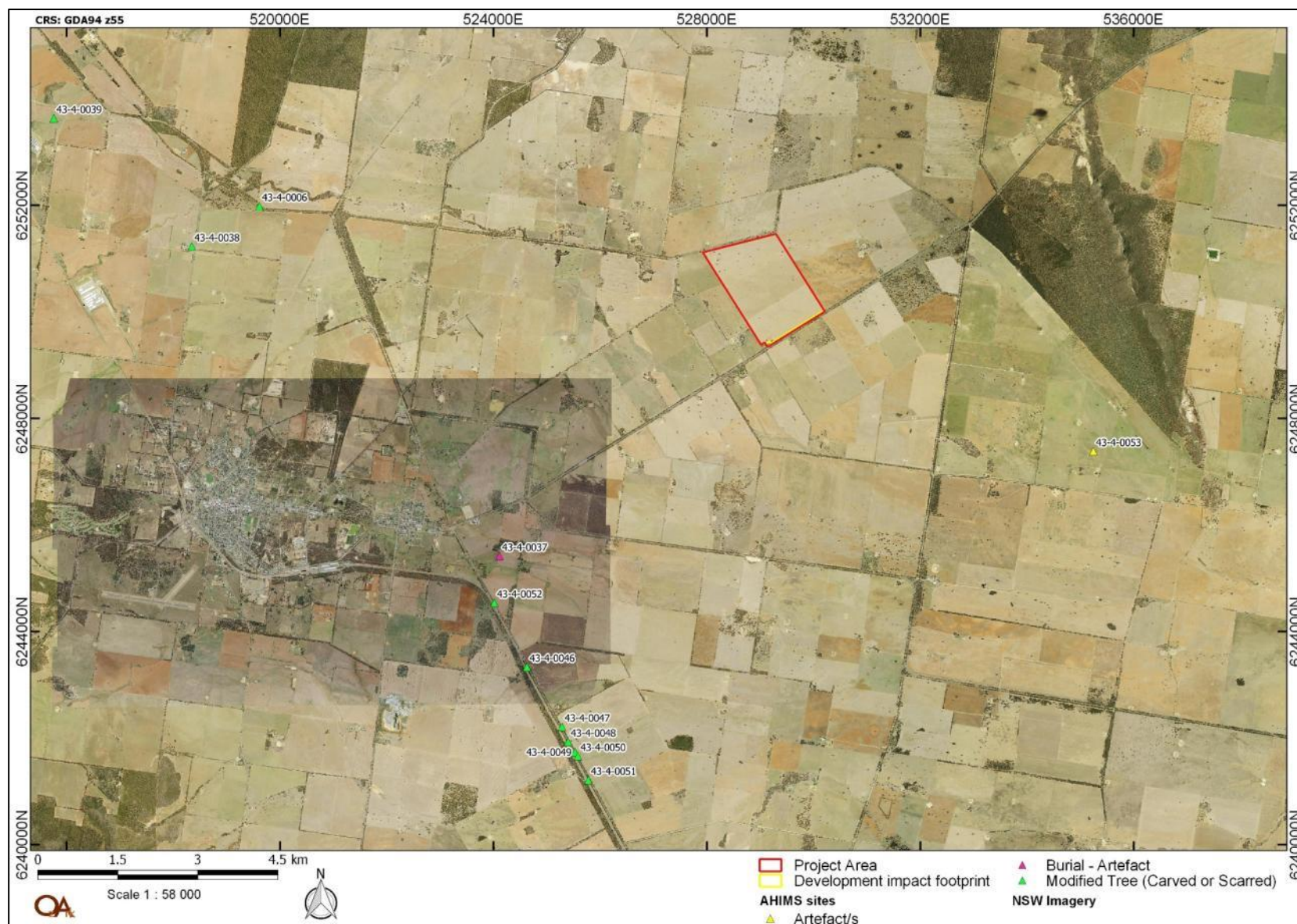
A search of the OEHS administered AHIMS database was conducted on 20 September 2018 (**Appendix 2**). The search returned 12 records for Aboriginal heritage sites within a 30km x 30km search area (see **Table 4-2** for the AHIMS search data; results mapped on **Figure 4-2**). None of the previously recorded sites are in the Project Area.

Scarred trees (including trees that are scarred/modified or carved) are the commonly recorded site type on AHIMS in the search area (83.33%). Artefact/s and a burial-artefact sites have an equal presence in the search area, although only one site representation of each was identified (n=1). The recorded scarred trees are generally located in areas where existing native vegetation has not been fully cleared. In the search area this predominantly includes existing road corridors and stands of trees. Artefact sites are frequently identified closer to watercourses but can occur anywhere in the landscape, especially landscapes that have been subject to increased land use disturbance. Burials are uncommon and are generally considered to be recorded in areas with less ground disturbance.

Table 4-4: AHIMS site types and frequencies.

Site Type	Number	% Frequency
Artefact/s	1	8.33%
Burial/arteifact	1	8.33%
Scarred tree	10	83.33%
Total	12	100%

Figure 4-2: Project Area in relation to the recorded AHIMS sites.



4.4 PREVIOUS ARCHAEOLOGICAL SURVEYS

There have been a small number of archaeological investigations in the local and regional area. Of note is the study undertaken by Sinclair Knight Merz (SKM 2013) located approximately 9km southwest of the Project Area along Goldfields Way. The results of the investigations summarised below provide the basis for an archaeological context for the current assessment and were used in the preparation of a predictive model for Aboriginal site location (**Section 4.5**). This section refers to the archaeological assessments and investigations that were undertaken in the region of the Project Area.

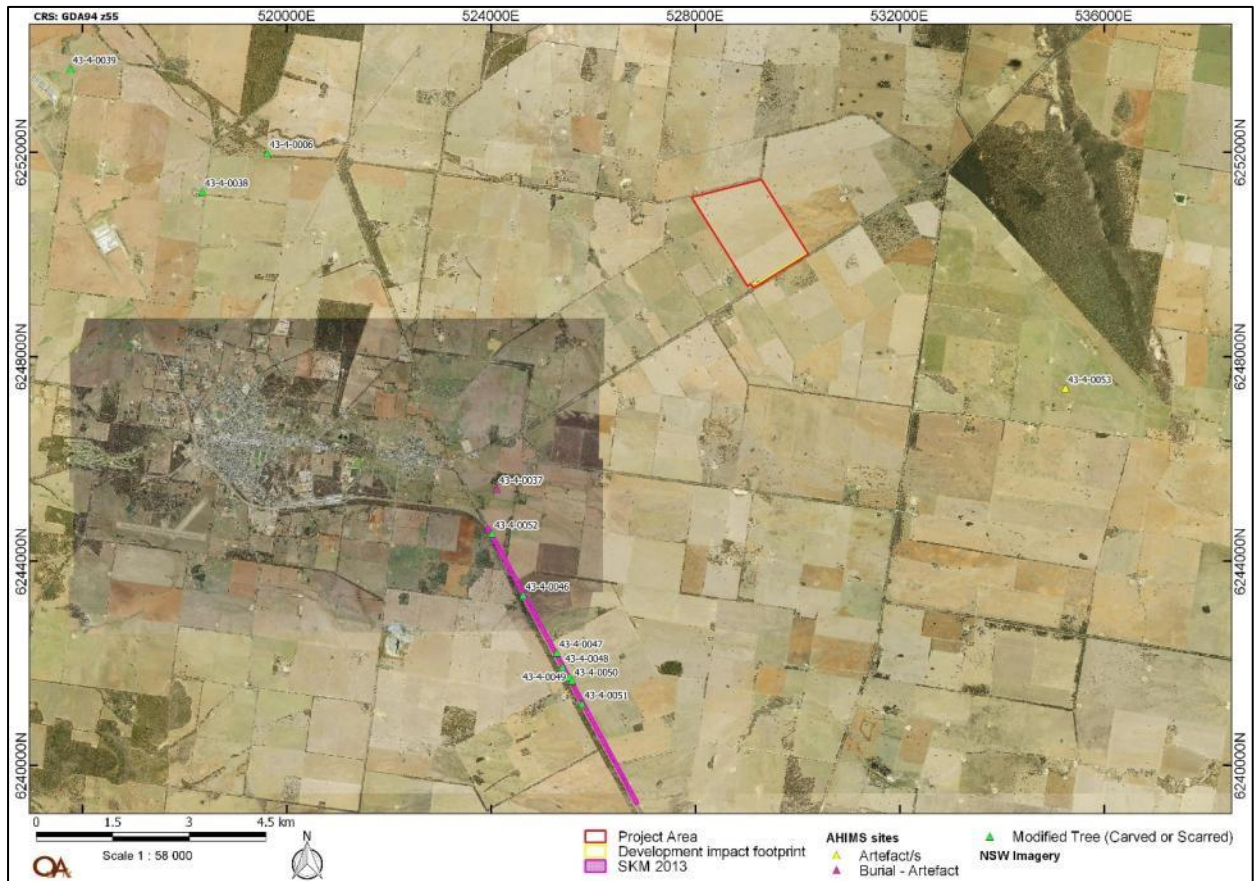
Cane (1995) was engaged to undertake a survey and assessment at Lake Cowal. The study aimed to identify the nature of past Aboriginal traces and land use surrounding the lake and whether the sites presented specific patterns of land use associated with the lake and surrounding plains. Cane identified and recorded 10 archaeological sites on the western margin and south of the lake. Nine of the sites were artefact scatters and one a scarred tree. These sites were representative of the majority of the site types presented on the AHIMS search. The artefacts sites ranged from samples over 100 artefacts to smaller less dense sites. Cane also noted a continuous background scatter of artefacts on the land west of the lake. A difference in site assemblage was noted between what was recorded relatively closer to the lake and what was further from the lake. Following analysis of the assemblage, Cane noted a distinction of a regionally unique micro blade/backed artefact reduction and a distinct area that was dominated by quartz.

SKM (2013) undertook an Aboriginal survey of the Oakover Pavement Reconstruction project located along Goldfields Way, south of West Wyalong. The project would involve clearing of additional trees, widening of the road formation and construction of a new table drain, improved adjoining road access and stockpiling of material. The SKM assessment was located approximately 8km southwest of the current Project Area and has been the closest recorded study in relation to the Project Area. The location of the study is illustrated on **Figure 4-3**. The SKM assessment landform was identified as a 'plains' landform, and therefore low lying and without topographical features. The entire assessment area was surveyed and as a result seven scarred trees were recorded (Birribie 1 to 6 and Bee Tree1). A stand of quandong plants were also noted in the assessment area as a traditionally used food resource used by Aboriginal people in the region.

Niche (2018) undertook an archaeological assessment for the Cowal Gold Operations proposed modification. The modification was proposed to cover an increase in ore processing, additional disturbance areas, modification and increase of tailings storage facilities, and duplication of the existing water supply pipeline. The landscape of the assessment was characterised by plains and low hills surrounding the dominant landscape feature of Lake Cowal. The survey identified a total

of 65 Aboriginal sites which were dominated by stone artefact concentrations and heat retainer features. Few intact ground ovens were identified and a single scarred tree was recorded. The majority of Aboriginal heritage sites identified during the survey were located within the gilgai landform and the alluvial plains.

Figure 4-3: Map showing the location of the closest previous assessment in the relation to the recorded AHIMS and Project Area.



4.5 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including: plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently sites tend to be found along permanent and ephemeral water sources, along access or trade routes or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally it is the more durable materials such

as stone artefacts, stone hearths, shell, and some bones that remain preserved in the current landscape. Even these however may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport - both over short and long time scales or (b) the historical impacts associated with the introduction of European farming practices including: grazing and cropping; land degradation associated with exotic pests such as goats and rabbits and the installation of farm related infrastructure including water-storage, utilities, roads, fences, stockyards and residential quarters. Scarred trees may survive for up to several hundred years but rarely beyond.

The OzArk (2016) CWLLS predictive model is relevant and can be used to gain an understanding of the archaeological potential within the Project Area. The closest identified Drainage 2 buffer (i.e. 100m either side of a minor watercourse), is located at Gagies Creek, 520m west of the Project Area, with only a very minor ephemeral drainage line noted in the north of the area, and is mostly comprised of foot slopes (Manitoba Hills and Foot slopes) landscape unit (**Figure 3-4**). The CWLLS predictive model predicts higher numbers of sites within the slopes landscapes than the plains, particularly within Drainage 2 buffers. Artefact sites (including isolated finds and artefact scatters) are the most likely site types to be encountered within the Project Area, and are more likely predicted within the slopes landscapes, occupying the northern portion of the Project Area, although they are predicted to occur in lower numbers within the plains landscapes. The likelihood of recording scarred trees is significantly lower within the slopes/plains landscapes (**Table 4-2**).

Knowledge of the environmental contexts of the Project Area and a desktop review of the known local and regional archaeological record, the following predictions are made concerning the probability of those site types being recorded within the Project Area:

- Isolated finds may be indicative of: random loss or deliberate discard of a single artefact, the remnant of a now dispersed and disturbed artefact scatter, or an otherwise obscured or sub-surface artefact scatter. They may occur anywhere within the landscape but are more likely to occur in topographies where open artefact scatters typically occur.
 - As isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the Project Area.
- Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 metres away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short or long term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools, but may also include other artefactual rock types such as hearth and anvil stones. Less commonly, artefact scatters may include archaeological stratigraphic features such as hearths and artefact concentrations which relate to activity areas. Artefact density can vary considerably between and across individual sites. Small ground exposures revealing low density scatters may be indicative of background scatter rather than a spatially or

temporally distinct artefact assemblage. These sites are classed as 'open', that is, occurring on the land surface unprotected by rock overhangs, and are sometimes referred to as 'open camp sites'.

Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources.

Topographies which afford effective through-access across, and relative to, the surrounding landscape, such as the open basal valley slopes and the valleys of creeks, will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.

- Artefact scatters, and isolated finds, are the dominant site types occurring in the region. Stone artefact sites are expected to be located in areas of high ground surface exposure and erosion. Drainage lines are limited in the Project Area, only represented by a small ephemeral drainage line in the north of the area. Therefore the occurrence of this site type may be lower. This site type is likely to be in a secondary context from disturbances such as erosion and ploughing. It is likely that any sites associated with such landforms are likely to have a low artefact density and a low complexity of tool types as the sites are either one-off events or only infrequently used due to the lack of a permanent or semi-permanent water source and the undifferentiated landforms present. Artefacts are likely to be manufactured by fine-grained volcanic and sedimentary material.
- Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed as a consequence of gathering food, such as collecting wood boring grubs or creating footholds to climb a tree for possum hunting or bark removal. Due to the multiplicity of uses and the continuous process of occlusion (or healing) following removal, it is difficult to accurately determine the intended purpose for any particular example of bark removal. Scarred trees may occur anywhere old growth trees survive. The identification of scars as Aboriginal cultural heritage items can be problematical because some forms of natural trauma and European bark extraction create similar scars. Many remaining scarred trees probably date to the historic period when bark was removed by Aboriginal people for both their own purposes and for roofing on early European houses. Consequently the distinction between European and Aboriginal scarred trees may not be clear.
 - Vegetation remaining within the Project Area is likely to include remnant native species. Such native vegetation may include trees of a certain type, age and size suited cultural scarring activities. This site type therefore may be encountered and it is also noted that this site type has been recorded locally although high levels of vegetation clearing reduce the likelihood of recording this site type. While the likelihood of recording this site type increases with proximity to water, SKM (2013) found that modified trees can be found within similar landforms that have been previously disturbed.

- Hearths/ovens are often used by Aboriginal people for the preparation of food and would generally be located in the vicinity of available resources, such as water sources to procure fish and shellfish, and on elevated ground to avoid impact from environmental threats.
 - This site type is considered possible in areas where A-Horizon soils are relatively undisturbed. However, given the high levels of disturbance across the Project Area, the likelihood of identifying this site type is significantly reduced.
- Quarry sites and stone procurement sites typically consist of exposures of stone material where evidence for human collection, extraction and/or preliminary processing has survived. Typically these involve the extraction of siliceous or fine grained igneous and meta-sedimentary rock types for the manufacture of artefacts. The presence of quarry/extraction sites is dependent on the availability of suitable rock formations.
 - This site type is not considered likely to be recorded within the Project Area. Additionally this site type has not been identified on the AHIMS search or within previous assessments. This site would likely be identified on neighbouring hill landforms where outcropping material is likely to be present.
- Burials are generally found in soft sediments such as aeolian sand, alluvial silts and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of sub-surface sediments or where some erosional process has exposed them.
 - Generally found in elevated sandy contexts or in association with rivers and major creeks. No such features exist with the Project Area and therefore burials are unlikely to occur. Although a single presence of this site type was identified on the AHIMS search (**Figure 4-2**).

5 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

5.1 SAMPLING STRATEGY AND FIELD METHODS

The archaeological methods utilised in the Aboriginal archaeological assessment followed the *Code of Practice* and the proposed methodology (**Appendix 1**). Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). The entirety of the Project Area was assessed using pedestrian transects. Increased survey effort and a more detailed inspection was applied to landforms deemed to have a greater Aboriginal archaeological potential. Within the landscape of the Project Area, areas of greater archaeological potential were largely confined to landform of previous disturbance such as a dam, access tracks, contour bank and fences. A very minor ephemeral drainage line exists in the north of the Project Area, however, this is not considered a substantial resource.

Representatives of the RAPs assisted the archaeologists by placing flags at artefacts and/or alerting the archaeologists that an artefact had been found. A located site was then more closely examined and all artefacts observed on the surface were flagged. For newly recorded sites, all artefacts and features were located with a GPS (global positioning system).

Sites were recorded with digital photography and by GPS units and were described on field recording sheets. General notes pertaining to the survey and ground covered by the archaeologists were kept as well. Representative photos of the Project Area are provided in **Plates 1–12**.

Figure 5-1 illustrates pedestrian coverage of the Project Area. It should be noted that the figure only displays transects of two surveyors although the Project Area was assessed by up to four surveyors each day.

Figure 5-1: The Project Area showing the pedestrian transects.

5.2 PROJECT CONSTRAINTS

There were no identified constraints which prevented the successful completion of the archaeological field assessment.

5.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are ground surface visibility (GSV) and exposure. These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the *Code of Practice* (DECCW 2010b).

Ground surface visibility (GSV) is defined as:

... the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (DECCW 2010b: 39).

Exposure is defined as:

... different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010b: 37).

These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological potential and items across the Project Area. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice (DECCW 2010).

Tables 6-1 and 6-2 present the effective survey coverage within the Project Area in more detail.

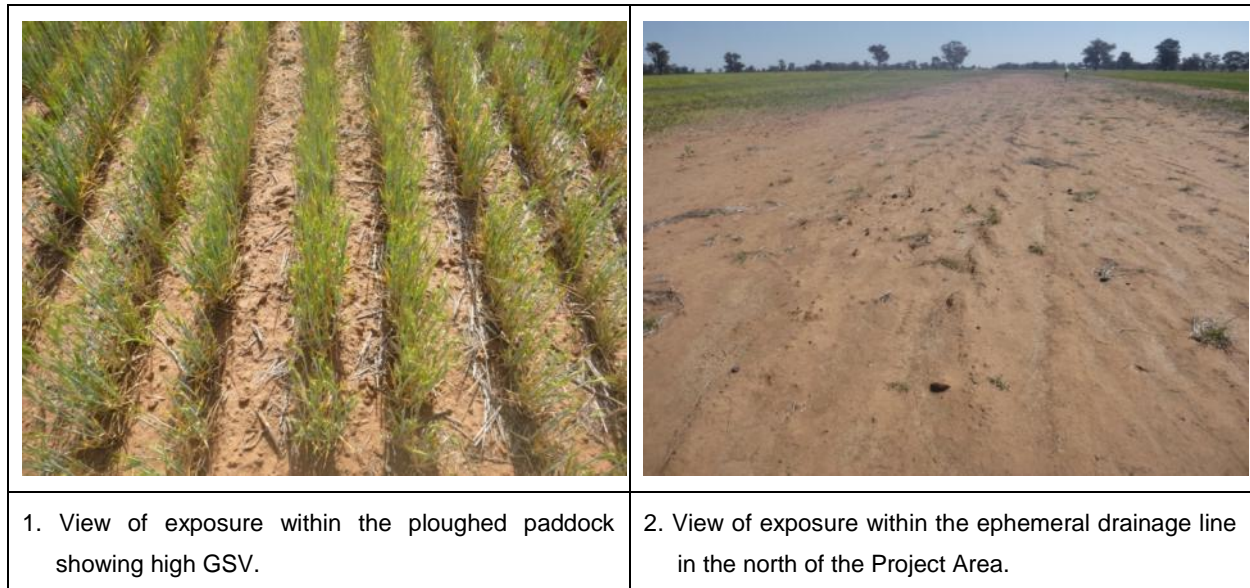
The effective survey coverage data over the Project Area was very high across the single landform present (**Figure 5-2**). The consistent high levels of ground surface exposure (GSE) and GSV across the Project Area were afforded by ploughing across approximately 90–95% of the area. Higher levels of exposure were also observed within access tracks, an ephemeral drainage line, a dam wall, contour banks and general erosion. GSV was slightly reduced in the southwest of the Project Area where remnant tree and ground cover was identified. However, this small patch of decreased GSV did not inhibit the ability to assess the archaeological characteristics and potential of the Project Area.

Table 5-1: Survey coverage data.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
1	Plain	2, 610 000	85	70	1,552,950	59.5%

Table 5-2: Landform summary—sampled areas.

Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites
Plain	2, 610 000	1,552,950	59.5%	12

Figure 5-2: Typical view of GSV within the Project Area.

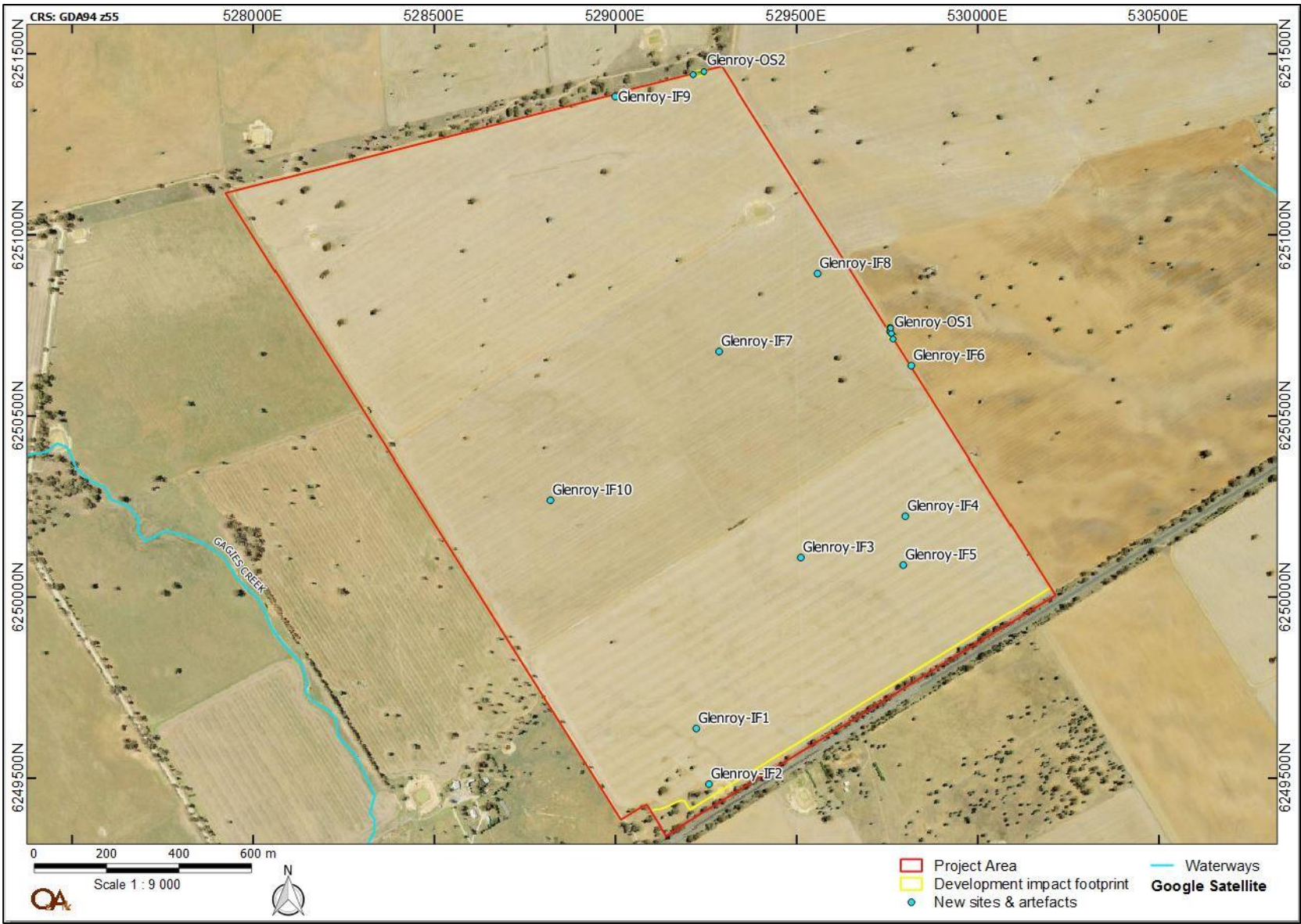
5.4 ABORIGINAL SITES RECORDED

12 Aboriginal sites were identified during the survey (**Figure 5-3** and **Figure 5-8**). All sites were artefact sites; either artefact scatters (n=2) or isolated finds (n=10). Further details including the GPS locations, site features and landform have been recorded for each site (**Table 5-3**). The AHIMS ID for each site will be updated once the sites have been approved by AHIMS. **Figure 5-3** presents all of the newly recorded Aboriginal sites identified during the field survey.

Table 5-3: Survey results.

AHIMS ID	Site number	Coordinates (GDA Zone 55)	Feature(s)	Landform
Artefact scatters				
Pending	Glenroy-OS1	529762E 6250717N	5 artefacts, 38m x 10m	Plain
Pending	Glenroy-OS2	529230E 6251445N	2 artefacts, 35m x 7m	Plain
Isolated find				
Pending	Glenroy-IF1	529221E 6249637N	Isolated find	Plain
Pending	Glenroy-IF2	529256E 6249482N	Isolated find	Plain
Pending	Glenroy-IF3	529511E 6250110N	Isolated find	Plain
Pending	Glenroy-IF4	529800E 6250224N	Isolated find	Plain
Pending	Glenroy-IF5	529795E 6250089N	Isolated find	Plain
Pending	Glenroy-IF6	529817E 6250639N	Isolated find	Plain
Pending	Glenroy-IF7	529286E 6250679N	Isolated find	Plain
Pending	Glenroy-IF8	529557E 6250893N	Isolated find	Plain
Pending	Glenroy-IF9	529000E 6251384N	Isolated find	Plain
Pending	Glenroy-IF10	528821E 6250268N	Isolated find	Plain

Figure 5-3: Aerial showing the location of all newly recoded Aboriginal sites.



5.4.1 Artefact scatters

Two artefact scatters were recorded during the survey (**Figure 5-4**). Details on each site follow.

Figure 5-4: Aerial showing the location of newly recorded artefact scatters.



Glenroy-OS1

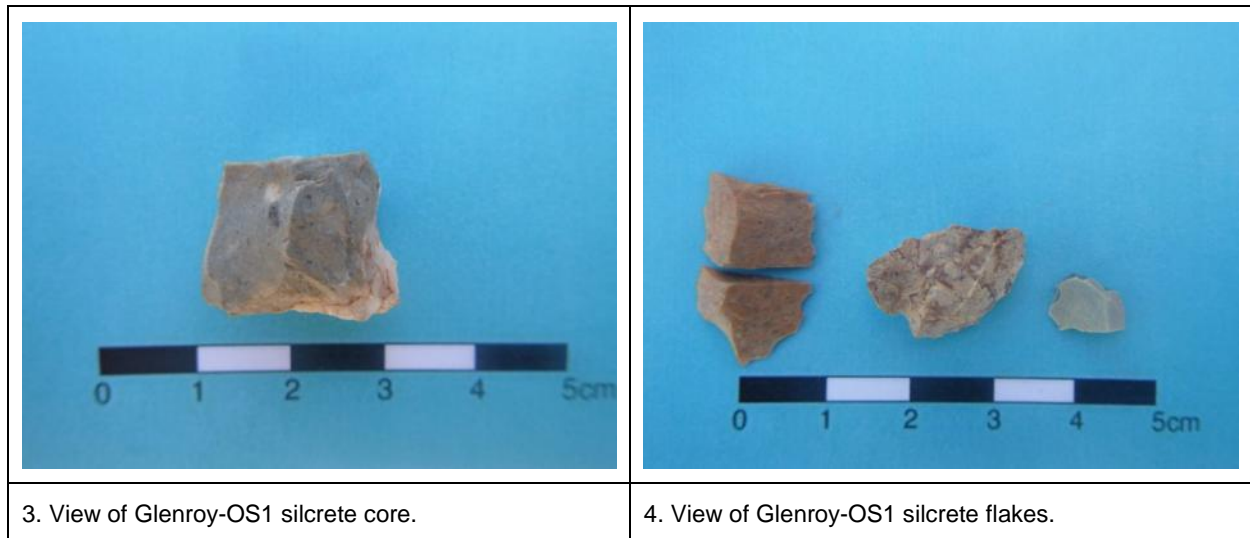
Site Type: Artefact scatter

GPS Coordinates: GDA Zone 55 529762E 6250717N

Location of Site: Within Lot 160 and 161 DP750615, approximately 8.8km northwest of Wyalong; 850m northwest of the Newell Highway; 1.8km east of Gagies creek; located across the property boundary fenceline (**Figure 5-4** and **Figure 5-5**).

Description of Site: Glenroy-OS1 is a low density artefact scatter comprising flakes (including broken flakes) and one core manufactured from silcrete (**Figure 5-5**; **Figure 5-6**; **Table 5-4**). Surrounding vegetation consisted of sparse weeds and grass cover, as well as crops. Evidence of remnant box woodland was present, although the majority has been cleared for cultivation purposes. The GSE at the time of recording was high at 90% with a GSV of 95–100%. Identified disturbances include a cleared and formed property access track, fencing, adjacent ploughing and cultivation and erosion. Potential for the presence of further subsurface archaeological deposits at Glenroy-OS1 was assessed as negligible.

Figure 5-5: Aerial showing the location and extent of Glenroy-OS1.**Figure 5-6: Photographs showing an overview and details of Glenroy-OS1.**

**Table 5-4: Glenroy-OS1. Artefact attributes.**

Artefact Type	Material	Integrity	Reduction	Size	Additional detail
Flake	Silcrete	Complete	Tertiary	0-2cm	
Flake	Silcrete	Distal fragment	Tertiary	0-2cm	
Flake	Silcrete	Longitudinal break	Tertiary	0-2cm	
Flake	Silcrete	Complete	Tertiary	2-4cm	
Artefact Type	Material	Direction	Flake scars	% cortex	Features
Core	Silcrete	Bidirectional	8	<5%	Fragment; size 17mm

Glenroy-OS2

Site Type: Artefact scatter

GPS Coordinates: GDA Zone 55 529230E 6251445N

Location of Site: Within Lot 160 and 161 DP750615, approximately 8.7km northwest of Wyalong; 1.7km northwest of the Newell Highway; 2km east of Gagies Creek; located immediately south of the property boundary fenceline (**Figure 5-6** and **Figure 5-4**).

Description of Site: Glenroy-OS2 is a very low density artefact scatter comprising flakes manufactured from quartz and silcrete (**Figure 5-7; Figure 5-8; Table 5-5**). Surrounding vegetation consisted of sparse grass and harvested crop, adjacent to an existing paper road and native vegetation corridor. The GSE at the time of recording was high at 90% with a GSV of 95–100%. Identified disturbances include cleared, ploughed and cropped landform, fencing and erosion. Potential for the presence of further subsurface archaeological deposits at Glenroy-OS2 was assessed as negligible.

Figure 5-7: Aerial showing the location and extent of Glenroy-OS2.

Figure 5-8: Photographs showing an overview and details of Glenroy-OS2.**Table 5-5: Glenroy-OS2. Artefact attributes.**

Artefact Type	Material	Integrity	Reduction	Size	Additional detail
Flake	Quartz	Complete	Tertiary	0-2cm	
Flake	Silcrete	Complete	Tertiary	4-6cm	

5.4.2 Isolated finds

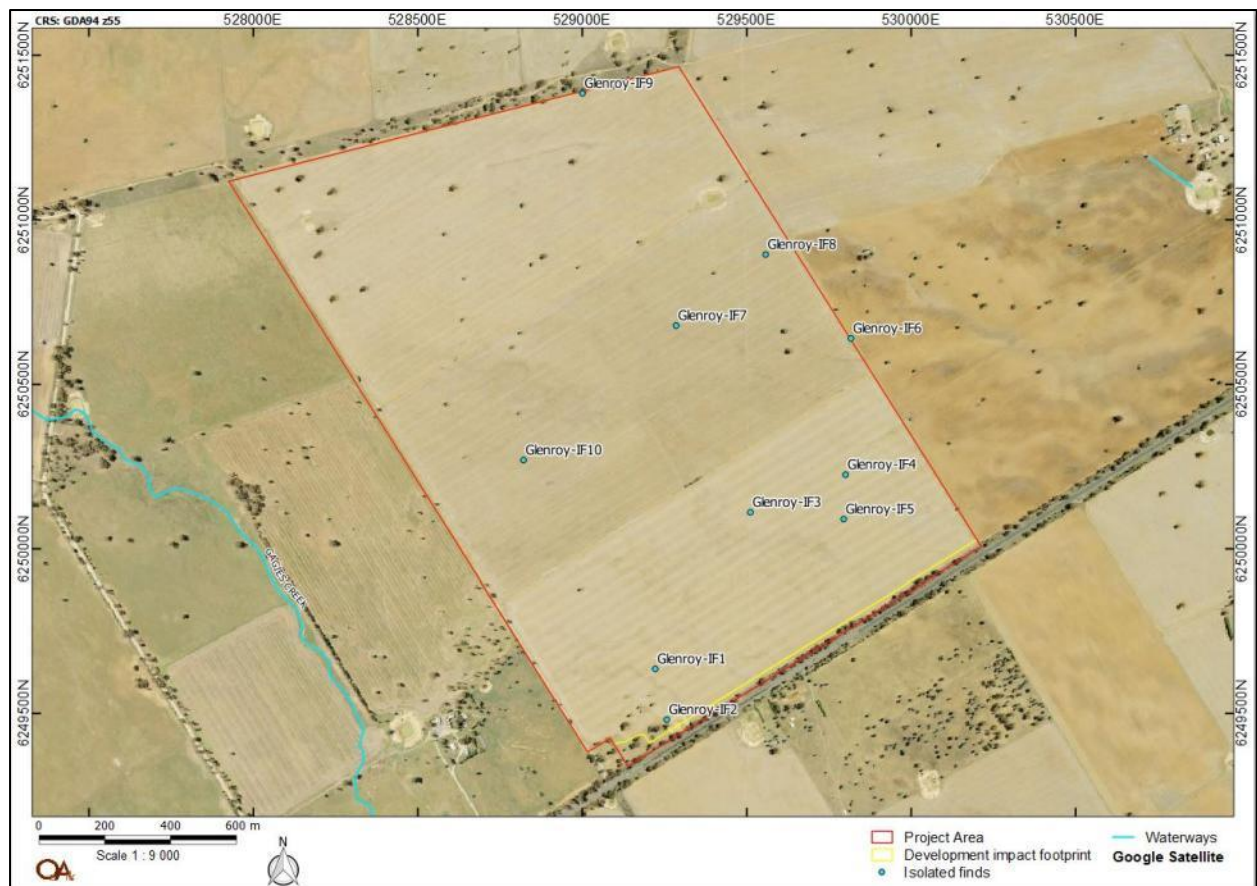
Ten isolated finds were recorded during the survey. These are listed in **Table 5-6** and shown on **Figure 5-9**.

Table 5-6: Recorded isolated finds artefact attributes and coordinates.

Site name	Coordinates (GDA Zone 55)	Artefact type	Material	Size	Additional detail
Glenroy-IF1	529221E 6249637N	Flake	Silcrete	2-4cm	Complete; cortex absent. Usewear present on the margin.

Site name	Coordinates (GDA Zone 55)	Artefact type	Material	Size	Additional detail
Glenroy-IF2	529256E 6249482N	Flake	Silcrete	0-2cm	Longitudinal break; cortex absent.
Glenroy-IF3	529511E 6250110N	Flake	Silcrete	2-4cm	Complete; cortex absent.
Glenroy-IF4	529800E 6250224N	Flake	Quartz	2-4cm	Complete; cortex absent.
Glenroy-IF5	529795E 6250089N	Blade	Silcrete	2-4cm	Proximal fragment; cortex absent.
Glenroy-IF6	529817E 6250639N	Flake	Silcrete	0-2cm	Complete; cortex absent.
Glenroy-IF7	529286E 6250679N	Flake	Quartz	2-4cm	Distal fragment; cortex <50%
Glenroy-IF8	529557E 6250893N	Core	Silcrete	8-10cm	Cortex present; two flake scars.
Glenroy-IF9	529000E 6251384N	Flake	Silcrete	2-4cm	Complete; cortex absent.
Glenroy-IF10	528821E 6250268N	Flake	Quartz	2-4cm	Distal fragment; cortex absent.

Figure 5-9: Aerial showing the location of newly recorded isolated finds.



Glenroy-IF1

Site type: Isolated find

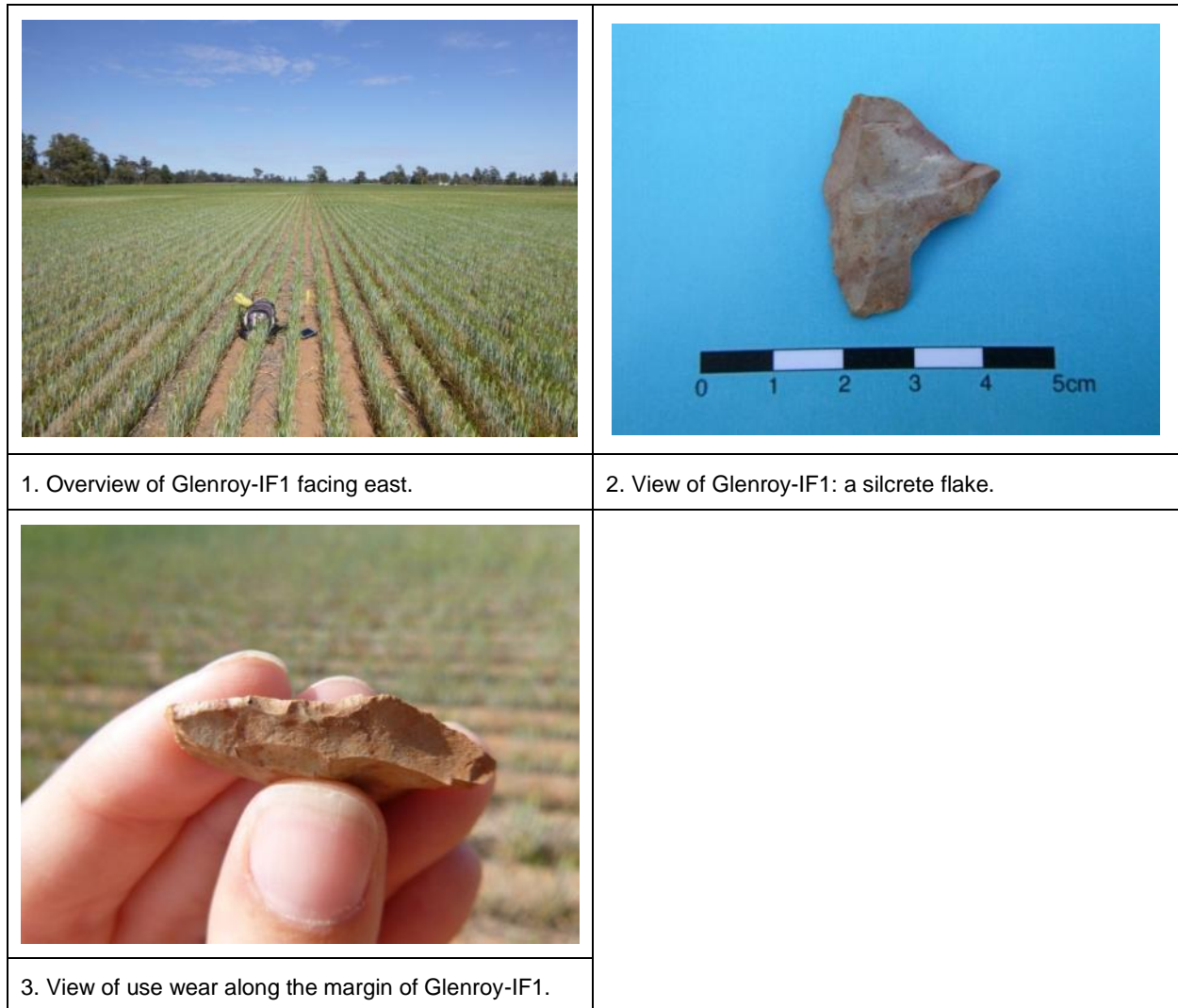
GPS coordinates: GDA Zone 55 529221E 6249637N

Location of site: Within Lot 160 DP750615, approximately 7.4km northeast of Wyalong; 215m north of the Newell Highway; and 960m east of Gages Creek (**Figure 5- 9** and **Figure 5-10**).

Description of site: Glenroy-IF1 is a single silcrete flake located within a flat landform in a ploughed field (**Table 5-6; Figure 5-11**). The flake displays some use wear along one of its margins. Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (70%) with a GSV of 80%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF1 was assessed as negligible.

Figure 5-10: Aerial showing location of Glenroy-IF1 and Glenroy-IF2.



Figure 5-11: Photographs showing an overview and details of Glenroy-IF1.

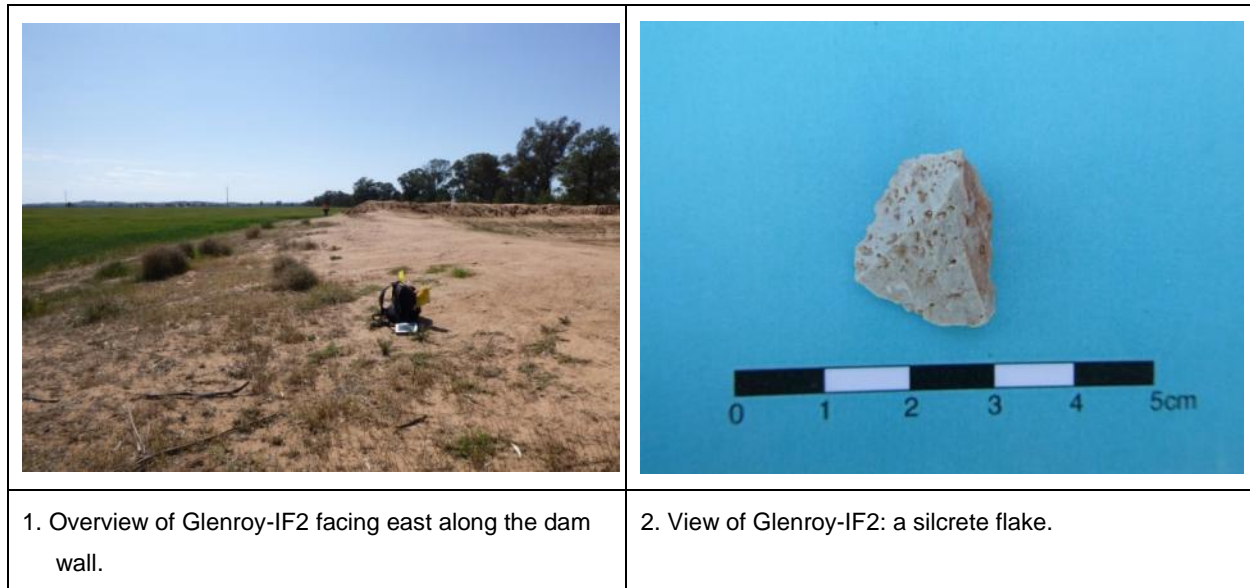
Glenroy-IF2

Site type: Isolated find

GPS coordinates: GDA Zone 55 529256E 6249482N

Location of site: Within Lot 160 DP750615, approximately 7.4km northeast of Wyalong; 70m north of the Newell Highway; 940m east of Gages Creek; and the north-western wall of a dam (**Figure 5-9** and **Figure 5-10**).

Description of site: Glenroy-IF2 is a single silcrete flake located within a flat landform, in a ploughed field (**Figure 5-12; Table 5-6**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation with some remnant box woodland present. The GSE at the time of recording was high (70%) with a GSV of 90%. Identified disturbances include continued ploughing and cultivation and the construction of a dam. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF2 was assessed as negligible.

Figure 5-12: Photographs showing an overview and details of Glenroy-IF2.

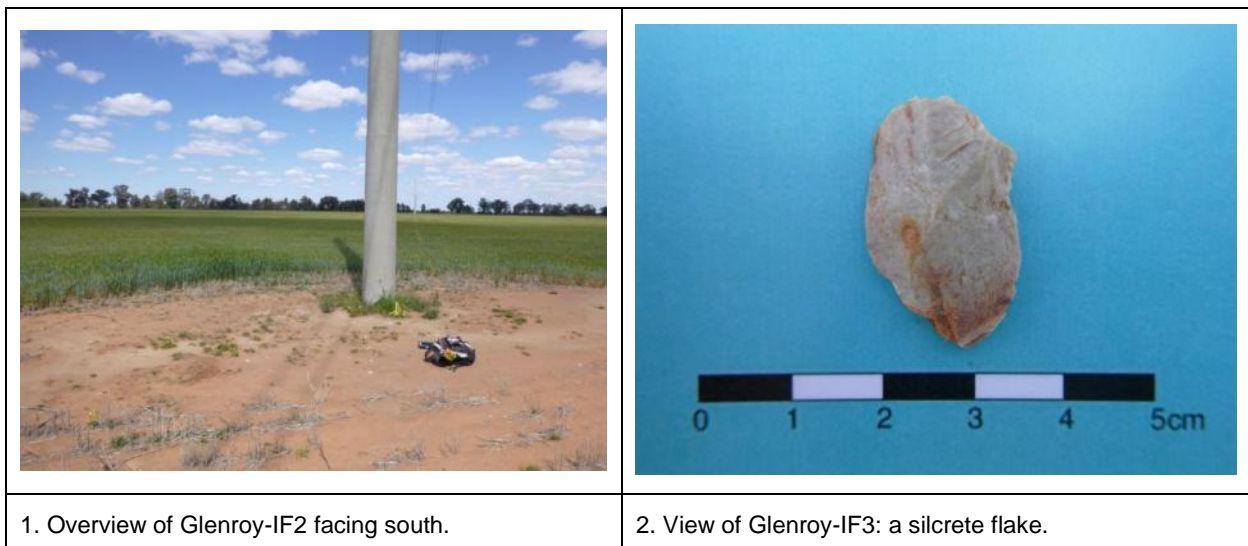
Glenroy-IF3

Site type: Isolated find

GPS coordinates: GDA Zone 55 529511E 6250110N

Location of site: Within Lot 160 DP750615, approximately 7.8km northeast of Wyalong; 465m north of the Newell Highway; 1.3km east of Gagies Creek; and at the base of electricity pole (structure 353) (**Figure 5-9; Figure 5-13**).

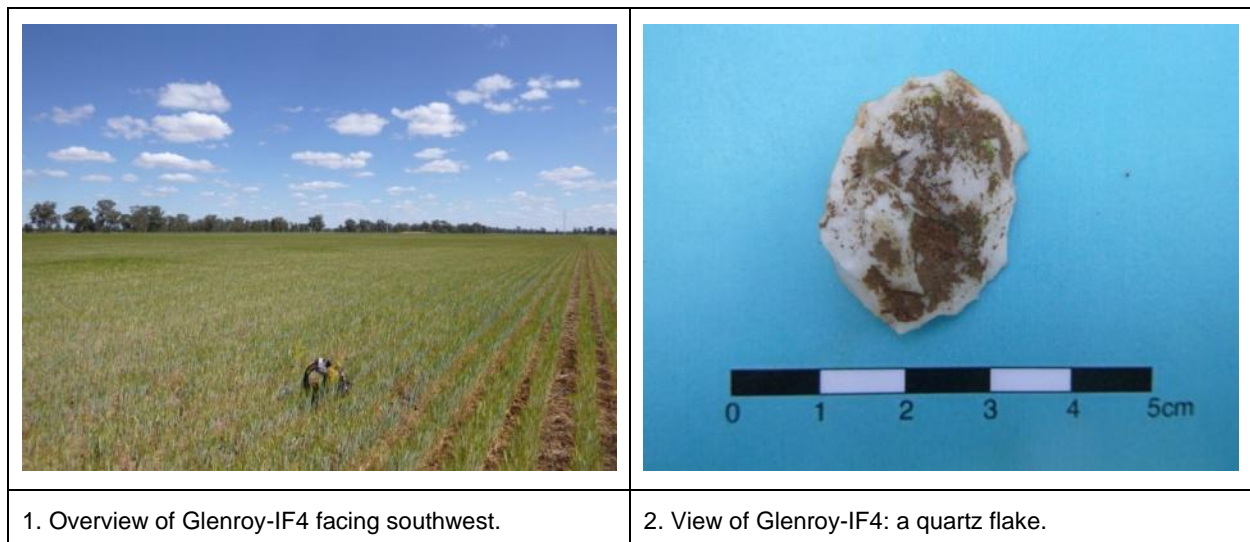
Description of site: Glenroy-IF3 is a single silcrete flake located within a flat landform, in a ploughed field, adjacent to an electricity pole (**Table 5-6; Figure 5-14**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (80%) with a GSV of 90%. Identified disturbances include continued ploughing and cultivation and the installation of the electricity pole. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF3 was assessed as negligible.

Figure 5-13: Aerial showing location of Glenroy-IF3 to Glenroy-IF5.**Figure 5-14: Photographs showing an overview and details of Glenroy-IF3.****Glenroy-IF4****Site type:** Isolated find**GPS coordinates:** GDA Zone 55 529800E 6250224N

Location of site: Within Lot 160 DP750615, approximately 7.8km northeast of Wyalong; 400m north of the Newell Highway; and 1.6km east of Gagies Creek (**Figure 5-9; Figure 5-13**).

Description of site: Glenroy-IF4 is a single quartz flake located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-15**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (60%) with a GSV of 70%. Identified disturbances include continued ploughing and cultivation and the installation of an electricity pole. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF4 was assessed as negligible.

Figure 5-15: Photographs showing an overview and details of Glenroy-IF4.



Glenroy-IF5

Site type: Isolated find

GPS coordinates: GDA Zone 55 529795E 6250089N

Location of site: Within Lot 160 DP750615, approximately 7.8km northeast of Wyalong; 400m north of the Newell Highway; and 1.6km east of Gagies Creek (**Figure 5-9; Figure 5-13**).

Description of site: Glenroy-IF5 is a single silcrete blade located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-16**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (60%) with a GSV of 70%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF5 was assessed as negligible.

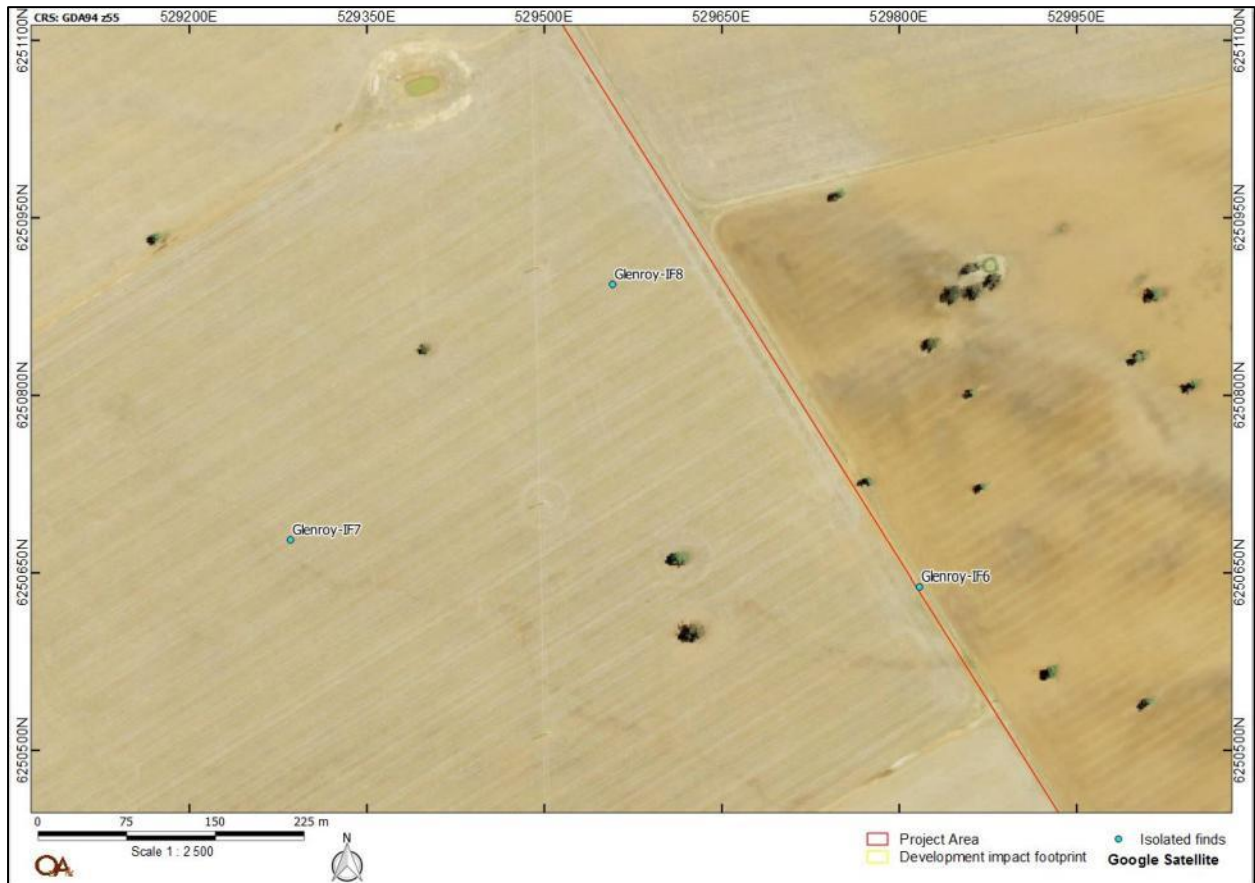
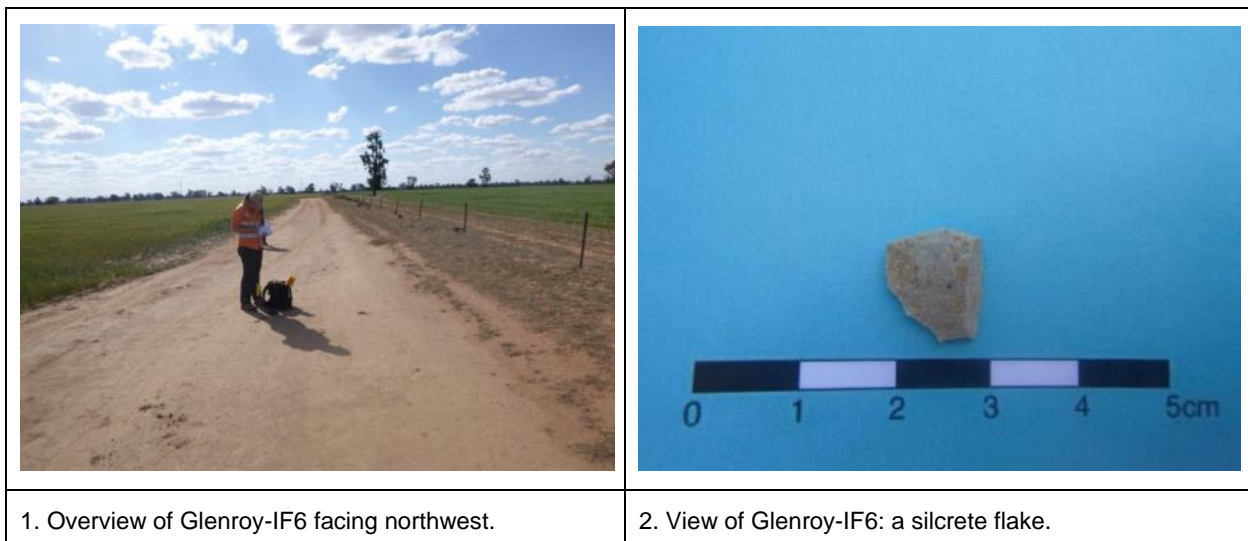
Figure 5-16: Photographs showing an overview and details of Glenroy-IF5.**Glenroy-IF6**

Site type: Isolated find

GPS coordinates: GDA Zone 55 529817E 6250639N

Location of site: Within Lot 160 DP750615, approximately 8.5km northeast of Wyalong; 750m north of the Newell Highway; 1.8km north east of Gagies Creek; along the paddock's eastern fence line of Lot 160 (**Figure 5-9; Figure 5-17**).

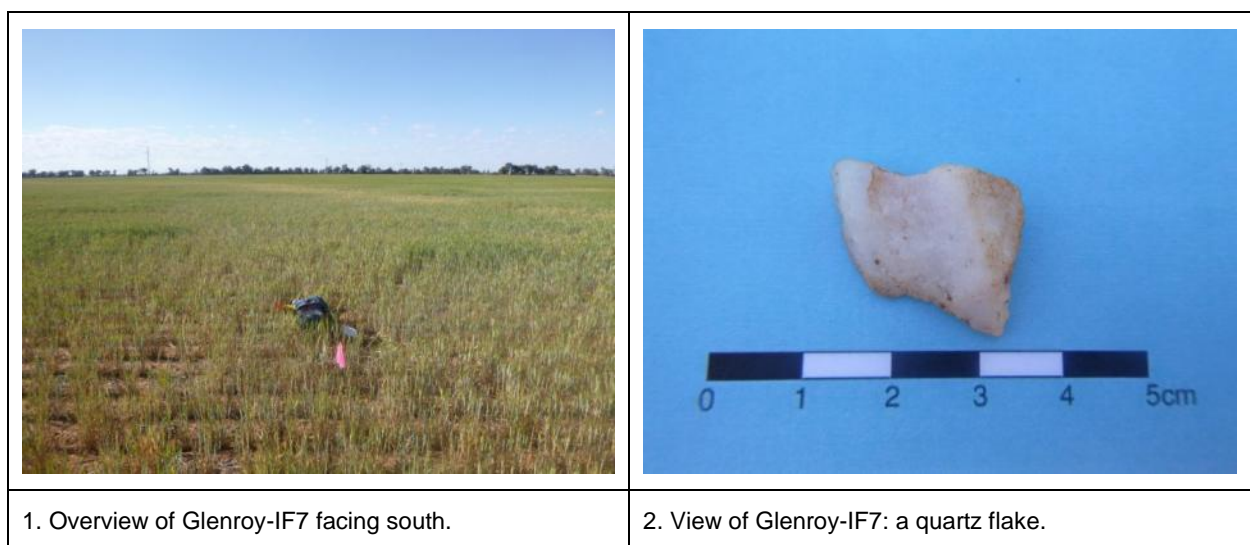
Description of site: Glenroy-IF6 is a single silcrete flake located within a flat landform, in a ploughed field, along a farm access track (**Table 5-6; Figure 5-18**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (80%) with a GSV of 90%. Identified disturbances include continued ploughing and cultivation, the construction of the fence line and use of the access track. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF6 was assessed as negligible.

Figure 5-17: Aerial showing location of Glenroy-IF6 to Glenroy-IF8.**Figure 5-18: Photographs showing an overview and details of Glenroy-IF6.****Glenroy-IF7****Site type:** Isolated find**GPS coordinates:** GDA Zone 55 529286E 6250679N

Location of site: Within Lot 160 DP750615, approximately 8.3km northeast of Wyalong; 1.1km north of the Newell Highway; and 1.4km east of Gagies Creek (**Figure 5-9; Figure 5-17**).

Description of site: Glenroy-IF7 is a single quartz flake located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-19**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (60%) with a GSV of 70%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF7 was assessed as negligible.

Figure 5-19: Photographs showing an overview and details of Glenroy-IF7.



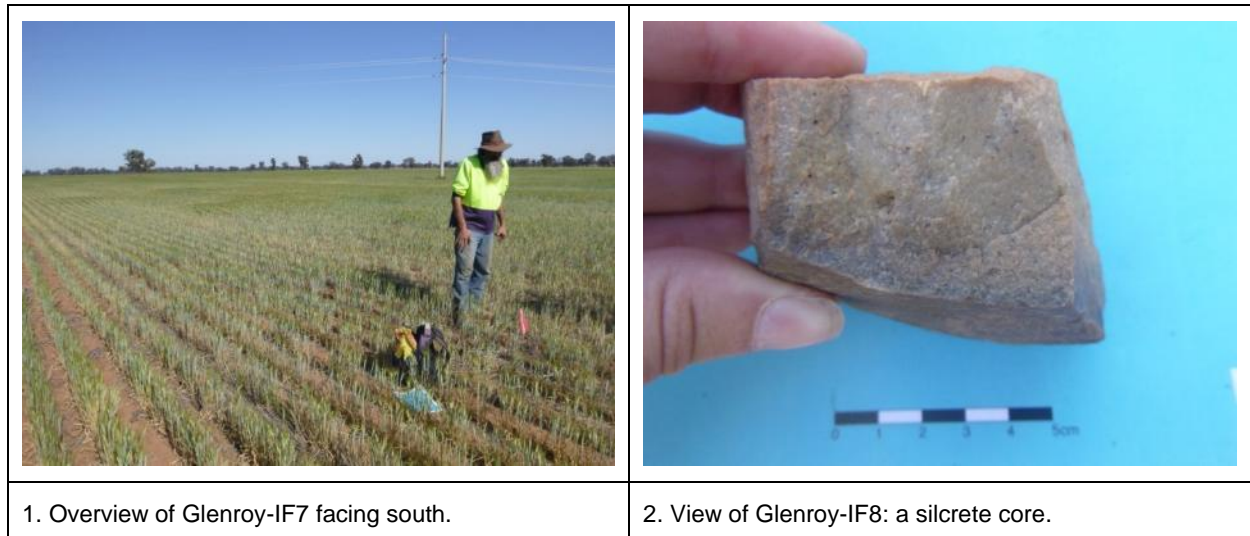
Glenroy-IF8

Site type: Isolated find

GPS coordinates: GDA Zone 55 529557E 6250893N

Location of site: Within Lot 160 DP750615, approximately 8.5km northeast of Wyalong; 1.3km north of the Newell Highway; and 1.7km north east of Gagies Creek (**Figure 5-9; Figure 5-17**).

Description of site: Glenroy-IF8 is a single silcrete core located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-20**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (60%) with a GSV of 70%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF8 was assessed as negligible.

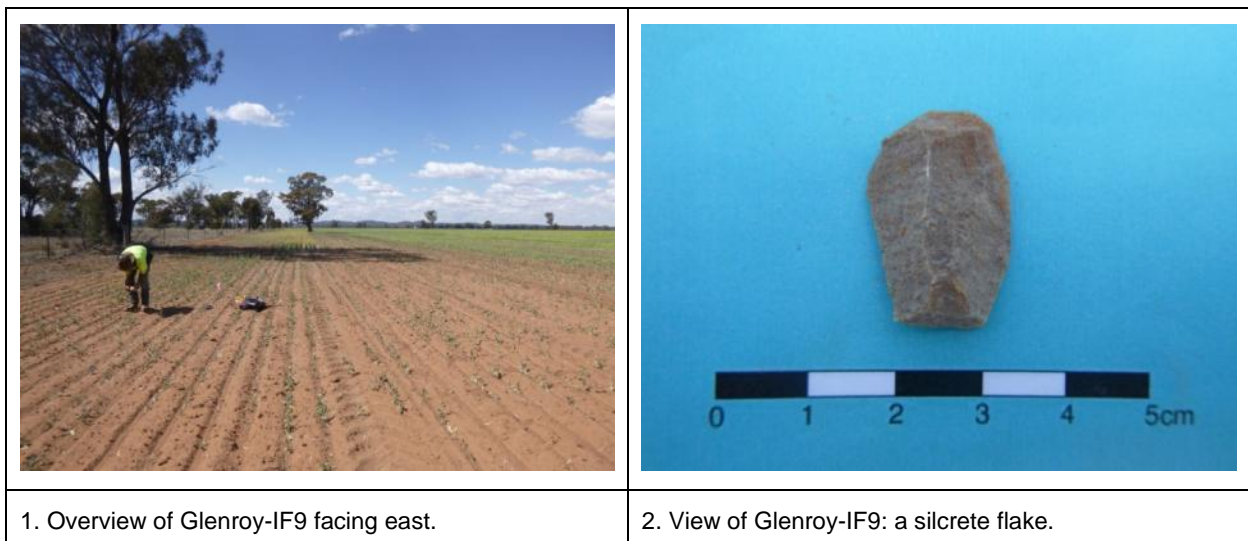
Figure 5-20: Photographs showing an overview and details of Glenroy-IF8.**Glenroy-IF9**

Site type: Isolated find

GPS coordinates: GDA Zone 55 529000E 6251384N

Location of site: Within Lot 160 DP750615, approximately 8.7km northeast of Wyalong; 1.8km north of the Newell Highway; 1.6km north east of Gagies Creek; 7m south of the paddock's northern fence line of Lot 160 (**Figure 5-9; Figure 5-21**).

Description of site: Glenroy-IF9 is a single silcrete flake located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-22**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (80%) with a GSV of 90%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF9 was assessed as negligible.

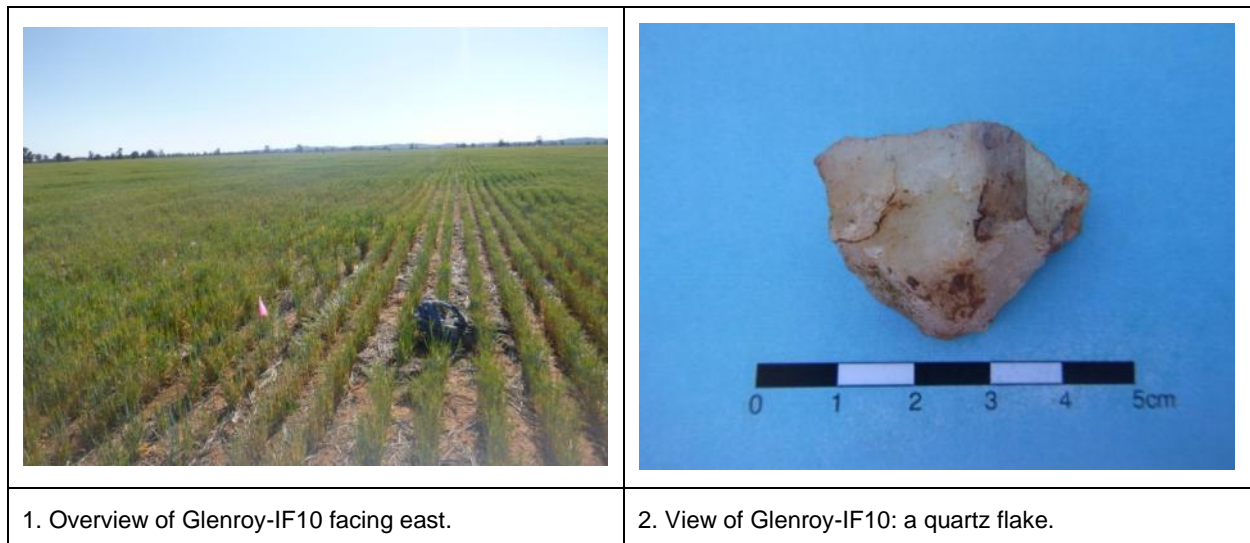
Figure 5-21: Aerial showing location of Glenroy-IF9.**Figure 5-22: Photographs showing an overview and details of Glenroy-IF9.****Glenroy-IF10****Site type:** Isolated find**GPS coordinates:** GDA Zone 55 528821E 6250268N

Location of site: Within Lot 160 DP750615, approximately 7.6km northeast of Wyalong; 960m north of the Newell Highway; and 850m east of Gagies Creek (**Figure 5-9; Figure 5-23**).

Description of site: Glenroy-IF10 is a single quartz flake located within a flat landform, in a ploughed field (**Table 5-6; Figure 5-24**). Surrounding vegetation consisted of sparse grass cover and crops due to historical land clearing and cultivation. The GSE at the time of recording was high (70%) with a GSV of 60%. Identified disturbances include continued ploughing and cultivation. Potential for the presence of further subsurface archaeological deposits at Glenroy-IF10 was assessed as negligible.

Figure 5-23: Aerial showing location of Glenroy-IF10.



Figure 5-24: Photographs showing an overview and details of Glenroy-IF10.

5.5 PREVIOUSLY RECORDED ABORIGINAL SITES LOCATED

No previously recorded Aboriginal sites are present within the Project Area.

5.6 ABORIGINAL COMMUNITY INPUT

Discussions were held with representatives from the West Wyalong LALC (Linton Howarth, Leanne Hampton and Nayah Freemans) regarding the cultural heritage values of the Project Area, including the significance of the Aboriginal objects and any declared areas of heightened archaeological significance that exist across the whole area and that will be affected by the proposal. The significance of these values for the Aboriginal people that have cultural association with the land was also discussed. No distinct objects or features within the Project Area were identified to hold heightened cultural significance; however, additional information offered by Linton Howarth on local resources that were sourced and used by aboriginal people in the local area, is further detailed in **Section 4.2.1**.

5.7 DISCUSSION

The predictions based on past land use, available resources and the information gathered from previous studies concluded that isolate finds and artefact scatters were the most likely site types to be identified in the Project Area. The results of the current assessment confirm closely to the predictive model with two artefact scatters and 10 isolated finds being identified (**Section 5.4**).

The high number of identified isolated find sites is not unexpected given the high levels of ground exposure across the Project Area. In more vegetated landforms these site types would often become obscured. The recorded isolated artefacts in conjunction with the low density artefacts scatters highlight the limited availability of resources within the Project Area that would generally have only supported sporadic visits in the past. As described in the regional and local archaeological contexts and the predictive model for site location, reliable water sources formed

an important focus for traditional cultural activities. The use of the Project Area on a sporadic basis is likely to be the result of a combination of the following factors:

- The Project Area is situated on flat terrain at a distance from permanent water, with only ephemeral waterways in close proximity; and
- Uniformity of vegetation, landforms and geological resources; there are no distinct or 'special' resources available compared to the much wider landscape.

The above determination was based on the principle that all recorded sites are located in secondary contexts having been moved by the repeated, extensive ploughing undertaken across the Project Area and other disturbances including the formation of a dam, access tracks and installation of fences. Further, the project Area holds little potential for the existence of any undetected Aboriginal sites due to the nature of the landforms present, the distance from permanent or semi-permanent water sources and the high levels of past disturbance. The Niche (2018) and Cane (1995) assessments also identified a high count of artefact scatters and isolated finds, though with more complexity in the tool assemblage and materials used. Other sites they identified also included ground ovens and scarred trees. The presence of hearths/ground ovens are is not considered an uncommon site types given the Niche (2018) and Cane (1995) assessments were focused on the landforms surrounding Lake Cowal, and conforms to the predictive model. However, no hearths/ground ovens were recorded in the Project Area which is not surprising considering the high levels of disturbance which would impact the integrity of the site and the lack of landforms adjacent to permanent or semi-permanent water courses which were occupied for extended periods of time for camping.

The absence of scarred trees accords with landscapes that have been heavily cleared and farmed, although a number of mature native trees exist in the Project Area, they were not observed to have been culturally scarred. The SKM (2013) assessment only identified scarred trees, however the assessment was situated within a channel and floodplain landscape as opposed to the plains landscape (OzArk 2016).

5.8 REPRESENTATIVENESS, RARITY AND INTEGRITY

All values of the *Burra Charter* are considered when evaluating the significance of sites in the Project Area. Significance assessment of open sites is extremely variable and dependent upon several factors relating to:

- **Preservation:** Whether the site has the potential for the presence of intact, subsurface deposit, or whether disturbance (human: land surface impacts, or environmental: erosion, deflation) has reduced its integrity and thus its potential
- **Representativeness:** Is this the type of site one may expect in this landscape? (Relates back to the predictive model), i.e. do many such sites occur nearby?

- **Artefacts:** Are there artefacts present (material, types or combinations thereof) that are rare in the area or unusual for that type of site?
- **Potential Archaeological Deposits:** It is impossible to determine the scientific significance of PADs that do not have visible surface artefacts, as there is no site material or soil data to assess. Consequently, test excavation is required for such areas to investigate the presence, extent, nature and integrity of any possible site material such that their significance can be assessed.

The features of representativeness, rarity and integrity of archaeological sites within the Project Area are discussed below.

Representativeness: As seen above, sites recorded during the field survey, such as isolated finds and low density artefact scatters, are representative of sites in the region that are located in similar landforms. In terms of site size, artefact density, raw materials and artefact types, the results of the survey are consistent with the archaeological context highlighted in **Section 4.2** and **Section 4.3**.

Rarity: In the past, sites such as isolated finds and artefact scatters would not have been rare and on a state-wide scale, low density artefact scatters and isolated finds would remain the most common site type recorded. Although the sites recorded during this assessment are in no way remarkable, their presence alone, in albeit a heavily modified landscape, remains a memory of the past in a landscape that is fast changing (or has changed).

Integrity: The results of the field survey conclude that the general site integrity is low. As noted, the Project Area has been subject to consistent ploughing in the past. All of the recorded sites were assessed to have no associated archaeological deposits and are therefore surface manifestations and possibly, on an individual artefact level, displaced. As highlighted in **Section 3.6**, research into the impacts upon archaeological sites as a result of agricultural practices, termed plough zone archaeology, demonstrated that artefacts can move in excess of eight metres per season of cultivation (Frink 1984; Gaynor 2001).

5.9 ASSESSMENT OF SIGNIFICANCE

5.9.1 Introduction

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Scientific, cultural and public significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Social or Cultural Value

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued

protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological/Scientific Value

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether or not a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

Aesthetic Value

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Australia ICOMOS 2013).

Historic Value

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain a sufficient understanding of historic values.

5.9.2 Assessed Significance of the Recorded Sites

Social or Cultural Value

The assessment of cultural or social value concerns the importance of a site or features to the relevant cultural group – in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional

links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological/Scientific Value

The scientific significance of all recorded sites is assessed as low as all sites represented artefacts located in a secondary context. These sites are described as having low **scientific / archaeological significance** based on the following factors:

- Low density of artefacts;
- Very few formal tools;
- Widespread past and current cultivation and erosion creating landform modification; and
- It is not possible to determine the original or primary context of the recorded artefacts.

Aesthetic Value

All recorded sites have been assessed as having **no aesthetic values**. The sites and objects do not have significant aesthetic value as the integrity of the physical landscape has been altered through historic and modern processes. Additionally, the artefacts themselves are generally not remarkable.

Historic Value

None of the Aboriginal sites recorded have an apparent direct relationship to known historical Aboriginal sites (such as missions or massacre sites). It is possible that the area saw some of the earliest contact between Aboriginals and non-Aboriginal settlers, however, none of the recorded Aboriginal sites display evidence that they constitute 'contact' or 'post-contact' Aboriginal sites. To that end, all recorded sites are assessed as having **low historic value**.

Table 5-7 summarises the significance assessment of sites recorded during this assessment.

Table 5-7: Significance assessment.

Site Name	Social or Cultural Value	Historic value	Aesthetic Value	Archaeological / scientific value
Glenroy-OS1	TBC	Low	Nil	Low: no associated intact subsurface deposits as the site is within a cropped paddock and adjacent property fenceline boundary.
Glenroy-OS2	TBC	Low	Nil	Low: no associated intact subsurface deposits as the site is within a cleared and possible graded access track and adjacent to a property fenceline boundary.
Glenroy-IF1	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.
Glenroy-IF2	TBC	Low	Nil	Low: the artefact is not in situ and no associated archaeological deposits were identified.
Glenroy-IF3	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.

Glenroy-IF4	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.
Glenroy-IF5	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.
Glenroy-IF6	TBC	Low	Nil	Low: no associated intact subsurface deposits as the site is located on a cleared access track and adjacent to a property fenceline boundary.
Glenroy-IF7	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.
Glenroy-IF8	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.
Glenroy-IF9	TBC	Low	Nil	Low: no associated intact subsurface deposits as the site is located on a cleared access track and adjacent to a property fenceline boundary.
Glenroy-IF10	TBC	Low	Nil	Low: No associated subsurface deposits as the site is within a cropped paddock.

5.10 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

The proposed solar farm will utilise the majority of Lot 160 DP750615, except for a small native vegetation pocket in the southwest corner, encompassing 260ha. The exact location of the poles to support the solar panels is not yet known. Every effort will be made to avoid Aboriginal sites where practicable. A total of 12 Aboriginal sites were identified within the development impact footprint (**Table 5-8**). The assessment of impact to each site is assessed in **Table 5-8**, as well as the sites determined likely to be avoided by the proposal.

Sites highlighted in orange have been provisionally determined that they can be avoided by the proposal. ESCO Pacific indicated that three sites can be either 'avoided or salvaged'. The management actions ESCO Pacific should take if these sites are to be 'avoided' or 'impacted' are outlined as management recommendations in **Table 6-1** and further managed in **Section 6.3.1**. Glenroy-OS1 and Glenroy-IF6 are highlighted blue which indicates that they will be avoided by the proposal. The cumulative impact on the six remaining sites is further discussed below (**Section 5.10.1**).

Table 5-8: Impact assessment.

Site Name	Type of Harm (Direct/Indirect / None)	Degree of Harm (Total/Partial / None)	Consequence of Harm (Total/Partial/No Loss of Value)
Glenroy-OS1	None	None	No loss of value
Glenroy-OS2	None	None	No loss of value
Glenroy-IF1	Direct	Total	Total loss of value
Glenroy-IF2	None	None	No loss of value
Glenroy-IF3	Direct	Total	Total loss of value
Glenroy-IF4	Direct	Total	Total loss of value
Glenroy-IF5	Direct	Total	Total loss of value
Glenroy-IF6	None	None	No loss of value
Glenroy-IF7	Direct	Total	Total loss of value
Glenroy-IF8	Direct	Total	Total loss of value
Glenroy-IF9	None	None	No loss of value

Glenroy-IF10	Direct	Total	Total loss of value
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5.10.1 Ecological sustainable development principles

Australia's National Strategy for Ecologically Sustainable Development (Ecologically Sustainable Development Steering Committee 1992) defines ecologically sustainable development (ESD) 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.

The management and mitigation of Aboriginal sites involves consideration of ESD principles including cumulative impacts, the precautionary principle and the principle of intergenerational equity (OEH 2011: 12–13).

With regards to cultural heritage, the most important aspect of ESD is inter-generational equity whereby the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. Similarly inter-generational equity maintains that places and items of cultural heritage value should be preserved for the education, enjoyment and use of future generations.

The project adds to the cumulative impact on the region's Aboriginal cultural heritage as 6 sites are confirmed to be directly impacted. However, the heritage impact value of this loss is very low as the sites primarily consist of isolated finds or low density artefact scatters in disturbed contexts. Therefore, the loss has a negligible cumulative impact on the region's Aboriginal cultural heritage resource.

5.11 OVERALL VALUE OF POTENTIAL IMPACT ON HERITAGE ITEMS

A series of guidelines have been developed by the Department of Planning & Environment to quantify and standardise impact assessments (DP&E 2016). The rubric outlined in DP&E 2016 leads to all impacts being graded within the matrix shown in **Figure 5–24**. **Table 5–9** assesses each heritage item determined for direct impact and total harm, to arrive at a standardised 'value of impact'. In **Table 6-11** all objects have been given the highest cultural value (2), and low scientific, aesthetic and historic values (0). It is recognised that even isolated, displaced artefacts can have value to the Aboriginal community. The intention of **Table 6-11** is not to dismiss the cultural attachment the local community may have to the artefacts recorded in the Project Area, but to try to quantify the overall value of the heritage impact should the project be approved in its current form. This value tries to establish the heritage impact in a regional context and so a value of 'low' should be read as meaning that the impact, at a broader level, will have a low value impact on the area's Aboriginal cultural heritage values.

Figure 5-25: Potential impact to heritage items reference matrix.

Degree of potential impact on heritage item	Significance of heritage object or place				
		Very high	High	Medium	Low
	Total impact	Very high value	High value	Medium value	Low value
	High partial impact	High value	High value	Medium value	Low value
	Medium partial impact	Medium value	Medium value	Low value	Minimal value
	Minimal partial impact	Low value	Low value	Minimal value	Minimal value

Table 5-9: Overall value of potential impact on heritage item.

	Heritage item isolated finds
Name or location of the heritage object or place	Glenroy-IF1; Glenroy-IF4 to IF5; Glenroy-IF7 to IF8; Glenroy- IF10
Social or cultural value	2
Historical	0
Scientific	0
Aesthetic	0
Significance of heritage item	Low importance
Degree of impact (partial or full)	Full impact
Overall value of potential impact on heritage item	Low value
Reasoning behind scores	General disturbance at sites; isolated finds.

As can be seen in **Table 5–9**, the proposed impact to 6 recorded sites (Glenroy-IF1; Glenroy-IF4 to IF5; Glenroy-IF7 to IF8; and Glenroy-IF10) have been evaluated as having a low value. The management measures set out in **Section 6** will be required to mitigate the loss of this heritage value.

6 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

6.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF ABORIGINAL SITES

Appropriate management of cultural heritage items is primarily determined on the basis of their assessed significance as well as the likely impacts of the proposed development. **Section 5.8.2** and **Section 5.9** describe, respectively, the significance / potential of the recorded sites and the likely impacts of the development. The following management options are general principles, in terms of best practice and desired outcomes, rather than mitigation measures against individual site disturbance.

- Avoid impact by altering the development proposal or in this case by avoiding impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage (i.e. up to 5m) around the site must be provided to ensure its protection both during the short-term construction phase of project and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.
- An AHIP which is normally required for impacts to Aboriginal sites under the NPW Act is not necessary as the project is being assessed under Part 4 Division 4.7 of the EP&A Act (SSD) and impacts to Aboriginal heritage would normally be managed under an Aboriginal Cultural Heritage Management Plan (ACHMP). Notwithstanding this, the spirit of site protection and management in the face of impacts remains the same. In place of an AHIP under the NPW Act, a Statement of Commitments (SoC) in terms of heritage management is prepared (**Section 6.4**). This SoC forms the basis for the Minister's approval which would usually contain one or more conditions, including a requirement for the preparation of an ACHMP, with which the proponent would be required to operate in accordance with.

The ACHMP should include measures for site conservation, as well as detailing methods for the management of sites to be impacted. The management will depend on many factors including the assessed significance of the sites (**Section 5.9.2**). In certain instances, a site may have low archaeological, aesthetic, and historic values but moderate or high cultural value. In these cases, management is aimed to mitigate the loss of the cultural heritage values, rather than the loss of the scientific values. Sites of low scientific significance, such as an isolated finds, could, from an archaeological perspective, be removed/destroyed with no further archaeological management being required. However, given the site's cultural value, further management in respect to these sites will be recommended here. For example, due to a site's cultural values, the local Aboriginal community may wish to collect or relocate artefacts, whether temporarily or permanently, and such management will form part of the ACHMP. The ACHMP will be developed in consultation between the proponent, RAPs, OEH and DP&E.

6.2 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

The current assessment recorded 12 new Aboriginal sites within or close to the boundary of the Project development footprint. Of these 12 sites, six will be directly impacted by the project, four have the potential to be impacted (although the potential is low), and two sites will be avoided.

However, as the project progresses a final decision will be made regarding whether the sites flagged with 'potential to be impacted', will be avoided or impacted by the project.

It is recommended that the sites proposed to be salvaged, are completed through the recording and collection of the surface artefacts. This recommendation is made based on the below factors:

- The provisional cultural value of these sites and their assumed importance to the Aboriginal community;
- The nature of the potentially impacted sites (all comprise isolated finds and low density artefact scatters consisting of less than 10 artefacts per site);
- Being generally located in landforms of lower archaeological potential (i.e. in areas distant to reliable water);
- Being generally located in landforms with high previous disturbance from a range of factors including erosion and land use practices (i.e ploughing and cultivation);
- The low archaeological values assigned to the sites preclude more intensive archaeological investigations; and
- Sites such as these have a limited ability to further inform the community about the history and culture of the area. While any potential research questions are limited, some information can nevertheless be gained.

Table 6-1 sets out the recommended archaeological management of all sites within or adjacent to the development impact footprint of the project.

Table 6-1: Management recommendations for sites within or adjacent to the development impact footprint of the project.

Site name	Assessed scientific significance	Degree of harm	Management strategy
Glenroy-OS1	Low	None	Site is located on the eastern boundary of the Project Area and away from the impacts proposed within the development impact footprint. A portion of the site is situated within the adjacent property to the east (Lot 161) and as it is outside of the Project Area, there is a high likelihood that this portion of the site is unable to be demarcated by permanent fencing. The portion of the site within the Project Area (Lot 160) should be demarcated with permanent fencing prior and during the course of development. Information signs should also be placed at the site.
Glenroy-OS2	Low	None Potentially Total if cannot be avoided	Efforts should be made to preserve this site in the landscape. If avoidance is not possible, description and collection of surface artefacts as per Section 6.3.1 should be undertaken.
Glenroy-IF1	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .
Glenroy-IF2	Low	None Potentially Total if cannot be avoided	Efforts should be made to preserve this site in the landscape. If avoidance is not possible, description and collection of surface artefacts as per Section 6.3.1 should be undertaken.
Glenroy-IF3	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .
Glenroy-IF4	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .

Site name	Assessed scientific significance	Degree of harm	Management strategy
Glenroy-IF5	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .
Glenroy-IF6	Low	None	Site is located on the eastern boundary of the Project Area and away from the impacts proposed within the development impact footprint. The site should be demarcated with permanent fencing prior and during the course of development. Information signs should also be placed at the site.
Glenroy-IF7	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .
Glenroy-IF8	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .
Glenroy-IF9	Low	None Potentially Total if cannot be avoided	Efforts should be made to preserve this site in the landscape. If avoidance is not possible, description and collection of surface artefacts as per Section 6.3.1 should be undertaken.
Glenroy-IF10	Low	Total	Description and collection of surface artefact as per Section 6.3.1 .

6.3 MANAGEMENT PROCESS

6.3.1 Archaeological salvage: surface artefact collection

Stone artefact sites managed under the archaeological salvage will have surface artefacts mapped, catalogued, selectively photographed, collected and moved for safe-keeping.

The surface collection will include the following methodology:

- All visible surface artefacts at a site should be flagged in the field;
- The site should be photographed after flagging and before recording;
- All artefacts should have the following artefact information recorded:
 - Location;
 - Artefact class;
 - Artefact type;
 - Size;
 - Reduction level;
 - Raw material; and
 - Notes.
- A selection of indicative and / or unusual artefacts from each site will be photographed;
- Once all recording is complete, the artefacts will be collected according to site with artefacts from each site being kept separate;

- Should the collection team encounter a human burial, all work should cease in the area and advice from authorities and RAPs (should the remains be Aboriginal) sought;
- The recording of the artefacts recovered will largely be completed in the field and this data would be incorporated into a report; and
- The salvaged artefacts should be reburied at an agreed upon location. This will take place in accordance with Requirement 26 “Stone artefact deposition and storage” in the Code of Practice. The location chosen for reburial will be an area where future developments will not occur and as close as possible to their original location. A site card will be submitted to AHIMS to record the relocation area.

6.4 STATEMENT OF COMMITMENTS

The proponent shall undertake the following SoCs:

- 4) Should the project be approved, the proponent will develop the ACHMP in consultation with the RAPs. The ACHMP will include the recommendations contained in this report (**Section 7**) and this SOC.
- 5) As project design is finalised all efforts will be made to conserve Aboriginal sites in the landscape.
- 6) The location of Glenroy-OS1 and OS2; Glenroy-IF2; Glenroy-IF6; and Glenroy-IF9, will be noted and efforts made to avoid these sites as they are located near the perimeter of the Project Area in a landform that will be subject to less disturbance than adjacent landforms. If approval of the project determines that these sites will be directly impacted they will be managed in accordance with item 4 below.
- 7) The impacted isolated finds (Glenroy-IF1; Glenroy-IF3 to IF5; Glenroy-IF7 to IF8; and Glenroy-IF10), that have been recorded within the Project Area will be salvaged under the methodology set out in Section **6.3.1**. All sites are in highly disturbed landforms and likely to be in secondary contexts. As such, it is better that the artefacts are removed to a safe location away from impacts arising from the project.
- 8) The recovered artefacts should be reburied at a location within the Project Area, outside of the development impact footprint, where no future developments are planned (**Figure 6-1**). The manner of reburial will be detailed in the ACHMP following RAP consultation. As one option, Requirement 26 “Stone artefact deposition and storage” in the Code of Practice will be considered. A site card will be submitted to AHIMS to register the location of any reburied artefacts.
- 9) An Aboriginal Site Impact Recording Form will be completed by the archaeologist and submitted to AHIMS recording the salvage results of the sites associated with the project, within four months of the salvage being completed.
- 10) Should any sites (or portion thereof) situated within the Project Area (Glenroy-OS1 and OS2; Glenroy-IF2; Glenroy- IF6; and Glenroy-IF9) be able to be avoided, those sites will be clearly and permanently demarcated to avoid inadvertent impacts. The demarcation

will include permanent signage. The proponent will consider permanently fencing these sites to avoid inadvertent impacts.

Figure 6-1: Aerial showing the proposed relocation of the Aboriginal artefacts, outside of the development impact footprint and inside of the Project Area boundary.



HISTORIC HERITAGE ASSESSMENT REPORT

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7 HISTORIC HERITAGE ASSESSMENT: INTRODUCTION

7.1 BRIEF DESCRIPTION OF THE PROJECT

Please refer to **Sections 1.1 to 1.3** for a description of the project, the proposed work and the Project Area.

7.2 RELEVANT LEGISLATION

7.2.1 State legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

See **Section 1.4.1** for a brief description of the EP&A Act.

Heritage Act 1977 (Heritage Act)

The *Heritage Act 1977* (Heritage Act) is applicable to the current assessment. This Act established the Heritage Council of NSW. The Heritage Council's role is to advise the government on the protection of heritage assets, make listing recommendations to the Minister in relation to the State Heritage Register, and assess/approve/decline proposals involving modification to heritage items or places listed on the Register. Most proposals involving modification are assessed under Section 60 of the Heritage Act.

Automatic protection is afforded to 'relics', defined as 'any deposit or material evidence relating to the settlement of the area that comprised New South Wales, not being Aboriginal settlement, and which holds state or local significance' (note: formerly the Act protected any 'relic' that was more than 50 years old. Now the age determination has been dropped from the Act and relics are protected according to their heritage significance assessment rather than purely on their age). Excavation of land on which it is known or where there is reasonable cause to suspect that 'relics' will be exposed, moved, destroyed, discovered or damaged is prohibited unless ordered under an excavation permit.

7.2.2 Commonwealth legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

See **Section 1.4.2** for a brief description of the EPBC Act.

7.2.3 Applicability to the project

The current project will be assessed under Part 4 of the EP&A Act.

Any items of local or state historical heritage significance within the Project Area are afforded legislative protection under the Heritage Act.

It is noted there are no Commonwealth or National heritage listed places within the Project Area, and as such, the heritage provisions of the EPBC Act do not apply.

7.3 HISTORIC HERITAGE ASSESSMENT OBJECTIVES

The current assessment will apply the Heritage Council *Historical Archaeology Code of Practice* (Heritage Council 2006) in the completion of a historical heritage assessment, including field investigations, in order to meet the following objectives:

- Objective One:** Conduct database searches to identify whether or not historical heritage items or areas are, or are likely to be, present within the Project Area;
- Objective Two:** To assess the significance of any recorded historical heritage items or areas;
- Objective Three:** Determine whether the activities of the proponent are likely to cause harm to recorded historical heritage items or areas; and
- Objective Four:** Provide management recommendations and options for mitigating impacts to heritage items through the activities of the project.

7.4 DATE OF HISTORIC HERITAGE ASSESSMENT

The fieldwork component of this assessment was undertaken simultaneously with the Aboriginal heritage assessment from Tuesday 25 to Thursday 27 September 2018. Please refer to **Section 5** for details on the assessment.

7.5 LANDSCAPE CONTEXT

Please refer to **Sections 3.1 to 3.7** for a description of the landscape context of the Project Area.

8 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

8.1 BRIEF HISTORY OF THE CENTRAL WESTERN SLOPES AND WYALONG

Episodes of early contact between Indigenous and European cultures from the neighbouring Lachlan Valley (around 60km northeast) were documented by the explorers Oxley and Cunningham in May 1817 (Unger nd: 3; Kass 2003: 6). In 1827 the colony's Surveyor-General, Thomas Mitchell, travelled through the region and developed a much more optimistic future based on its potential.

The initial settlement began in the district in 1833 recognising the area's agricultural potential. Vast sheep and cattle runs were introduced and the area became known as "The Blands" after a Sydney doctor, thus Bland Shire Council. It was not until John Neeld discovered gold in 1893 that a centralised settlement was developed.

The town of Wyalong was laid out in 1894 to service the new population of up to 10,000 people (Bland Shire Council – West Wyalong – Our History, 2015). Unfortunately the original layout of the town was too late as the miners had already created a settlement to the west called 'Main Camp'. It soon became the districts central hub as it also contained 'White Tank' being the settlements only reliable water supply (Aussie Towns – West Wyalong NSW, 2018). The water supply was also used to collect water for stock on the surrounding runs. Not surprisingly local businesses moved to White Tank while the village of Wyalong quietly died, and in 1895, West Wyalong was laid out (West Wyalong - Gold Trails, *date not listed*). West Wyalong was established as a result of smaller camp areas being established. West Wyalong's crooked Mains Street reflects the early days as it followed the bullock track that curved around the trees and gold diggings. The Wyalong fields were reported as one of the most productive gold fields in NSW until the 1920s (Bland Shire Council – West Wyalong – Our History, 2015).

In 1899 when the council chambers were erected Wyalong became a municipality. During the same period a courthouse, police station, post office and school of arts were added. There was competition between the two towns (Wyalong and West Wyalong), that when the railway arrived from Temora in 1903 it was located between Wyalong and West Wyalong, therefore known as the Wyalong Central. Concurrent with the goldrush, the large pastoral holdings in the district were divided up and mixed farming developed. This resulted in West Wyalong becoming the largest cereal growing centre in NSW (Aussie Towns – West Wyalong NSW, 2018).

8.2 LOCAL CONTEXT

8.2.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the Project Area. The results of this search are summarised in **Table 8-1**.

Table 8-1: Historic heritage: desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
National and Commonwealth Heritage Listings	26/10/18	NSW and Bland Shire LGA	No places listed on either the National or Commonwealth heritage lists are located within the Project Area.
NSW State Heritage Register (NSW)	26/10/18	Bland Shire LGA	No places of state historic heritage significance are listed within the Project Area.
Australian Heritage Database	26/10/18	Bland Shire LGA	No places of state historic heritage significance are listed within the Project Area.
LEP	26/10/18	Schedule 5 Bland Shire LEP 2011	No places of state historic heritage significance are listed within the Project Area.

A search of the Heritage Council of NSW administered heritage databases and the Bland Shire Council LEP 2011, returned no records for historical heritage sites within the designated search areas.

8.3 SURVEY METHODOLOGY

The fieldwork component of this assessment was undertaken simultaneously with the Aboriginal heritage assessment. Please refer to **Section 5** for details on the assessment methodology and coverage.

9 RESULTS OF HISTORIC HERITAGE ASSESSMENT

The historic heritage assessment of the Project Area was undertaken concurrently with the Aboriginal cultural heritage assessment (**Section 5**). No historic heritage items or sites were recorded during the field survey; therefore, there are no likely impacts to historic heritage from the activities of the project.

The survey noted a focused area in the where a high number of old bottle, ceramics and other glass fragments were identified on the ground surface. These fragment were identified in the southwest of the Project Area in the erosion areas to the west and adjacent to one of the property dams. All that is remaining of the glass and ceramic pieces are broken fragments which have been subject to continuous ploughing and crushing from heavy machinery (**Figure 9-1** and **Figure 9-2**). These items have no historic heritage significance.

Figure 9-1: Detailed view of the exposed glass and ceramic fragments in the Project Area.



Figure 9-2: View northwest showing the dam drain where the majority of the glass and ceramic fragments were identified.



10 MANAGEMENT AND MITIGATION: HISTORIC HERITAGE

10.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF HISTORIC SITES

Appropriate management of heritage items is primarily determined on the basis of their assessed significance as well as the likely impacts of the proposed development.

In terms of best practice and desired outcomes, avoiding impact to any historical item is a preferred outcome, however where a historical site has been assessed as having no heritage value, impacts to these items does not require any legislated mitigation.

10.2 MANAGEMENT AND MITIGATION OF RECORDED HISTORIC SITES

No items or sites of historic heritage significance were identified in the Project Area. Should any items of historic heritage significance be uncovered then the *Historic Heritage Unanticipated Finds Protocol* (**Appendix 4**), will need to be enacted. This protocol stipulates the processes to follow should likely historic objects become uncovered through the activities of the project.

11 RECOMMENDATIONS

11.1 ABORIGINAL HERITAGE

Under Section 89A of the NPW Act it is mandatory that all newly-recorded Aboriginal sites be registered with OEH AHIMS. As a professional in the field of cultural heritage management it is the responsibility of OzArk to ensure this process is undertaken within four months of the new sites being recorded.

To this end it is noted that **12 Aboriginal sites** were recorded during the assessment.

The following recommendations are made on the basis of these impacts and with regard to:

- Legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of OEH;
- The findings of the current investigations undertaken within the Project Area; and
- The interests of the Aboriginal community.

Table 6-1 lists all 12 Aboriginal sites identified in the Project Area and tabulates the associated scientific values assessment and recommended archaeological management strategies.

As a consequence of the proposed impacts to Aboriginal cultural heritage sites within the Project Area, the following archaeological recommendations are made in an effort to responsibly manage Aboriginal cultural heritage sites *in situ*, or where appropriate, mitigate the loss of cultural heritage at those sites within the impact footprint:

- 1) Should development consent for the project be granted, the Statement of Commitments set out in **Section 6.4** will be followed.
- 2) All land-disturbing activities must be confined to within the assessed Project Area. Should the parameters of the proposed work extend beyond the assessed area, then further archaeological assessment may be required.
- 3) Inductions for staff undertaking the proposed activity shall include the legislative protection requirements for Aboriginal sites and items in NSW and the relevant fines for non-compliance.
- 4) Should any items of Aboriginal cultural heritage significance (including human remains) be uncovered then the *Unanticipated Finds Protocol* (**Appendix 3**) should be followed.

11.2 HISTORIC HERITAGE

The historic heritage assessment concluded that no heritage items of intact archaeological deposits are likely to be harmed by the project. The following recommendations are made on the basis of these impacts and with regard to:

- Legal requirements under the terms of the Heritage Act;

- Guidelines presented in the *Burra Charter* (Australia ICOMOS 2013);
- The findings of the current assessment; and
- The interests of the local community.

To ensure that historic heritage values are protected, the following recommendations are made:

- 11) The activities of the project can proceed without further historic heritage investigation provided that all ground disturbance activities are confined to within the Project Area. If the parameters of the proposed activity extend beyond the assessed area, then further archaeological assessment may be required.
- 12) This assessment has concluded that there is a low likelihood that the proposed work would harm historic items. If objects are encountered that are suspected to be historic heritage items, all work must stop and the *Unanticipated Finds Protocol* (**Appendix 4**) should be followed.
- 13) Inductions for staff undertaking the proposed activity shall include the legislative protection requirements for historic sites and items in NSW and the relevant fines for non-compliance.

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PLATES



Plate 1: View of the cropped paddock and survey team transecting the Project Area.

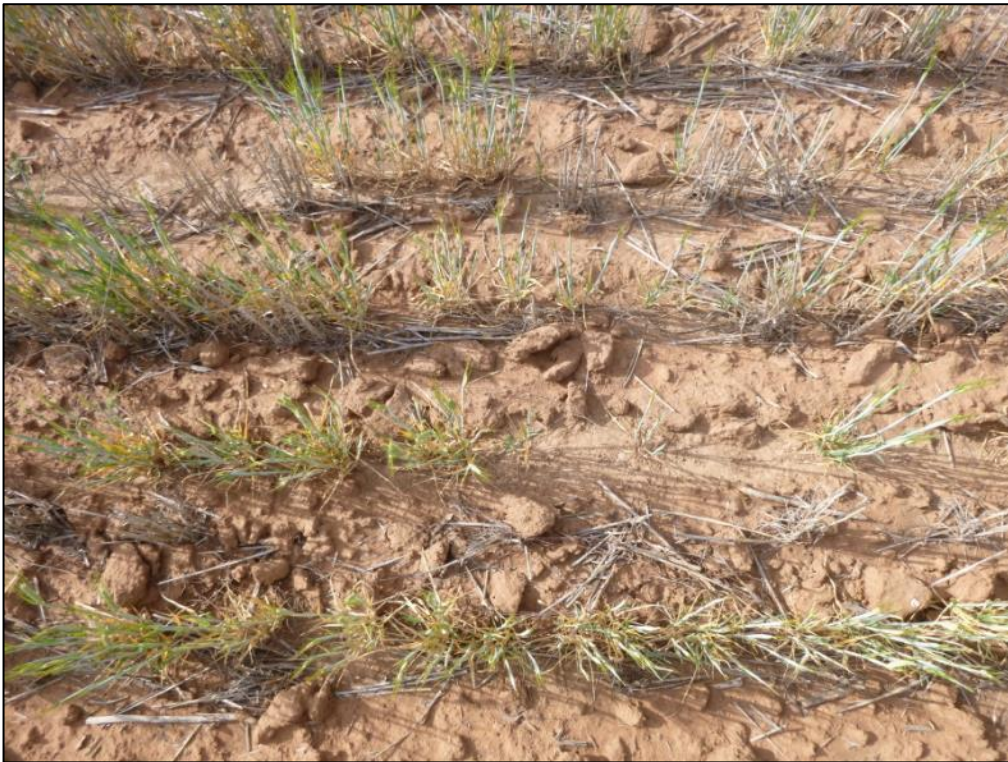


Plate 2: Typical ground exposure available between within the crop furrows.



Plate 3: One of a number of mature native trees inspected in the Project Area.



Plate 4: Ground surface visibility identified at the base of one of the electricity structures.



Plate 5: Broken glass shards identified in the vicinity of the dam in the south of the Project Area.



Plate 6: View south along the access track situated on the western boundary of the Project Area.



Plate 7: View west across the southern dam into the area of native vegetation not proposed for impact by the development.



Plate 8: View south showing the survey team transecting the Project Area and the existing electricity easement.



Plate 9: View southwest along a formed contour bank adjoining a dam in the north of the Project Area.



Plate 10: View east showing the recently harvested canola crops in the north of the Project Area.



Plate 11: Inspecting a mature native tree for cultural scarring.



Plate 12: View east along the ephemeral drainage line in the north of the Project Area.

APPENDIX 1: ACHCRs DOCUMENTATION

Log of Aboriginal community consultation

Date	Consultation Type	OEH Requirement	Consultation Stage	Registered Aboriginal Party / Agency	Contact Person	Description
15-Jun-18	Letter	4.1.2	Stage 1	Office of Environment and Heritage	Peter Ewin Daniel Clegg	ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	The Registrar, Aboriginal Land Rights Act 1983		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	Narrandera LALC	Ronnie Williams	ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	NNTT		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	West Wyalong LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	NTSCorp		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	Local Land Service - Riverina		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	Wagga Wagga LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	Griffith LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
15-Jun-18	Letter	4.1.2	Stage 1	Leeton LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
18-Jun-18	Email	4.1.2	Stage 1	Mark Saddler (RAP)	Mark Saddler	RAP registered interest in the project
25-Jun-18	Email	4.1.2	Stage 1	NNTT		NNTT provided Overlap Analysis Report for Bland Area. West Wyalong LALC is not currently identified for registration as part of Native Title Determination Application
29-Jun-18	Email	4.1.2	Stage 1	OEH	Andrew Fisher	OEH provided list of Registered Aboriginal Parties for the Wyalong area
2-Jul-18	Letter	4.1.2	Stage 1	Wiradjuri Council of Elders		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
2-Jul-18	Letter	4.1.2	Stage 1	Condobolin LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
2-Jul-18	Letter	4.1.2	Stage 1	Murrin LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
2-Jul-18	Letter	4.1.2	Stage 1	Wiradjuri Condobolin Corporation Ltd		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
2-Jul-18	Letter	4.1.2	Stage 1	Young LALC		ESCO Pacific sent Letter to Agency to identify Aboriginal parties
4-Jul-18	Email	4.1.2	Stage 1	The Registrar	Jodie Rikiti	The Register of Aboriginal Owners shown no Registered Aboriginal Owners pursuant to Division 3 of the Aboriginal Land Rights Act 1983.
6-Jul-18	Email	4.1.2	Stage 1	West Wyalong LALC (RAP)	Leeanne Hampton	RAP registered interest in the project
11-Jul-18	Email	4.1.2	Stage 1	Young LALC (RAP)	Norma Freeman	Young LALC provided a list of people with interest in the area.
13-Jul-18	Email	4.1.2	Stage 1	Young LALC (RAP)	Norma Freeman	Young LALC formally registered its interest in the project.

17-Jul-18	Meeting	4.2.1 4.2.2	Stage 2	West Wyalong LALC (RAP)	Leeanne Hampton	ESCO Pacific met with West Wyalong LALC: project presentation and aboriginal consultation process discussion. ESCO Pacific provided a hard copy of project information and methodology for field works for review.
19-Jul-18	Email	4.2.1 4.2.2	Stage 2	West Wyalong LALC (RAP)	Leeanne Hampton	ESCO Pacific provided project information and methodology for field works for review.
19-Jul-18	Email	4.2.1 4.2.2	Stage 2	Young LALC (RAP)	Norma Freeman	ESCO Pacific provided project information and methodology for field works for review.
19-Jul-18	Email	4.2.1 4.2.2	Stage 2	Mark Saddler (RAP)	Mark Saddler	ESCO Pacific provided project information and methodology for field works for review.
19-Jul-18	Email	4.2.1 4.2.2 4.3.2	Stage 2	Mark Saddler (RAP)	Mark Saddler	RAP does not have specific comments on the methodology
31-Aug-18	Phone	4.3.1	Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	ESCO Pacific provided an update on the project and discussed the upcoming field work involving LALC representatives. Discussions were held around the proposed approach to the field work, as presented in the Methodology statement. Leeanne Hampton stated WW LALC had no issues with the methodology and that she would follow up with an email confirmation. Considering the close proximity of the WW LALC, ESCO Pacific suggested Leeanne Hampton could lead the RAP's contribution to the upcoming field work. This was acceptable to WW LALC.
31-Aug-18	Email	4.3.1 4.3.2	Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Email confirmation that WW LALC does not have specific comments on the methodology.
31-Aug-18	Phone	4.3.1 4.3.2	Stage 3	Mark Saddler (RAP)	Mark Saddler	ESCO Pacific provided an update on the project and plans to involve LALC representatives in the upcoming field work, to be led by WW LALC. Mark Saddler raised no issues with this approach. Mark Saddler re-confirmed he had no comments on the proposed Methodology for the upcoming field work.
31-Aug-18	Phone	4.3.1 4.3.2	Stage 3	Young LALC (RAP)	Norma Freeman	Left message.
02-Sept 18	Phone	4.3.1 4.3.2	Stage 3	Young LALC (RAP)	Norma Freeman	Left message.
05 Sept 18	Phone	4.3.2	Stage 3	Young LALC (RAP)	Keith Freeman	Discussed upcoming approach to field work and proposed methodology. Norma Freeman to call ESCO Pacific over coming days to discuss further details.
05 Sept 18	Phone	4.3.2	Stage 3	Young LALC (RAP)	Norma Freeman	Norma returned ESCO Pacific's call to discuss proposed field work and methodology statement. She requested the methodology be resent and then she will review over coming days.
13 Sept 18	Phone		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Discussed two representatives from WW LALC joining cultural heritage consultants during field work. Confirmed availability for field work any day prior to 8 October 2018. Conversation followed up by email.
13 Sept 18	Phone		Stage 3	Young LALC (RAP)	Norma Freeman	Left a message to discuss upcoming field work and opportunity for Young to be involved in reviewing the draft cultural heritage report. Message followed up by email.

13 Sept 18	Phone		Stage 3	Young LALC (RAP)	Enid Clarke	no message left
13 Sept 18	Phone		Stage 3	Young LALC (RAP)	Alona Apps	no message left
13 Sept 18	Phone		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Confirmed field work dates as 25 and 26 September 2018. Conversation followed up by email.
13 Sept 18	Phone		Stage 3	Mark Saddler (RAP)	Mark Saddler	Confirmed field work dates as 25 and 26 September 2018. Discussed representatives from LALC joining cultural heritage consultants during field work. Conversation followed up by email.
14 Sept 18	Email		Stage 3	Mark Saddler (RAP)	Mark Saddler	Mark emailed to say thank you for the update.
15 Sept 18	Email		Stage 3	Young LALC (RAP)	Norma Freeman	Norma email to say that Young LALC are satisfied with methodology and that they are interested in attending the field work 25/26 September.
17 Sept 18	Phone/ Email		Stage 3	Young LALC (RAP)	Norma Freeman	Called then email to speak about field survey dates and proposed plan to take representatives from WW LALC and ask if that was satisfactory to Young LALC.
17 Sept 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Email to follow up conversation last Thursday. Request name and contact number of two representatives joining the field work.
18 Sept 18	Phone		Stage 3	Young LALC (RAP)	Norma Freeman	Norma returned our call and confirmed Young LALC was satisfied in the proposed approach to the field work. It was confirmed that no representatives from Young would attend the field work. Young will review the draft cultural heritage study once available. Norma will confirm in an email this week.
18 Sept 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Leeanne emailed to advise that she and Linton Howarth would represent WW LALC during the field surveys 25/26 September and that they can be contacted on 0269723493.
19 Sept 18	Email		Stage 3	West Wyalong LALC (RAP) and OzArk cultural heritage consultants	Leeanne Hampton and Jodie Benton	ESCO confirmed LALC field represent with OzArk.
20 Sept 18	Email		Stage 3	Young LALC (RAP)	Norma Freeman	Norma emailed to confirm Young LALC accepted proposed field survey approach and that only representatives from WW LALC would attend survey.
24 Sept 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	ESCO requested field day rates for WW LALC.
25 Sept 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	ESCO requested field day rates for WW LALC – follow up email
25 Sept 18 – 27 Sept 18	In person		Fieldwork		West Wyalong LALC RAPs	Field survey of undertaken between RAPs and OzArk EHM.
26 Sept 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Confirmed day rates and total costs associated with 2.5 days field work. Purchase orders issued.
9 Oct 18	Phone		Stage 3	Young LALC (RAP)	Norma Freeman	Spoke with Norma to discuss the outcome of the field survey (25-27 Sept 2018). We discussed finding and proposed mitigation strategies. There will be an opportunity to review the draft report (findings and mitigation) last week of October with 28 days for review comment. Norma is satisfied with this update.
9 Oct 18	Email		Stage 3	Young LALC (RAP)	Norma Freeman	Follow up on phone call, providing summary of discussion and proposed dates for review of draft report.
10 Oct 18	Phone		Stage 3	Mark Saddler (RAP)	Mark Saddler	Spoke with Mark to discuss the outcome of the field survey (25-27 Sept 2018). We discussed finding and proposed mitigation strategies. There will be an opportunity to review the draft

						report (findings and mitigation) last week of October with 28 days for review comment. Mark is satisfied with this update.
10 Oct 18	Email		Stage 3	Mark Saddler (RAP)	Mark Saddler	Follow up on phone call, providing summary of discussion and proposed dates for review of draft report.
16 Oct 18	Email		Stage 3	West Wyalong LALC (RAP)	Leeanne Hampton	Thanking WW LALC for field work contribution and provided update on commencement of Stage 4 – review of draft report

Stage 1 newspaper advertisements: West Wyalong Advocate, Narrandera Argus, and Temora Independent – June 2018.

FOR HIRE

KELLY CHAINS
2 x 40ft Kelly Chains
with CL2 disc
Located West Wyalong &
surrounding areas
Contact Matt Lord 0409 475 439

BUSINESS ANNOUNCEMENTS

LEMONS TAXI SERVICE
Will NOT be available between the hours
of 1pm to 4.30pm TODAY
Due to lack of availability of drivers
We apologise for any
inconvenience to our customers.

McClintock
Keeping the Magic of Farming Alive
Trading hours - Winter
June - July only
Mon - Fri 7.30am to 5pm
Sat 9am to 12noon
Phone 6972 2288

ROYAL HOTEL
THE ROYAL HOTEL IS NOW SERVING BRUNCH
ON SUNDAYS BETWEEN 8.30AM AND 11.30AM
EACH AND EVERY SUNDAY.
FEATURING ALL YOUR BREAKFAST CLASSICS
LIKE EGG BENEDICT, BIG BREAKY, PANCAKES,
FRENCH TOAST AND MUCH MORE.
We look forward to seeing you for Brunch!

PUBLIC NOTICES

**SERVICE & REPAIRS TO ALL
BIKES, STATIONARY ENGINES,
MOWERS, GENERATORS
DAVIES MOTORCYCLES**
63 - 65 MAIN STREET,
WEST WYALONG. PH 6972 2629

**West Wyalong
Girral Bulldogs**
invites all to a
80's Theme Night
Tomorrow, Saturday, June 16
S&C Club Auditorium
6.30pm in Sports Bar for dinner
Band kicks off at 8.30pm
Band - Three Pistol Midnight
Tickets available from Noda, Jesse and Brooke
\$20 prepaid and \$25 at the door

**Ammunition,
lighting, gun
safes, Dog
Collars and more!**
DUNCAN'S
Pig Dog Collars
SPIKA
Pro-Tactical
"The Shooter's Choice"
For all these great brands contact
Allan (Dozer) at Collins Transport
Phone 0429 147 257

PUBLIC NOTICES

**West Wyalong
Junior Rugby League**
Playing at home tomorrow
against Forbes Magpies
Tomorrow, Saturday, June 16
9am - Under 7's
9.40am - Under 8's & Under 9's
10.20am - Mod League Tag
11.15am - Under 10's
12.10pm - Under 12's
1.10pm - Under 14's
2.15pm - Senior League Tag

COMEDY HYPNOTIST GERARD V
Tomorrow, Saturday, June 16
7.30pm Tullibigeal Hall
BYO drinks & nibbles
DJ to follow show
Tickets at the door \$25

DO YOU NEED YOUR MOWER,
GENERATOR OR SMALL ENGINE
REPAIRED?
FREE PICK UP AND DELIVERY SERVICE
IN WEST WYALONG AND WYALONG
WE CAN PICK UP FROM OUT OF TOWN,
BUT THERE WILL BE A FEE
DAVIES MOTORCYCLES
63 - 65 MAIN STREET,
WEST WYALONG. PH 6972 2629

CARPET COURT
For all your flooring &
window needs and a
free measure & quote
Phone David
on 0427 522 285

DEATH/FUNERAL NOTICE

SMITH, Mavis Lena passed away on Thursday,
June 7, 2018. Late of Waratah Retirement Village,
West Wyalong and formerly of Operator Street,
West Wyalong. Dearly loved wife of Bill
(deceased). Loving mother and mother in law of
Zanette & Tom (deceased) Fang, Peter & Linda,
Gail & Paul Basham and Gordon. Much loved
grandmother and great grandmother to their
children. Aged 88 years.
At Peace
Relatives and friends of Mavis are respectfully
informed that a Service of Thanksgiving
celebrating her life will be held in St Barnabas
Anglican Church, West Wyalong commencing at
2pm, today, Friday, June 15, 2018 followed by
interment in Wyalong Lawn Cemetery. Donations
may be left at the Church for Waratah Masonic
Village.

**BLAND DISTRICT
FUNERAL SERVICE**
Accredited Member of FDA of NSW
169 Main Street, West Wyalong 2671
02 6972 2235 0418 437 635

IN MEMORIAM

In Loving Memory of
Gary Kilmartin
27/8/1946 - 17/6/2017
Our hearts are full of memories
With pride we speak your name
Though life goes on without you
It will never be the same.
Love Nancy, Tracy, Janie, Tony and
their families.

SINCERE THANKS

The family of the late Max Hartwig
wish to thank relatives and friends
who sent cards, flowers, food, phone
calls and prayers following his
passing. It was a great comfort to us
during this difficult time.
Special thanks to Pastor Kupke and Stephenson's
Funerals for their care, support and
professionalism.
Please accept this as our personal thanks.
Lorraine and family

PRAYER MEETINGS

**Combined Churches
Prayer Meetings**
The churches of West Wyalong are
coming together in a series of
prayer meetings for three weeks
in June. We are praying for our
community and praying for rain.
Prayer meetings in the coming
week are:

Date	Church
Sun 17 June	Lutheran 2:30 - 3:30pm
Mon 18 June	Presbyterian 10:00 - 11:00am
Tues 19 June	Community 7:30 - 8:30pm
Wed 20 June	Anglican 4:00 - 5:00pm

*Every good and perfect gift is from
above, coming down from the
Father of the heavenly lights, who
does not change like shifting
shadows. The Bible, James 1:17*

PUBLIC NOTICE

WYALONG SOLAR FARM
ESCO Pacific Pty Ltd intends to develop a utility scale solar farm (up to 130MW) in Wyalong, approximately 7km northeast of West Wyalong, NSW. The project will involve the installation of solar panels arrays across an area of up to 260 hectares within the project area and a local connection to the NSW power grid.

Aboriginal People or other parties who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) within the vicinity of the Wyalong project area are invited to participate in consultation with ESCO Pacific Pty Ltd regarding the proposed project. The consultation is to enable assessment of Aboriginal cultural heritage associated with the project area.

Aboriginal people or other parties who wish to register their interest in this consultation process are invited to respond in writing (including your name, organisation, address, contact details and phone number) to **Cedric Berge** by 6th July 2018.

All registered parties will be contacted to discuss the proposed project and any consultation opportunities to inform the Aboriginal Cultural Heritage Assessment.

Signed by Cedric Berge
Level 4, 13 Cremorne Street, Richmond, VIC 3121
Cultural.heritage@escopacific.com.au

REWARD OF \$1,000
offered for any information on
4 year-old grey and white female,
microchipped cat
**LOST IN THE NORTH
YALGOGRIN AREA**

May answer to
"Maggie"

**Phone
(02) 9331 0960**





BIRTHDAY
Caitie May is 21!
Happy birthday to our
baby girl
We wish you all the
happiness you
deserve
All our Love
Dad, Mum & Clan
XOXO

CHURCH NOTICES

Presbyterian Church
Sunday June 17, West Wyalong 10.30am. Andrew Cooper, Home Missionary. Phone 0450 152 224.

St Mary's Catholic Church
Sunday Mass times West Wyalong at 9.30am. Phone 6972 3655

Anglican Church
West Wyalong - Sunday 9.30am and Tuesday 10am. Fr Daryl McCullough 6972 2163, office@wwangican.org, www.wwangican.org.

Lake Faith Church
Pastor Paul Stead, 8 Golden Street, West Wyalong. Ph 0429 600 579 Services will run fortnightly, commencing from Sunday, March 4.

Community Church wwwcc.net.au
West Wyalong (opposite Bernard's) Sundays 10.30am. Ungarie (44 Muriel St) Sundays 9am. Cameron Webber (Pastor) Ph 6972 2078, wwwccchurch@bigpond.com

Gateway Independent Baptist Church
Cnr Cassin St & Pine St, Wyalong. Non Pentecostal. Pastor John van der Spek 0404 074 140, or email spekes8@gmail.com

Living Word West Wyalong
Sunday service from 10am, 11-13 Court Street, West Wyalong, you are very welcome! Contact us at www.livingwordchurch.com.au

Lutheran Church
1st & 3rd Sundays of the month at 4pm. 5th Sunday 11am, 17 Park Street, West Wyalong. Pastor Darren Kupke, phone 6977 4757 or 0458 774 757.

West Wyalong Advocate, Friday, June 15, 2018, Page 9

Wyalong Solar Farm

ESCO Pacific Pty Ltd intends to develop a utility scale solar farm (up to 130MW) in Wyalong, approximately 7kms northeast of West Wyalong, NSW. The project will involve the installation of solar panels arrays across an area of up to 260 hectares within the project area and a local connection to the NSW power grid.

Aboriginal People or other parties who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) within the vicinity of the Wyalong project area are invited to participate in consultation with ESCO Pacific Pty Ltd regarding the proposed project. The consultation is to enable assessment of Aboriginal cultural heritage associated with the project area.

Aboriginal people or other parties who wish to register their interest in this consultation process are invited to respond in writing (including your name, organisation, address, contact details and phone number) to Cedric Berge by **July 6, 2018**.

All registered parties will be contacted to discuss the proposed project and any consultation opportunities to inform the Aboriginal Cultural Heritage Assessment.

Cedric Berge
Level 4, 13 Cremorne St,
Richmond, VIC 3121

cultural.heritage@escopacific.com.au

ESCO
Pacific

PUBLIC NOTICES

Proposed Wyalong Solar Farm

ESCO Pacific Pty Ltd intends to develop a utility scale solar farm (up to 130MW) in Wyalong, approximately 7kms northeast of West Wyalong, NSW. The project will involve the installation of solar panels arrays across an area of up to 260 hectares within the project area and a local connection to the NSW power grid.

Aboriginal People or other parties who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) within the vicinity of the Wyalong project area are invited to participate in consultation with ESCO Pacific Pty Ltd regarding the proposed project. The consultation is to enable assessment of Aboriginal cultural heritage associated with the project area.

Aboriginal people or other parties who wish to register their interest in this consultation process are invited to respond in writing (including your name, organisation, address, contact details and phone number) to Cedric Berge by 6th July 2018.

All registered parties will be contacted to discuss the proposed project and any consultation opportunities to inform the Aboriginal Cultural Heritage Assessment.

Signed by Cedric Berge
Level 4, 13 Cremorne St, Richmond, Vic 3121
Cultural.heritage@escopacific.com.au

11 x 2 CLASSIFIED
\$100.20

Temora Independent proof

1

Stage 1 letter to government agencies and Aboriginal community organisations.

15 June 2018

The Registrar
PO Box 112
GLEELBE NSW 2037

To whom it may concern,

RE: Registration of Aboriginal Parties – Aboriginal Cultural Heritage Management for the ESCO Pacific Pty Ltd Wyalong Solar Farm.

ESCO Pacific Pty Ltd intend to develop utility scale solar farm (up to 130MW) at Wyalong, New South Wales, approximately 7km north-east of West Wyalong. ESCO Pacific Pty Ltd are seeking to identify any Aboriginal Parties who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and / or places within the project area.

ESCO Pacific Pty Ltd are currently initiating consultation in accordance with the Office of Environment and Heritage Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 in relation to the proposed project.

If the Registrar can identify relevant individuals or organisations and provide contact details for known Aboriginal parties or organisations with a cultural interest in the project area, we will invite them to register their interest in being consulted regarding this project.

We would appreciate it if you could provide any feedback regarding these stakeholders and/or groups by 6th July 2018.

Kind Regards,

Cédric Bergé
ESCO Pacific Pty Ltd
Environmental Consultant – Development Manager
Cultural.heritage@escopacific.com.au

phone +61 3 8595 2406
email info@escopacific.com.au

website www.escopacific.com.au

address Level 4, 13 Cramorne St
Richmond Victoria Australia 3121

Stage 2/3 Aboriginal heritage survey methodology document.



Proposed Wyalong Solar Farm

Aboriginal Heritage Survey Methodology

1. Project Details

The proposed Wyalong Solar farm is located approximately 7kms north-east of West Wyalong, NSW. The development is utility scale renewable energy project, aiming to generate up to 130 MW of electricity. The solar farm will consist of up to 340,000 solar panels. The panels are like those used in residential contexts but are larger. The total project envelope is approximately 260ha, with direct impact to an area significantly less than the total project area.

The solar panels will be installed on ground mounted frames that allow the panels to track the sun. The panels generate Direct Current (DC) which is inverted to Alternating Current (AC) and exported to the existing electricity network via connections to electricity transmission lines which already transect the proposed solar farm locations.

The proponent of the project is ESCO Pacific, who are an Australian developer of ground-mounted utility-scale solar farms. The company was founded in 2015 to develop renewable energy assets under the then recently revised Australian Renewable Energy Target (RET). Aboriginal archaeological and cultural values assessments are required as a component of the Environmental Impact Assessment (EIS) process for the project.

Table 1: Projects Details

	Wyalong Solar Farm
Address	"Glenroy and Glenee" 1409 Newell Highway, Wyalong NSW 2671
Council	Bland Shire Council
Titles	Lot 160 on DP750615
Total indicative area	Secured land tenure: approx. 260 hectares
Land Use	Grazing, cropping
Capacity	Up to 130 MW AC
Connection	Essential Energy 132 kV Transmission Line (on site)

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Figure 1: General Location Map

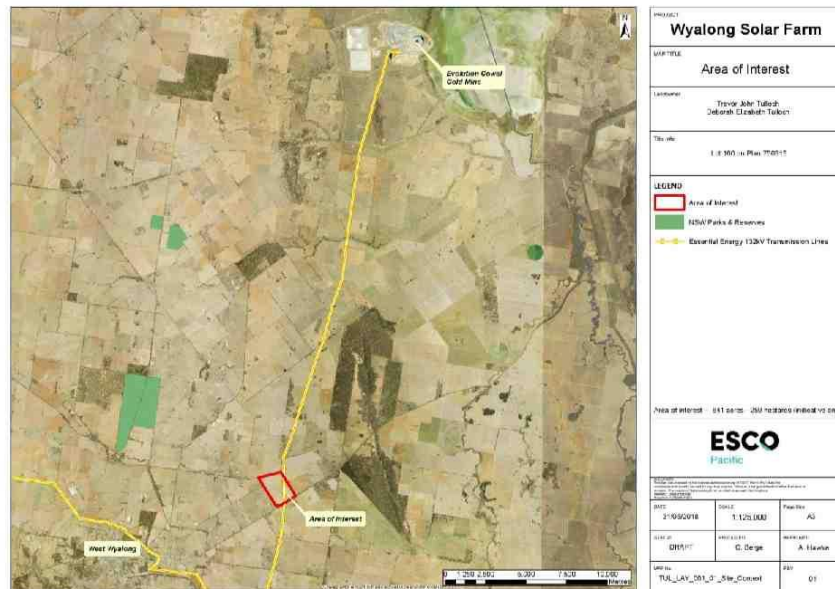
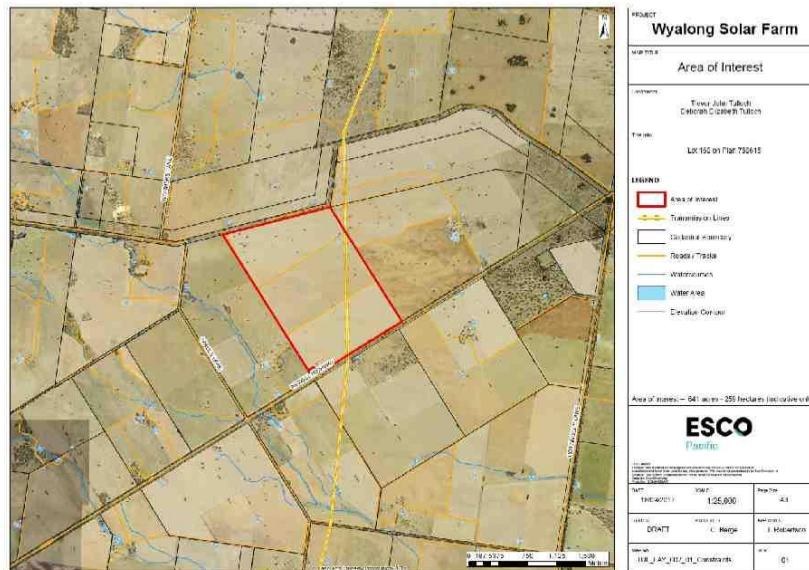


Figure 2: Wyalong Solar Farm proposed location



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2. Environmental Setting

The project area is situated on farm lands to the north-east of West Wyalong. The land is generally cleared and utilised for cropping. The level of previous ground disturbance appears to be relatively high. The closest waterway to the Project Area is located several hundred meters to the west.

3. Aboriginal Cultural Heritage Assessment Methodology

The methodology for the Aboriginal cultural heritage assessment comprises:

- A review of environmental background and heritage context;
- An Aboriginal Heritage Information Management System (AHIMS) search;
- Formulation of a predictive model;
- An archaeological survey;
- Assessment of archaeological significance;
- Assessment of cultural significance as determined in consultation with registered Aboriginal parties;
- Impact assessment; and,
- Formulation of recommendations for cultural heritage management.

4. Predictive Model of Archaeological Site Location within the Project Area

Previous Aboriginal Cultural heritage research indicates that archaeological sites are likely to be in association with a range of certain landforms. These landforms are:

- Within 200m of a waterway
- Within a sand dune system,
- On a ridge top, ridge line or headland
- Within 200m below or above a cliff face, or
- Within 20m of (or in) a cave, rock shelter or cave mouth.

Within the proposed Wyalong Solar Farm Project Area, this may be further refined. The survey area may contain the following types of Aboriginal sites and/or objects:

- Culturally Modified Trees (Scarred Trees)
- Earth Mounds
- Artefact Scatters, and
- Potential archaeological deposits (sub-surface deposits)

The presence or absence of these types of Aboriginal places and/or objects can only be determined through archaeological survey of the Project Area.

5. Proposed Archaeological Survey Methodology

The project area will be assessed for the presence or absence of archaeological sites and/or archaeologically sensitive landforms via the completion of an archaeological survey utilizing a standard and accepted archaeological survey methodology (c.f. Burke and Smith, 2004). This survey method will involve the survey team traversing the Project Area in a series of equally spaced linear transects. The survey team will inspect the entire land surface of the Project Area, recording any previously unknown archaeological sites. The sites will be recorded using standard recording forms and Differential GPS.

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The survey will also inspect any landform(s) considered to be 'sensitive' or 'likely' to contain sub-surface archaeological materials *in situ*.

The archaeological survey methods to be employed for the proposed Project Area and reporting will follow the DECC 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW and the OEH 2011 Guide to Investigating, assessing and reporting on Aboriginal cultural heritage in NSW.

6. Field Assessment

The archaeological field assessment will be undertaken in compliance with the 'Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales' (DECCW, 2010).

The entire footprint of the Project Area will be surveyed via pedestrian archaeological survey.

The survey will be undertaken utilizing standard archaeological practices. Survey team members will be spaced at ~10m intervals when walking transects. Any Aboriginal sites and/or objects identified during the survey will be recorded utilizing Differential GPS and standard field forms on electronic devices.

An assessment of ground surface visibility (%) will be made for each transect, and this will be taken in to account should any change to the proposed survey method be required due to unexpected visibility issues.

There will be no archaeological excavation(s) during this phase of the work.

All field assessment will include archaeologists from the engaged Cultural Heritage Consultant and RAP representatives, as agreed with the proponent.

Please note the following:

- There will be some mandatory OH&S and PPE requirements which will apply to all persons on site for the duration of the work.
- All survey team members will be required to participate in a job pre-start meeting and to sign on to the Safe Work Method Statement (SWMS) for the survey.
- No one will be allowed to participate in any of the field work if they are suspected of being under the influence of drugs and /or alcohol.
- Cultural Heritage Consultant have a hot weather policy which states that all field work must be terminated on any given day once the ambient temperature exceeds 38 degrees Celsius.
- Our standard practice when rain interrupts survey work is to sit out the first 2 hours on site. If the rain persists, then that day's work is cancelled. The Cultural Heritage Consultant team will decide as to what to do the next day if rain persists and/or conditions become too boggy to work safely. All participants will be informed as soon as possible.
- The survey team will usually consist of 2 archaeologists and RAP representatives.
- The Project Area (s) are located on working farms, so vehicle access on to the properties will be limited and managed by the Cultural Heritage Consultant team to ensure the farming operations are not unduly affected by our work.
- Daily starting time will be 0730 (unless otherwise agreed) at a location to be determined.

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- Daily finishing time will be 1600, unless earlier due to inclement weather.
- A lunch break of 45 minutes will be taken at 1230 each day (unless otherwise agreed).
- All survey participants are expected to bring sufficient food and water for the duration of the day's work.
- Sunscreen will be provided by the Cultural Heritage Consultant team on request.
- Regular breaks will be taken throughout the progress of each day at times nominated by the Cultural Heritage Consultant team members.

7. Consultation Processes

The archaeological assessment will form part of Stage 3 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). Prior to the fieldwork commencing, all Registered Aboriginal Parties will have had the opportunity to review and comment on this draft methodology document for 28 days. Any comments received from the RAP's improving the efficient design and delivery of the archaeological survey will be included in the final archaeological survey methodology.

8. Post Survey Meeting

After the field assessment, a discussion will be held with the RAP's present to (a) establish views on the cultural significance of any Aboriginal objects or places located during the survey (b) discuss the implications of any impacts to those objects or places and (c) discuss any recommended management or mitigation measures.

9. Cultural Values Assessment

A cultural values assessment will be undertaken separately to the archaeological assessment. The cultural values assessment aims to determine the socio-cultural and historic values of the Project Area. The results of the cultural values and archaeological assessments will be presented in the final Aboriginal Cultural Heritage Assessment Report (ACHAR). The cultural values assessment, in conjunction with the archaeological assessment will allow the full range of potential values of the Project Area to be assessed (i.e. social, cultural, aesthetic and historic values as well as the scientific (archaeological) values).

10. Draft Final Report

The Cultural Heritage Consultant will prepare a draft final assessment report following the conclusion of the surveys, assessment and the post-survey meeting. All RAP's will have an opportunity to review and comment on the draft report. Any feedback received will be incorporated into the final report. The Draft and Final reports will be written in full compliance with the *'Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW'* (OEH 2011).

11. Final Report

Once feedback has been received, the final report will be prepared for inclusion in the Project EIS.

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12. References

Burke, H & Smith, C (2004) The Archaeologists Field Handbook. Allen and Unwin, Sydney.

Department of Environment, Climate Change and Water (2010) Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

Department of Environment, Climate Change and Water (2010) Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW.

Department of Environment, Climate Change and Water (2010) Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales

Office of Environment and Heritage (2011) Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.


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APPENDIX 2: AHIMS EXTENSIVE SEARCH RESULTS



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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Wyalong Solar

Client Service ID : 371829

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
43-4-0006	TU 3;	AGD	55	519500	6251800	Open site	Valid	Modified Tree (Carved or Scarred): -	Scarred Tree	1273
Contact		Recorders		Permits						
43-4-0046	Birrbee Scarred Tree 1	GDA	55	524628	6243334	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0047	Birrbee Scarred Tree 2	GDA	55	525266	6242209	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0048	Birrbee Scarred Tree 3	GDA	55	525400	6241927	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0049	Birrbee Scarred Tree 4	GDA	55	525530	6241734	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0050	Birrbee Scarred Tree 5	GDA	55	525583	6241659	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0051	Birrbee Scarred Tree 6	GDA	55	525779	6241211	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0052	Bee Tree 1	GDA	55	524016	6244538	Open site	Valid	Modified Tree (Carved or Scarred): 1		
Contact		Recorders		Permits						
43-4-0037	ANE Burial	AGD	55	523999	6245231	Open site	Valid	Burial: 3, Artefact: 3		
Contact		Recorders		Permits						
43-4-0038	West Wyalong Scar Tree	GDA	55	518345	6251228	Open site	Partially Destroyed	Modified Tree (Carved or Scarred): -		
Contact		Recorders		Permits						

Report generated by AHIMS Web Service on 20/09/2018 for Stephanie Rusden for the following area at Datum :GDA, Zone : 55, Eastings : 514018 - 544018, Northings : 6235775 - 6265775 with a Buffer of 0 meters. Additional Info : Survey: Number of Aboriginal sites and Aboriginal objects found is 12

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Page 1 of 2

Page 1 of 2

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Wyalong Solar

Client Service ID : 371829

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
43-4-0039	Scar Tree	GDA	55	515759	6253634	Open site	Valid	Modified Tree (Carved or Scarred): -		
	Contact	Recorders		Miss Courtney Biles				Permits		
43-4-0053	Mags Spear head 1	GDA	55	535246	6247383	Open site	Valid	Artefact: -		
	Contact	Recorders		Mr Peter Ingram				Permits		

Report generated by AHIMS Web Service on 20/09/2018 for Stephanie Rusden for the following area at Datum :GDA, Zone : 55, Eastings : 514018 - 544018, Northings : 6235775 - 6265775 with a Buffer of 0 meters. Additional Info : Survey: Number of Aboriginal sites and Aboriginal objects found is 12

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Page 2 of 2

Page 2 of 2

APPENDIX 3: ABORIGINAL HERITAGE: UNANTICIPATED FINDS PROTOCOL

Aboriginal artefact is anything which is the result of past Aboriginal activity. This includes stone (artefacts, rock engravings etc.), plant (culturally scarred trees) and animal (if showing signs of modification; i.e. smoothing, use). Human bone (skeletal) remains may also be uncovered while onsite.

Cultural heritage significance is assessed by the Aboriginal community and is typically based on traditional and contemporary lore, spiritual values, and oral history, and may also take into account scientific and educational value.

Protocol to be followed in the event that previously unrecorded or unanticipated Aboriginal object(s) are encountered:

1. If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:
 - a. Not further harm the object;
 - b. Immediately cease all work at the particular location;
 - c. Secure the area so as to avoid further harm to the Aboriginal object;
 - d. Notify OEH as soon as practical on 131 555, providing any details of the Aboriginal object and its location; and
 - e. Not recommence any work at the particular location unless authorised in writing by OEH.
2. In the event that Aboriginal burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and OEH contacted.
3. Cooperate with the appropriate authorities and relevant Aboriginal community representatives to facilitate:
 - a. The recording and assessment of the find(s);
 - b. The fulfilment of any legal constraints arising from the find(s), including complying with OEH directions; and
 - c. The development and implementation of appropriate management strategies, including consultation with stakeholders and the assessment of the significance of the find(s).
4. Where the find(s) are determined to be Aboriginal object(s), recommencement of work in the area of the find(s) can only occur in accordance with any consequential legal requirements and after gaining written approval from OEH (normally an Aboriginal Heritage Impact Permit).

APPENDIX 4: HISTORIC HERITAGE: UNANTICIPATED FINDS PROTOCOL

A historic artefact is anything which is the result of past activity not related to the Aboriginal occupation of the area. This includes pottery, wood, glass and metal objects as well as the built remains of structures, sometimes heavily ruined.

Heritage significance is assessed by suitably qualified archaeologists who place the item or site in context and determine its role in aiding the community's understanding of the local area, or their wider role in being an exemplar of state or even national historic themes.

Protocol to be followed in the event that previously unrecorded or unanticipated historic object(s) are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately the finds are uncovered.
 - a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted; and
 - b) The site supervisor will be informed of the find(s).
2. If finds are suspected to be human skeletal remains, then NSW Police must be contacted as a matter of priority.
3. If there is substantial doubt regarding the historic significance for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be significant. If a quick opinion cannot be gained, or the identification is that the item is likely to be significant, then proceed to the next step.
4. Immediately notify OEH (Heritage Division) at 131 555 of the discovery:
5. Facilitate, in co-operation with the appropriate authorities:
 - a) The recording and assessment of the finds;
 - b) Fulfilling any legal constraints arising from the find(s). This will include complying with OEH directions; and
 - c) The development and conduct of appropriate management strategies. Strategies will depend on consultation with stakeholders and the assessment of the significance of the find(s).
6. Where the find(s) are determined to be significant historic items, any re-commencement of construction related ground surface disturbance may only resume in the area of the find(s) following compliance with any consequential legal requirements and gaining written approval from OEH.