

# Picton Road upgrade between Nepean River and Almond Street, Wilton

Review of Environmental Factors

## Appendix E

Aboriginal Cultural Heritage  
Assessment Working Paper

# E



# Picton Road upgrade between Nepean River and Almond Street, Wilton: Aboriginal Cultural Heritage Working Paper

Prepared for GHD Pty Ltd

FINAL REPORT

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## Glossary

<b>ACEF</b>	Aboriginal Community Engagement Forum
<b>ACHAR</b>	Aboriginal Cultural Heritage Assessment Report
<b>ACVSR</b>	Aboriginal Cultural Values and Sensitivities Report
<b>ACHMP</b>	Aboriginal Cultural Heritage Management Plan
<b>AHIMS</b>	Aboriginal Heritage Information Management System
<b>ASO</b>	Aboriginal Site Officers
<b>ASR</b>	Aboriginal Cultural Heritage Survey Report (Archaeological Survey Report)
<b>Consultation requirements</b>	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>
<b>DECCW</b>	Department of Environment, Climate Change and Water (now Heritage NSW)
<b>DP</b>	Deposited Plan
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>GDA</b>	Geocentric Datum of Australia
<b>GLALC</b>	Gandangara Local Aboriginal Land Council
<b>GPS</b>	Global Positioning System
<b>GSV</b>	Ground Surface Visibility
<b>Heritage NSW</b>	Heritage NSW, Department of Planning and Environment
<b>ICOMOS</b>	International Council on Monuments and Sites
<b>ILALC</b>	Illawarra Local Aboriginal Land Council
<b>km</b>	Kilometre
<b>LALC</b>	Local Aboriginal Land Council
<b>LEP</b>	Local Environmental Plan
<b>LGA</b>	Local Government Area
<b>m</b>	Metres
<b>MGA</b>	Map Grid of Australia
<b>NHL</b>	National Heritage List
<b>NNTT</b>	National Native Title Tribunal
<b>NPW Act</b>	<i>National Parks and Wildlife Act 1974</i>
<b>NPWS</b>	National Parks and Wildlife Service
<b>NSW</b>	New South Wales
<b>NTSCORP</b>	Native Title Services Corporation
<b>PACHCI</b>	<i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i>
<b>PAD</b>	Potential Archaeological Deposit
<b>The proposal</b>	Picton Road upgrade, between the Nepean River and Almond Street in Wilton, including the M31 Hume Motorway interchange.
<b>Proposal site</b>	The area that would be required to construct and operate the proposal, and includes the location of construction worksites and operational infrastructure as assessed in the REF.
<b>RAPs</b>	Registered Aboriginal Parties

<b>REF</b>	Review of Environmental Factors
<b>REP</b>	Regional Environmental Plan
<b>SEPP</b>	State Environmental Planning Policy
<b>Survey area</b>	The area subject to PACHCI Stage 2 survey for the Picton Road upgrade, which included about 30 kilometres of Picton Road southeast from Wilton towards Wollongong, NSW. The proposal site is within the broader survey area.
<b>Transport</b>	Transport for NSW
<b>TLALC</b>	Tharawal Local Aboriginal Land Council
<b>the Code</b>	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i>

## Summary

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Transport for NSW (Transport) is proposing to upgrade Picton Road between the Nepean River and Almond Street in Wilton, New South Wales (NSW) (the proposal). The proposal includes upgrading the Picton Road interchange with the M31 Hume Motorway. The proposal forms part of the broader Picton Road upgrade (proposal), which involves upgrading approximately 30 kilometres of Picton Road between the Nepean River and the M1 Princes Motorway.

The purpose and scope of this Aboriginal cultural heritage working paper is to describe and assess the key cultural heritage values, including tangible and intangible values for the proposal site. This working paper also assesses the potential impacts on Aboriginal cultural heritage of constructing and operating the proposal, along with management recommendations.

The proposal site lies between the Nepean River and Almond Street, Wilton (Figure 1.1) on Dharawal Country and is within the Wollondilly Local Government Area (LGA), Parish of Wilton and County of Camden. The proposal site is predominantly bounded by private land that has been cleared with some dense vegetation near the Nepean River.

In March 2022, Biosis undertook a Stage 2 *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (Transport for NSW 2011) (PACHCI) survey for the whole program area. Additional, PACHCI Stage 2 surveys were also carried out in August and November 2022. Nine Aboriginal site officers and two Transport Aboriginal Cultural Heritage Officer participated in the surveys in a roster system. The PACHCI Stage 2 survey area (the survey area) followed approximately 30 kilometres of Picton Road from Wilton towards Wollongong, NSW.

The overall effectiveness of the survey for examining the ground for Aboriginal sites across the entire survey area was deemed low. This was attributed to vegetation cover restricting ground surface visibility (GSV) combined with a low number of exposures.

There are 311 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS), within a 3.5 kilometre buffer of the survey area. Eleven of these registered sites are within the survey area. Nine additional registered sites are within approximately 50 metres (m) of the survey area.

Within the proposal site, there are two previously registered AHIMS sites: AHIMS 52-5-4079/WJ-ST-04, a modified tree located north of the Picton Road and Hume Motorway interchange; and AHIMS 52-2-3590/Wilton 01, a second modified tree located south of Picton Road. The PACHCI Stage 2 surveys identified one additional potential Aboriginal site (a possible modified tree) and 15 potential archaeological deposits (PADs) within the proposal site.

Between August 2022 and June 2023, test excavations were undertaken within the proposal site with a team of four Biosis archaeologists and ten Aboriginal Site Officers (ASOs) per day in accordance with PACHCI Stage 3 and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a) (the Code). A total of 152 test pits were excavated across 16 PADs within the proposal site. A total of 29 artefacts from four PADs were recorded from the sub-surface excavations. Raw material types are consistent with other assessments in the region with quartz dominating the assemblage. Angular flake fragments were the most commonly recorded artefact type followed by distal flake fragments and complete flakes. The assemblage also contained two pieces of ochre and one tool, a backed artefact.

The proposal site contains sporadic low density subsurface artefact scatters, which indicates that this area was utilised to some degree, although occupation was not intensive. The low density artefact scatters are most likely remnants of people traversing the area or may represent short-term camping grounds. The most suitable locations for short-term occupation for those travelling between the Cumberland Plain and the coast are likely to be on gently sloped sections of the side slopes or flat elevated terraces due to the more level gradient of these locations.

Disturbance could also be a factor in the low artefact numbers identified. Vegetation clearance and pastoral activities would have caused spatial, as well as stratigraphical movements of cultural material due to cattle trampling and removal of large trees. Erosion would have most likely been extensive after land clearance and could have caused washing out of artefacts, particularly on slopes. However, the surrounding area offered a variety of resources that were utilised by Aboriginal people and the area was likely used as resource gathering zone rather than an area of intensive occupation.

### **Aboriginal Land Rights and Native Title claims**

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* listed no Aboriginal Owners with land within the study area. A search conducted by the National Native Title Tribunal (NNTT) listed no Registered Native Title Claims or Registered Indigenous Land Use Agreements within the study area. There is one registered Claimant Application within the survey area, South Coast People (NC2017/008); however, the boundary of this claim does not extend in the proposal site.

### **Consultation**

Transport commenced consultation for the Picton Road upgrade, including the proposal, in October 2021.

Consultation has been undertaken as per the process outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b) (consultation requirements), which has included advertising in local papers, contacting Aboriginal stakeholder groups, government organisations and individuals for nominations of people with cultural knowledge and/or interested in registering as Registered Aboriginal Parties (RAPs) for the proposal. A total of 48 Aboriginal organisations registered their interest and have been consulted as RAPs throughout development of the proposal. Consultation with RAPs and other Aboriginal stakeholders has included five Aboriginal community engagement forums: two in-person events in May 2022 and April 2023, and three online forums in December 2021, June 2022 and May 2023. Additional consultation and communication have been completed via phone and formal written correspondence and updates.

Consultation has been carried out with Aboriginal knowledge holders to identify known cultural values and sensitivities across the survey area and its surrounds. By drawing together primary and secondary historical research, oral history interviews, on-Country visits and information gathered during the archaeological survey and test excavation program, a narrative history of Aboriginal people in and around the survey area has been created.

This has allowed the significance of the cultural values of the survey area to be identified and assessed, and the potential impacts the proposal may have on Aboriginal cultural heritage values. Management recommendations for Aboriginal cultural values within the proposal site informed by this consultation and assessment are provided in section 8.

Complete copies of the following documents have been provided to RAPs:

- *Picton Road Upgrade Project: Aboriginal Cultural Heritage Assessment Report (Stage 3 PACHCI) – Western Section Nepean River to Almond Street, Wilton* (Biosis Pty Ltd 2023)

- *Picton Road Upgrade Project: Aboriginal Cultural Heritage Survey Report (Stage 2 PACHCI) (Biosis Pty Ltd 2022)*
- *Picton Road Upgrade Project: Aboriginal Archaeological Excavation Report Tranche 1 (Biosis Pty Ltd 2023)*
- *Picton Road Upgrade Project: Aboriginal Archaeological Excavation Report Tranche 1 Addendum (Biosis Pty Ltd 2023) (AAER Addendum)*
- *Picton Road Upgrade Project: Aboriginal Cultural Values and Sensitivities Report (Biosis Pty Ltd 2023)*
- *Arboricultural Assessment of Scarred Trees at Picton Road Picton NSW (Urban Tree Management Australia Pty Ltd 2022)*
- *Picton Road Upgrade Program: Archaeological Survey Report Addendum (Biosis Pty Ltd 2023)*
- *Picton Road upgrade – Western Section, between Nepean River and Almond Street, Wilton Artefact - Draft repatriation methodology (Biosis Pty Ltd 2023).*

Restricted and confidential information including Aboriginal heritage site location data has been removed from this working paper.

## **Results**

Within the proposal site, there are six recorded Aboriginal sites, one potential Aboriginal heritage site and five cultural values that may be subject to harm. It is expected that the potential of harm to Aboriginal archaeological sites from the proposal ranges from none to direct. A summary of the potential impacts on known Aboriginal sites within the proposal site is provided in Table 1.

As a result of the archaeological assessments undertaken, a number of safeguards and management measures are proposed to avoid or minimise impacts to Aboriginal sites present in the proposal site (Table 2).



**Table 1 Summary of potential impacts**

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm	Management recommendations	Consequence of harm after recommended mitigation
<b>Aboriginal archaeological sites</b>							
<b>AHIMS 52-2-4885</b>	PRUP PAD 4	Low	Direct	Total	Total loss of value	Test excavations were undertaken to collect information from the site for future generations. AHIP to impact should be sought to allow impacts under the NPW Act	Partial loss of value
<b>AHIMS 52-2-4884</b>	PRUP PAD 6	Low	Direct	Total	Total loss of value	Test excavations were undertaken to collect information from the site for future generations. AHIP to impact should be sought to allow impacts under the NPW Act	Partial loss of value
<b>AHIMS 52-5-4079</b>	WJ-ST-04	High	Indirect	Partial	Partial loss of value	Avoidance of impacts	No loss of value
<b>AHIMS 52-2-4883</b>	PRUP PAD 7	Moderate	Direct	Total	Total loss of value	Test excavations were undertaken to collect information from the site for future generations. AHIP to impact should be sought to allow impacts under the NPW Act	Partial loss of value

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm	Management recommendations	Consequence of harm after recommended mitigation
<b>AHIMS 52-2-4882</b>	PRUP PAD 10	Low	Direct	Total	Total loss of value	Test excavations were undertaken to collect information from the site for future generations. AHIP to impact should be sought to allow impacts under the NPW Act	Partial loss of value
<b>AHIMS 52-2-3590</b>	Wilton 01	High	Indirect	Partial	Partial loss of value	Avoidance of impacts	No loss of value
<b>N/A</b>	PRUP PAD 34	Unknown	None	None	No loss of value	Avoidance of impacts	No loss of value
<b>Aboriginal cultural sites</b>							
<b>N/A</b>	Walking and travelling routes/Picton Road	High	Direct	Partial	Partial loss of value	Minimise impacts through design, interpretation where pathways intersected/overwritten by the works	Partial loss of value

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm	Management recommendations	Consequence of harm after recommended mitigation
N/A	Undisturbed bushland	High	Direct	Partial	Partial loss of value	Stands of culturally relevant species should be identified and avoided where possible. Any potential impact should be mitigated in consultation with Aboriginal people. Minimise impacts through design (RAPs favour impacts to existing disturbed bushland over undisturbed bushland), replanted with native plant species following works	Partial loss of value
N/A	Freshwater creek lines	High	Direct	Partial	Partial loss of value	Minimise impacts through design	Partial loss of value
N/A	Culturally modified trees	High	Indirect	Partial	Partial loss of value	Avoidance of impacts	Partial loss of value
N/A	Flora and fauna	High	Indirect	Partial	Partial loss of value	Minimise impacts through design, create interpretation strategies of the cultural landscape	Partial loss of value

**Table 2 Safeguards and management measures**

ID	Impact	Safeguards	Responsibility	Timing	Reference
AH01	Aboriginal heritage management	An Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared in accordance with the <i>Procedure for Aboriginal cultural heritage consultation and investigation</i> (Roads and Maritime Services, 2011) and the <i>Unexpected Heritage Items Procedure</i> (Transport for NSW, 2022) and implemented as part of the CEMP. The ACHMP will provide specific guidance on measures and controls to be implemented for managing impacts on Aboriginal heritage. The ACHMP will be prepared in consultation with Registered Aboriginal Parties.	Contractor	Detailed design / pre-construction	Section 4.9 of QA G36 <i>Environment Protection</i>
AH02	Aboriginal heritage	Opportunities to minimise impacts on PRUP PAD 7 will be investigated during detailed design and construction planning due to its association with AHIMS 52-5-4079.	Transport / contractor	Detailed design / pre-construction	Additional safeguard
AH03	Aboriginal heritage	An Arboricultural Impact Assessment report will be prepared during detailed design for the trees with Aboriginal cultural value, including AHIMS registered trees, in accordance with AS 4970-2009 Protection of Trees on Development Sites to inform exclusion zones and other protection measures in the ACHMP. The report will be prepared by a suitably qualified Arborist (minimum AQF level 3 or above) in consultation with Registered Aboriginal Parties.  Minimum working distances by types of construction activities and associated management measures will be developed based on the results of the report and included in the relevant CEMP sub-plans.	Transport	Detailed design	Additional safeguard
AH04	Aboriginal heritage	Further design development will be completed during detailed design to avoid impacts on trees with Aboriginal cultural value where possible. Impacts on AHIMS-registered trees will be avoided in accordance with AS 4970-2009 Protection of Trees on Development Sites, with effective exclusion zones established	Transport	Detailed design / pre-construction	Additional safeguard

ID	Impact	Safeguards	Responsibility	Timing	Reference
		prior to construction.			
AH05	Aboriginal heritage	The Urban Design and Landscaping Plan will be further developed in consultation with Aboriginal knowledge holders during detailed design. The plan will incorporate measures to integrate appropriate native vegetation around trees with Aboriginal cultural value, including AHIMS-52-2-3590 and AHIMS 52-5-4079.	Transport	Detailed design	Additional safeguard
AH06	Aboriginal heritage	An Aboriginal Heritage Impact Permit (AHIP) will be sought under section 90 of the <i>National Parks and Wildlife Act 1974</i> for Aboriginal sites expected to be directly impacted by the proposal. Overlapping impact areas with other existing AHIPs will be resolved as required.	Transport	Detailed design / pre-construction	Additional safeguard
AH07	Aboriginal heritage	If any activities associated with the proposal are required in the exclusion zone of PRUP PAD 34 area, the <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i> (Roads and Maritime Services, 2011) would be followed prior to any works taking place at this location.	Transport	Detailed design / pre-construction	Additional safeguard
AH08	Aboriginal archaeological material	Aboriginal archaeological material excavated for the preparation of the Aboriginal cultural heritage assessment will be returned to Country and repatriated as soon as practicable in a secure location in accordance with requirements 16b and 26 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010a) or an alternative method agreed upon in consultation with the Registered Aboriginal Parties.	Transport	Detailed design / pre-construction	Additional safeguard
AH09	Aboriginal heritage interpretation	An Aboriginal heritage interpretation strategy will be developed to guide incorporation of appropriate interpretation and integration of Aboriginal cultural heritage in the design. The strategy will be prepared and implemented with regard to the following:	Transport	Detailed design / pre-construction	Additional safeguard

ID	Impact	Safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>• <i>Interpreting Heritage Places and Items: Guidelines</i> (NSW Heritage Office, 2005)</li> <li>• <i>Heritage Interpretation Policy</i> (NSW Heritage Office, 2005)</li> <li>• <i>Connecting with Country Framework</i> (Government Architect, 2023)</li> <li>• <i>Signposting Country Technical Manual</i> (Transport for NSW, 2021)</li> <li>• <i>Aboriginal Art Strategy</i> (Transport for NSW, 2022)</li> <li>• <i>Aboriginal Cultural Heritage Framework</i> (Transport for NSW, 2022)</li> <li>• <i>Heritage Interpretation Guideline</i> (Transport for NSW, 2016).</li> </ul> <p>The strategy will also:</p> <ul style="list-style-type: none"> <li>• be developed in consultation with relevant stakeholders, including Registered Aboriginal Parties and nominated Aboriginal cultural knowledge holders</li> <li>• be prepared in accordance with the urban design objectives and principles for the proposal</li> <li>• include measures to ensure a meaningful design response to Aboriginal heritage and cultural values.</li> </ul> <p>The design will include appropriate interpretation of Aboriginal heritage in accordance with the heritage interpretation strategy.</p>			
<b>AH10</b>	Cultural safety	A cultural safety protocol will be developed prior to construction that includes measures recommended by knowledge holders for implementation during preconstruction and construction activities.	Transport / Contractor	Pre-construction / Construction	Additional safeguard
<b>AH 11</b>	Cultural practices	Options to make culturally significant plant species identified in the Aboriginal Cultural Heritage Working Paper to be cleared available to Aboriginal stakeholders for cultural practices will be investigated during detailed design in consultation with Registered Aboriginal Parties.	Transport / Contractor	Detailed design/ pre-construction	Additional safeguard

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# 1 Introduction

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## 1.1 The proposal

Transport for NSW (Transport) proposes to upgrade Picton Road between the Nepean River and Almond Street in Wilton, NSW (the proposal). The proposal includes upgrading the section of Picton Road from about 1.3 kilometres east of the bridge over the Nepean River to about 200 metres east of Almond Street, including the M31 Hume Motorway interchange.

The proposal forms part of the broader Picton Road upgrade, which involves upgrading about 30 kilometres of Picton Road between the Nepean River and the M1 Princes Motorway.

The proposal is subject to assessment by a review of environmental factors (REF) under Division 5.1 of *Environmental Planning and Assessment Act 1979* (EP&A Act). For the purposes of these works, Transport for NSW is the proponent and the determining authority under Division 5.1 of the EP&A Act.

### 1.1.1 Proposal location

The proposal is located in Wilton, in the Wollondilly Local Government Area (LGA). The proposal site, shown in Figure 1.1 and Figure 1.2, comprises the area that would be required to construct and operate the proposal, including ancillary facilities and operational infrastructure.

### 1.1.2 Key features of the proposal

Key features of the proposal include:

- widening and upgrading Picton Road for a distance of about five kilometres between the Nepean River and Almond Street to provide:
  - a minimum of two 3.5 metre-wide traffic lanes in each direction with a central median, increasing to three traffic lanes in each direction approximately between Wilton Park Road and Aerodrome Drive intersection and the Pembroke Parade and Greenway Parade intersection
  - three-metre-wide shoulders on the left lane side in each direction
- upgrading the existing Picton Road and M31 Hume Motorway interchange into a diverging diamond layout, including:
  - removing the existing Picton Road bridge and constructing two new bridges over the M31 Hume Motorway
  - upgrading and realigning on and off ramp connections with the M31 Hume Motorway to suit the new interchange layout and to allow free flow of traffic between Picton Road and the M31 Hume Motorway
  - providing a new four-metre-wide shared user path along the southern bridge
  - removing the existing traffic signals on Picton Road and installing new traffic signals with more efficient phasing and more traffic capacity.

- new and upgraded shared paths on Picton Road, including underpasses under the southbound on ramp connections to the M31 Hume Motorway and an overpass of the northbound off ramp connection from the M31 Hume Motorway, located:
  - adjacent to the westbound slow lane of the proposal from the western extent to around 420 metres west of Almond Street to connect with planned active transport infrastructure to be delivered as part of the South East Wilton development
  - adjacent to the eastbound slow lane between Aerodrome Drive and the western extent of the proposal and between Pembroke Parade and Almond Street
- reconfiguring the existing Picton Road intersections with Wilton Park Road, Aerodrome Drive, Janderra Lane and Almond Street into left in, left out only (the timing of delivery of the reconfigured Almond Street intersection is subject to confirmation of timeframes for delivery of other road works planned at the intersection as outlined in section 1.1.3 and chapter 3 of the REF)
- integration with new traffic signals and widening roadworks constructed in 2023 at the intersection of Picton Road and Pembroke Parade and Greenway Parade
- adjusting the posted speed from the western extent of the proposal, through the interchange and to the east of Pembroke Parade to 60 kilometres per hour (km/h).

Ancillary work and construction activities associated with the proposal would include:

- property works including acquisition and adjustment to existing accesses and fencing
- civil earthworks and drainage works
- construction and adjustment of retaining walls, road pavement, and water quality devices
- tie-in work to adjoining sections of Picton Road, M31 Hume Motorway and other local roads
- installing and adjusting roadside furniture and delineation, such as safety barriers, kerb and gutter, fencing, lighting, signage, noise treatment and pavement markings
- installing new intelligent transport systems including, but not limited to, closed circuit television and variable message signs
- protecting, adjusting and relocating existing utilities and associated structures
- landscaping and rehabilitation of disturbed areas
- adjustment and provision of noise treatments, including at property works and noise mounds, as required
- establishment of temporary ancillary facilities to support construction including compound sites, site offices, stockpiles, access tracks, turning bays, median crossovers on the M31 Hume Motorway, and laydown areas
- site preparation works, including vegetation clearing and grubbing, site fencing, temporary drainage measures, traffic management, and implementation of environmental management measures.

An overview of the proposal is provided in Figure 1.2. Further information is provided in chapter 3 of the REF.

## 1.2 Purpose of the working paper

This Aboriginal cultural heritage working paper has been prepared by Biosis on behalf of Transport as part of the REF. The report has been prepared to assess the potential impacts on Aboriginal heritage that may result from constructing and operating the proposal. The working paper:

- Describes the existing environment with respect to Aboriginal heritage
- Summarises assessments and consultation undertaken as part of the Aboriginal cultural heritage assessment for the proposal
- Assesses the impact of constructing and operating the proposal on Aboriginal heritage
- Recommends measures to mitigate and manage identified impacts.

This working paper summarises the investigation, consultation and assessment of Aboriginal cultural heritage undertaken for the proposal and has been developed in line with the following guidelines and procedures:

- *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (Transport for NSW 2011) (PACHCI)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b)
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a)
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011)
- *Talking History: Oral History Guidelines* (OEH 2004).

This working paper considers the proposal site shown in Figure 1.2.

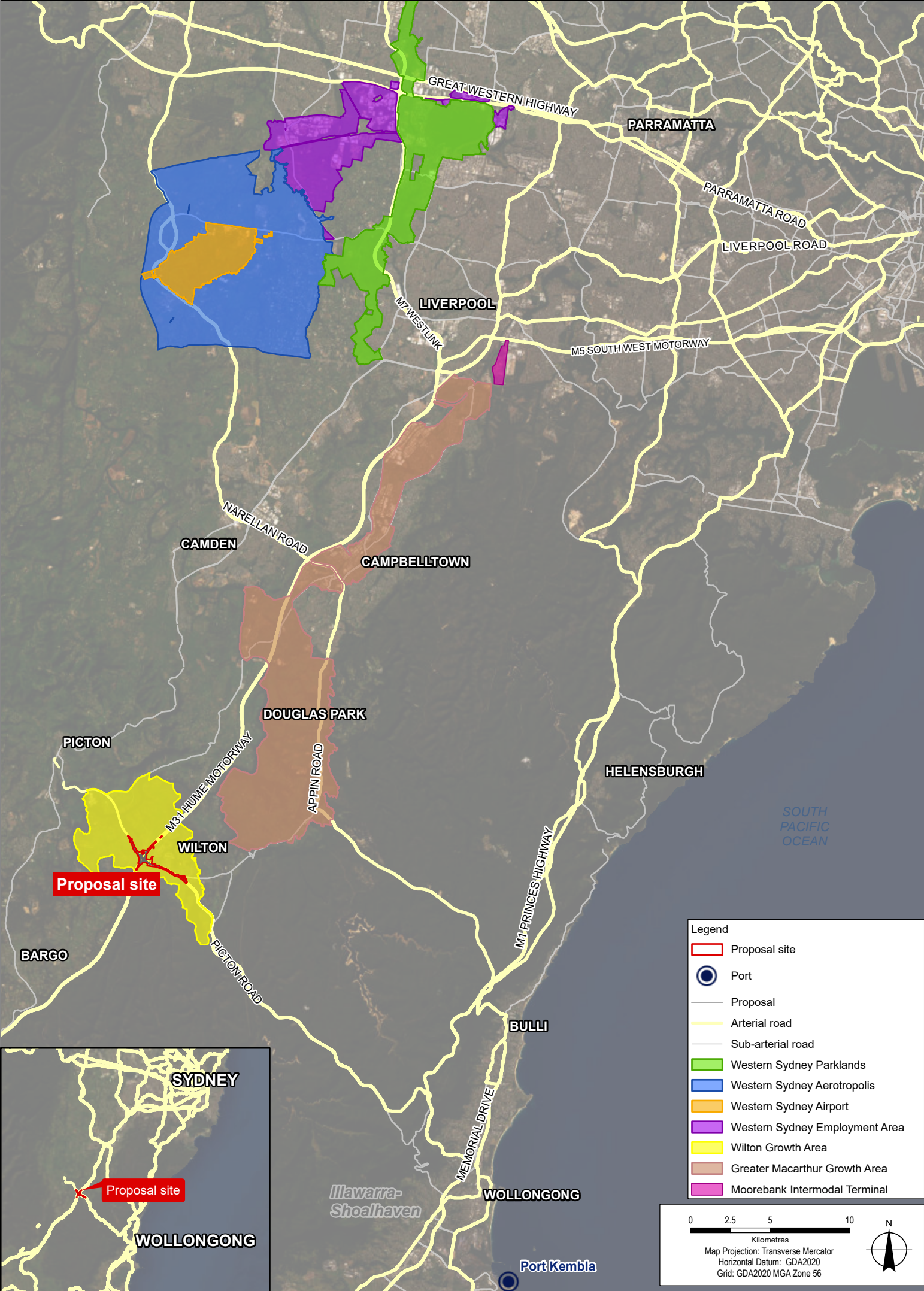
## 1.3 Restricted and confidential information

This working paper will be displayed to the public. As such, restricted and confidential information including Aboriginal heritage site location data has been removed.

Complete copies of the following documents have been provided to RAPs:

- *Picton Road Upgrade Project: Aboriginal Cultural Heritage Assessment Report (Stage 3 PACHCI) – Western Section Nepean River to Almond Street, Wilton* (Biosis Pty Ltd 2023) (ACHAR)
- *Picton Road Upgrade Project: Aboriginal Cultural Heritage Survey Report (Stage 2 PACHCI)* (Biosis Pty Ltd 2022) (Archaeological Survey Report) (ASR)
- *Picton Road Upgrade Project: Aboriginal Archaeological Excavation Report Tranche 1* (Biosis Pty Ltd 2023) (AAER)
- *Picton Road Upgrade Project: Aboriginal Archaeological Excavation Report Tranche 1 Addendum* (Biosis Pty Ltd 2023) (AAER Addendum)
- *Picton Road Upgrade Project: Aboriginal Cultural Values and Sensitivities Report* (Biosis Pty Ltd 2023) (ACVSR)
- *Arboricultural Assessment of Scarred Trees at Picton Road Picton NSW* (Urban Tree Management Australia Pty Ltd 2022)

- *Picton Road Upgrade Program: Archaeological Survey Report Addendum (Biosis Pty Ltd 2023) (ASR Addendum)*
- *Picton Road upgrade – Western Section, between Nepean River and Almond Street, Wilton Artefact - Draft repatriation methodology (Biosis Pty Ltd 2023).*



**Legend**

- Proposal site
- Port
- Proposal
- Arterial road
- Sub-arterial road
- Western Sydney Parklands
- Western Sydney Aerotropolis
- Western Sydney Airport
- Western Sydney Employment Area
- Wilton Growth Area
- Greater Macarthur Growth Area
- Moorebank Intermodal Terminal

0 2.5 5 10  
Kilometres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 MGA Zone 56

Figure 1.1 - Location of the proposal

Data source: Earthstar GeographicsNSW SS-SDS, Topographic base data, 2023; Transport network - TINSW, 2023. Created by: akidea N:  
 \AU\Wollongong\Projects\23\12560200\GIS\Maps\12560200\_PictonRoad\_Stage1\_Concept\Design\12560200\_REF\_B\_aprx\12560200\_REF\001\_ProposalLocation\_A4P.Print date: 25 Oct

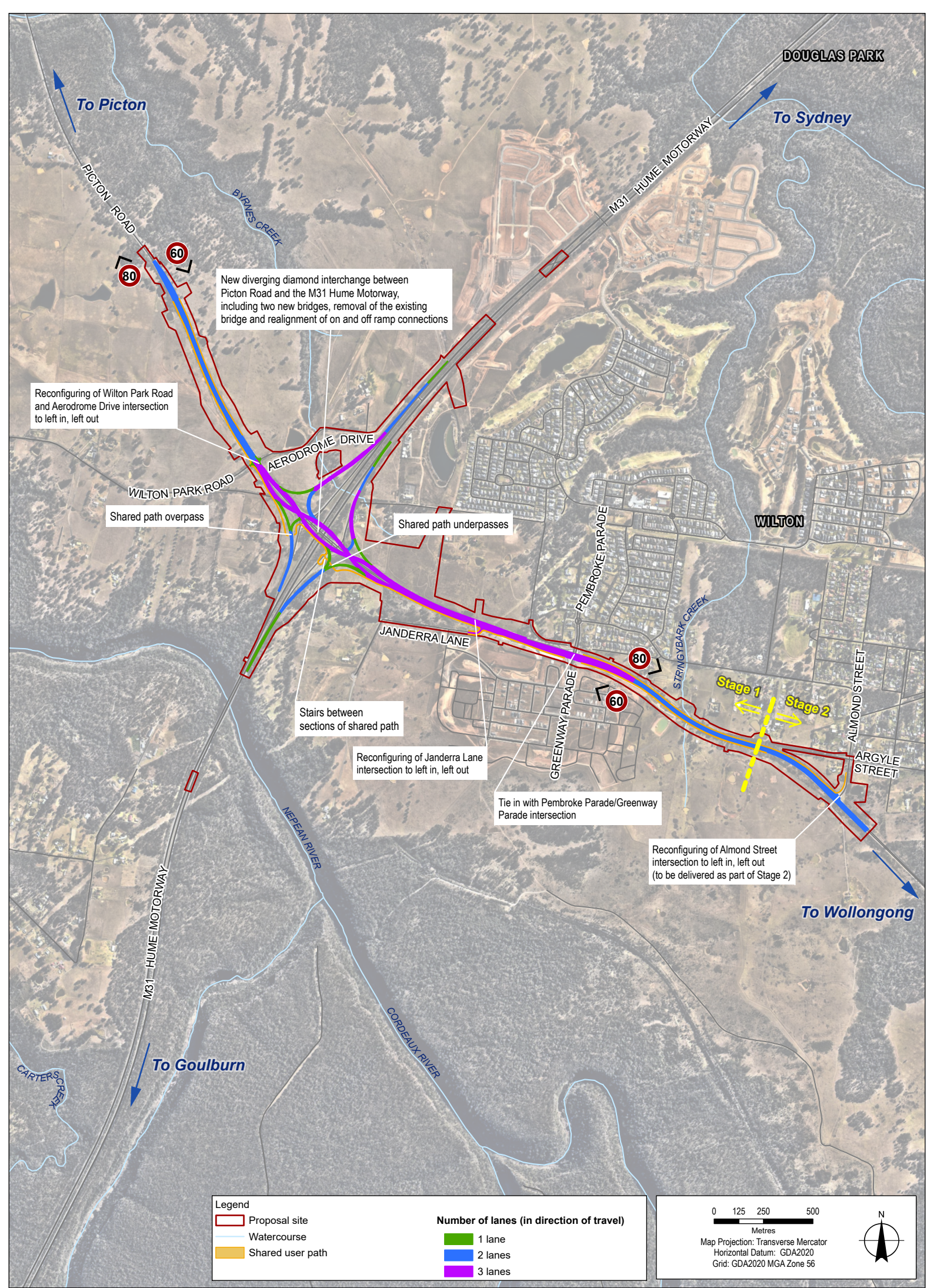


Figure 1.2 - The proposal

Data source: Nearmap WMS Server; NSW SS-SDS, Topographic base data, 2023. Created by: akidea  
 N:\AU\Wollongong\Projects\2312560200\GIS\Maps\12560200\_PictonRoad\_Stage1\_Concept\Design\12560200\_REF\_B.aprx  
 12560200\_REFX017\_TheProposal\_A4P. Print date: 12 Dec

## 2 Aboriginal community consultation

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Throughout the development of the Picton Road upgrade (including the proposal), Transport has actively consulted with the Aboriginal community in accordance with PACHCI and *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010).

Consultation has been carried out for the whole of the Picton Road upgrade survey area, including the proposal site.

Consultation activities carried out in accordance with the PACHCI Stage 3 formal consultation requirements are detailed in the following sections and summarised in Table 3.

**Table 3 Summary of Aboriginal community consultation activities**

Activity	Summary
<p><b>Seeking the names of Aboriginal people with cultural knowledge</b></p> <p>[Action 1]</p>	<p>In October 2021, letters were sent to 14 government and non-government organisations seeking names of Aboriginal people with cultural knowledge about the area.</p> <p>About 160 groups or individuals were identified for the broader Picton Road upgrade through this communication method.</p>
<p><b>Notification of Aboriginal people with cultural knowledge</b></p> <p>[Actions 2 and 3]</p>	<p>In late October and early November 2021, advertisements seeking the names of Aboriginal people with cultural knowledge about the area were published in four newspapers and National Indigenous Times (NIT) online.</p> <p>From late October 2021, flyers with the advertisement information were made available at seven locations in the Illawarra and South West Sydney area that provide services for the local Aboriginal community.</p> <p>In December 2021, letters and emails were sent to 163 groups / individuals to seek registrations for consultation as a Registered Aboriginal Party (RAP) for Picton Road upgrade. Those who could not be contacted via email or post were called.</p> <p>A total of 48 groups or individuals requested to be consulted as RAPs for the Picton Road upgrade.</p>
<p><b>Online survey</b></p>	<p>In December 2021, an online survey was sent to all RAPs seeking advice on their preferences for engagement type, frequency and timing. The outcomes of this survey informed ongoing consultation for the proposal.</p>
<p><b>Invitation to attend Aboriginal community engagement forums and consultation on methodology</b></p> <p>[Actions 7 and 8]</p>	<p>In December 2021, invitations were sent to RAPs and a broader Aboriginal stakeholder group to attend an online Aboriginal Community Engagement Forum (ACEF). Around 160 groups or individuals were invited to attend to provide an overview of Picton Road upgrade and start early engagement with Aboriginal knowledge holders and the broader Aboriginal community. More than 14 Aboriginal community members attended the ACEF in December 2021. A representative from Heritage NSW also attended this event.</p> <p>In January 2022, RAPs were provided the draft ASR (Stage 2 PACHCI) methodology for review. Expressions of interest to participate as Aboriginal Site Officers, or trainees, in upcoming test excavations were also sought.</p>



Activity	Summary
	<p>The proposed Aboriginal cultural heritage assessment methodology was then provided to RAPs in May 2022 for review, along with an invitation to attend an in-person ACEF at McCabe Park in Wollongong. The broader Aboriginal stakeholder group was also invited to attend this ACEF.</p> <p>Around 16 people attended the in-person ACEF, representing eight RAPs. An online ACEF was held in June 2022, targeted towards those unable to attend the in-person event. Three RAPs attended this online ACEF.</p>
<p><b>Archaeological testing</b> [Actions 10-15]</p>	<p>In August 2022, test excavations commenced following finalisation of the archaeological test excavation methodology to incorporate feedback from RAPs and Heritage NSW. A total of 20 Aboriginal Site Officers and seven trainee Aboriginal Site Officers participated in the surveys and field investigations using a roster system.</p> <p>Test excavations were largely completed in 2022, with two locations completed in June 2023. Throughout the test excavation program, information was shared by ASOs including about the landform, trees and waterways of the area.</p>
<p><b>Consultation on excavation and assessment reports</b> [Actions 16 and 19]</p>	<p>In April 2023, RAPs were provided with the draft ACHAR for review, including the draft Aboriginal Cultural Values and Sensitivities Report, draft ASR Addendum and draft Arboricultural Assessment of Scarred Trees report. An Aboriginal community update and a RAP update were also provided to give an overview of the current status of Picton Road upgrade and a summary of the documents for consultation, respectively. The consultation period was extended to about eight weeks to enable sufficient time for review and in response to feedback from Illawarra Local Aboriginal Land Council (ILALC).</p> <p>Invitations were also sent to an in-person ACEF at Wilton in April 2023, and a follow-up online event in May 2023. These invitations, along with the Aboriginal community update, were extended to the broader Aboriginal stakeholder group, including the 48 RAPs. About 14 people attended the in-person event, comprising representatives of six RAPs. A representative from Heritage NSW also attended the event in Wilton. Three people, all of which are RAPs, attended the online event.</p> <p>Formal detailed feedback on the draft ACHAR was received from three RAPs and considered in the final ACHAR. The final ACHAR was provided to all RAPs prior to exhibition of the REF for the proposal.</p> <p>In November 2023, RAPs were provided with a draft addendum to the AAER and draft repatriation methodology for Aboriginal artefacts collected during the test excavations, with a consultation period of 28 days.</p>

## 2.1 Notification of proposal and registration of interest

### 2.1.1 Action 1 – Seek the names of Aboriginal people with cultural knowledge by letter or notify native title holders

In accordance with the consultation guidelines and PACHCI Stage 3, Transport notified the following bodies regarding the proposal:

- Wollongong City Council
- Wollondilly Shire Council
- Heritage NSW, Department of Planning and Environment
- NSW Native Title Services Corporation Limited (NTSCORP)
- Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners
- National Native Title Tribunal (NNTT)
- South East Local Land Services
- Crown Land Aboriginal Land Claims
- WaterNSW
- National Parks and Wildlife Service (NPWS)
- New South Wales Aboriginal Land Council
- ILALC
- Tharawal Local Aboriginal Land Council (TLALC)
- Gandangara Local Aboriginal Land Council (GLALC).

A list of known Aboriginal stakeholders in the Wollondilly and Wollongong area was provided by Heritage NSW. Separate lists were also provided by TLALC, Wollongong City Council and NPWS via email. A total of 160 Aboriginal stakeholders were identified.

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* listed no Aboriginal Owners with land within the proposal site. A search conducted by the NNTT listed no Registered Native Title Claims or Registered Indigenous Land Use Agreements within the proposal site. There is one registered Claimant Application within the survey area, South Coast People (NC2017/008); however, the claim boundary does not extend into the proposal site.

### 2.1.2 Action 2 – Notify Aboriginal people with cultural knowledge by letter

Aboriginal groups identified in Section 2.1.1 were sent a letter inviting them to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area.

### 2.1.3 Action 3 – Notify Aboriginal people with cultural knowledge by advertisement

In accordance with the consultation guidelines, public notifications were placed in the following newspapers and website:

- *Illawarra Mercury* (25/10/2021)
- *Bowral Southern Highland News* (27/10/2021)
- *Wollondilly Advertiser* (27/10/2021)
- *Koori Mail* (3/11/2021)
- *NIT online* (26/10/2021).

The advertisement invited Aboriginal people who hold cultural knowledge to the study area to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s), values and/or places in the vicinity of the study area.

In line with the public notification period, proposal information flyers were delivered to:

- Tharawal Aboriginal Medical Services
- ILALC
- GLALC
- Illawarra Aboriginal Corporation
- Aboriginal Community Centre, Wollongong
- Illawarra Aboriginal Medical Service
- Warrigal Employment.

As TLALC was closed at the time, flyers were emailed to TLALC for distribution via their mailing list.

### 2.1.4 Action 6 – Send the names of registered parties to OEHL and local Aboriginal land council(s)

In response to the letters, public notice and ACEFs held in 2021 and 2022 (refer to section 2.2.2), a total of 48 groups and individuals registered their interest in the proposal. A number of these RAPs did not want their details published or shared with the LALCs and/or Heritage NSW. The names of RAPs (excluding those who requested their details not be shared) were sent to Heritage NSW, ILALC and TLALC following the close of the registration period. The list has been amended following requests from groups to be deregistered or change their details, as well as new parties being added upon their request. A full list of Aboriginal parties currently registered for consultation is provided below in Table 4.

**Table 4 List of registered Aboriginal parties**

No.	Organisation	Contact person
1	A1 Indigenous Services	Carolyn Hickey
2	Aragung Aboriginal Cultural Heritage Site Assessments	Jamie Eastwood

No.	Organisation	Contact person
3	Barraby Cultural Services	Lee Field
4	Coomaditchie United Aboriginal Corporation	Lorraine Brown
5	Confidential party #1	N/A
6	Cubbitch Barta	Glenda and Rebecca Chalker
7	D'harawal Elders and Knowledge Holders	Gawaian Bodkin-Andrews
8	Didge Ngunawal Clan (DNC)	Paul Boyd & Lilly Carroll
9	Freeman & Marx	Clive Freeman
10	Gilay Consultants	Carolyn Slater
11	Ginninderra Aboriginal Corporation	Krystle Carroll
12	Goobah Development Pty Ltd (Murrin Clan/Peoples)	Basil Smith
13	Gumaraa Aboriginal Experience	Richard Campbell
14	Gunjeewong Cultural Heritage Aboriginal Corporation	Shayne Dickson
15	Guntawang Aboriginal Resources Incorporated	Wendy Morgan
16	Confidential party #2	N/A
17	Illawarra Local Aboriginal Land Council	Aara Welz
18	Individual	Iriaka Ross
19	Individual	Kazan Brown
20	Individual	Kenny Dickson
21	Individual	Peter Button
22	Kamilaroi Yankuntjatjara Working Group	Phil Khan
23	Merrigarn Indigenous Corporation	Shaun Carroll
24	Mundawari Heritage Consultants Pty Ltd	Dean Delponte
25	Muragadi Heritage Indigenous Corporation	Jesse Johnson
26	Murra Bidgee Mullangari Aboriginal Corporation	Ryan and Darleen Johnson
27	Narinya Aboriginal Healing Circle	Aunty Joyce Donovan
28	Ngamba Cultural Connections & Wurrumay Pty Ltd	Kaarina Slater
29	South Coast People Native Title Claimant	Sandy Chalmers
30	Tharawal Local Aboriginal Land Council	Julie Dannevig
31	Thoorga Nura	John Carriage
32	Three Ducks Dreaming Surveying and Consulting	Leonard Wright
33	Tungai Tonghi	Troy Tungai
34	Waawaar Awa Aboriginal Corporation	Rodney and Barry Gunther

No.	Organisation	Contact person
35	Wadi Wadi Coomaditchie Aboriginal Corporation	Michele Moore
36	Warra Bingi Nunda Gurri	Nathanial Kennedy
37	Wodi Wodi Dharawal Pty Ltd	James Davis
38	Wori Woilywa	Daniel and Katrina Chalker
39	Woronora Plateau Gundangara Elders Council	Kayla Williamson
40	Confidential party #3	N/A
41	Wurrumay Pty Ltd	Vicky Slater
42	Yerramurra (Murrin Clan/Peoples) and Taste of Tradition Native Aboriginal Corporation	Blaan Davies
43	Yurrandaali Pty Ltd	Bo Field

## 2.2 Review of methodology for the proposed proposal

### 2.2.1 Action 7 – Send invitation to attend an Aboriginal focus group meeting and draft methodology for review

On 19 January 2022, Transport provided each RAP with the draft ASR (Stage 2 PACHCI) methodology for comments.

On 10 May 2022, Transport provided each RAP with an outline of the Aboriginal cultural heritage assessment methodology for the proposal. This included:

- A summary of the ASR
- Draft archaeological test excavation methodology
- Preliminary Aboriginal cultural heritage values and sensitivities mapping summary
- Invitation to participate in the heritage assessment process
- Invitation to attend an ACEF at MacCabe Park, Wollongong.

RAPs were given 28 days to review and provide feedback on the proposed methodology each time. Responses were received from five RAPs. Muragadi Heritage Indigenous Corporation, Kamilaroi Yankuntjatjara Working Group and Guntawang Aboriginal Resources Incorporated agreed with the recommendations. ILALC requested clarification on the due date for comments, while Kazan Brown requested an extension for the submission period to discuss artefact storage.

Due to property access issues, minor changes in the survey area and difficulty in locating one AHIMS site (outside of the survey area), three additional Aboriginal archaeological site surveys were required. An addendum to the ASR was prepared and sent to RAPs for review as part of the ACHAR consultation (Action 16-19).

### **2.2.2 Action 8 – Hold an Aboriginal focus group meeting**

An online ACEF was held on 20 December 2021 via Microsoft Teams. The purpose of the ACEF was to start the consultation process of early engagement with Aboriginal knowledge holders and to provide an overview of the Picton Road upgrade. More than 14 Aboriginal community members attended the ACEF.

On 19 January 2022, Transport sent all RAPs a letter to seek expressions of interest to participate as ASOs and ASO Trainees. This letter also included the meeting minutes from the December ACEF.

Following on from this, an ACEF was held on 14 May 2022 at McCabe Park, Wollongong, to discuss the management of Aboriginal cultural heritage for the proposal. Invitations were sent to all RAPs two weeks prior to the meeting and calls were made to all those for whom phone numbers were available. Around 16 people attended the ACEF, representing eight RAPs.

An online ACEF was also held on 7 June 2022 via Microsoft Teams with three RAPs attending. The purpose of the online forum was to continue early engagement with Aboriginal knowledge holders and to inform and seek feedback from RAPs regarding:

- Results of Aboriginal site surveys.
- Proposed Aboriginal cultural heritage assessment and archaeological test excavation methodologies.
- Preliminary Aboriginal cultural values and sensitivity mapping.

The ACEF also allowed for clarification of questions about the assessment process and to provide a forum to discuss the management of Aboriginal cultural heritage for the proposal.

### **2.2.3 Action 9 – Provide meeting minutes to Aboriginal parties**

On 1 July 2022, Transport provided the RAPs with a copy of the ACEF minutes and PowerPoint presentation.

### **2.2.4 Action 10 – Finalise methodology**

The archaeological test excavation methodology and detailed cultural heritage assessment methodology was finalised following the close of the review period on 14 June 2022.

### **2.2.5 Action 12 – Senior Environmental Specialist (Heritage) reviews archaeological methodology (and cultural heritage assessment report where required)**

The archaeological test excavation methodology and detailed cultural heritage assessment were reviewed by the Transport's Aboriginal Cultural Heritage Officer (ACHO) and Senior Environment and Sustainability Officer (SESO). Prior to the finalisation of the archaeological test excavation methodology, a copy was provided to Heritage NSW for their review on 10 May 2022.

In addition to review comments by Transport's ACHO and SESO, Heritage NSW provided comment on the archaeological test excavation methodology during a Teams meeting on 23 June 2022. This included a justification on the decision to undertake either wet or dry sieving. It was agreed that dry sieving could be undertaken in the first instance if this was adequately justified in the Aboriginal Archaeological Excavation Report (AAER). Comments received from Heritage NSW were incorporated into the final archaeological test excavation methodology.

### 2.2.6 Action 13 – Notification to commence test excavations

Heritage NSW were notified on 20 July 2022 of the commencement date of archaeological test excavations.

### 2.2.7 Action 14 – Engage Aboriginal site officers

All RAP groups and individuals were notified of the commencement date for test excavations and invited to nominate (including self-nominations) ASOs. A total of 27 ASOs (including trainees) were engaged to participate in the test excavation programme using a roster system.

### 2.2.8 Action 15 – Implement archaeological testing methodologies

Test excavations were undertaken between August 2022 and June 2023 with a team of four Biosis archaeologists and up to 10 ASOs at any one time.

#### Information gathered during fieldwork

During the archaeological survey, the main cultural information gathered related to the flora, fauna, and landform features of the survey area. This included:

- Melaleuca trees can be an indicator of natural springs.
- Trees with four branches can be an indicator of landforms coming together. Comments from one ASO was that this is sometimes an important aspect of the landscape that gets overlooked.
- Kurrajong trees are not commonly found in the area.
- Geebung and native cherry trees in high density can indicate that rock shelters are nearby.
- Further consultation is needed to discuss resources that will be removed i.e. paperbark trees. Aboriginal community to be consulted appropriate way for resources to be given back/used.
- Comments from two ASOs regarding meetings as well as phone calls to accommodate people in supplying cultural information.
- The way the water flows is important (i.e. flowing to Nepean River or Cataract River) under Picton Road, as it can relate to families and kinship. One ASO commented that waterways should be kept the way it is and not impacted, changed or disturbed. One waterway might be for one family and can be the end of one area or boundary.
- One ASO noted that medicine trees are present along Picton Road (melaleuca).
- Use of materials, (i.e. trees) by community needs to be considered, as they are a valuable resource even when cut down.
- Access to the wider area is important.
- How removal of vegetation that will impact native vegetation ecosystem should be considered.

During the test excavations program within the study area, ASOs considered the entire landscape as significant although no specific examples were shared. Some ASOs did however, note that the area closer to Wollongong was more significant with a higher chance of identifying artefacts within the PADs near the Picton Road and the M1 interchange. Results from test excavations can be found in section 6.2.

## **2.3 Review of draft ACHAR**

### **2.3.1 Action 16 and 19 – Prepare draft archaeological excavation report and ACHAR**

On 13 April 2023 all RAPs were provided with the draft ACHAR, incorporating the draft archaeological excavation report, ACVSR and arboricultural assessment report. RAPs were given an extended period of 36 days to review and provide feedback on the draft ACHAR. Reminder emails were sent on 21 April 2023, and an overview discussion of the draft ACHAR was carried out at the ACEFs on 29 April (in person at Wilton) and 4 May 2023 (online). As requested by the RAPs, the review period was extended to 9 June 2023.

Detailed feedback on the draft ACHAR was received from three RAPs. This feedback is summarised in Table 5 below, with a response to each component of the feedback.



**Table 5 Response to feedback received from RAPs on the draft ACHAR**

Feedback	Response
<p><b>PADs 12 and 13 were not excavated during the test excavations. If they are to be impacted by the proposal they should be tested, if not they should be left alone.</b></p>	<p>Impacts to PAD 12 and 13 were attempted to be avoided in the first instance. However, refinements to the design did not achieve complete avoidance. Therefore, these PADs were tested in June 2023. Two test pits were excavated in PAD 13 and three in PAD 12 following the same methodology as previous excavations. No artefacts were found, and these areas are not considered to be archaeological sites.</p>
<p><b>The portion of PAD 16 that will not be impacted by the proposal should be fenced off, so as to avoid any accidental damage from machinery, earthworks etc during construction.</b></p>	<p>PAD 16 was tested and found not to have artefacts. The limit of works would be fenced or otherwise delineated to avoid any impacts outside of the proposal site.</p>
<p><b>All excavated artefacts should be reburied on Country as close as possible to where they come from.</b></p>	<p>A draft repatriation methodology has been sent for consultation to RAPs. It is proposed to repatriate artefacts found during the test excavations. A location has been proposed within the Wilton area where artefacts would be unlikely to be disturbed again by the proposal or other planned works. Discussions with property owners and RAPs are ongoing.</p>
<p><b>The scarred tree 52-5-4079 is an Ironbark, not a Stringybark as referenced in the draft ACHAR.</b></p>	<p>Noted. The AHIMS site card for 52-5-4079 records this tree as a Stringybark. An arboricultural assessment completed by Urban Tree Management Australia (UTM) for the survey area identified this tree as a <i>Eucalyptus agglomerata</i> (Blue-leaved Stringybark).</p>
<p><b>The ethnohistory in the draft ACHAR in regard to the location of Dharag [Darug] is incorrect. The quoted Attenbrow references the Jim Kohen theory showing Dharag Country down to Appin, which is not correct. These places the three groups (Dharawal, Gundungurra and Dharag) in the same space.</b></p>	<p>It is noted that differing views to the quoted references exist. This feedback has been incorporated into the ethnohistory set out in the ACHAR and in section 3.4 below.</p>
<p><b>The map in the draft ACHAR showing the Appin massacre site is incorrect. Further, the draft ACHAR states the massacre site is actually where the memorial is (at Cataract Dam), which is also incorrect. The Cataract Dam has been a convenient</b></p>	<p>The map shows sites that have cultural values associated with the Appin massacre. This includes both the Appin Massacre cultural landscape State Heritage Register</p>

Feedback	Response
<p><b>place to hold the memorial service for many years, as access to the actual massacre site has not been possible.</b></p>	<p>site and the memorial site at Cataract Dam.</p>
<p><b>In regard to an interpretation strategy, there are places within Wilton that will not be divulged to the public. This avoidance will become harder in the future due to the large population that will be in Wilton.</b></p>	<p>Noted. Restricted and confidential information would not be included in the interpretation strategy, as this strategy would be made publicly available. Consultation with Aboriginal knowledge holders would inform the strategy.</p>
<p><b>All rock shelters should be avoided. It is surprising that these rock shelters have not already been recorded. Even if there is no art present within rock shelters, there is high potential to contain subsurface artefacts.</b></p>	<p>Noted. There are no rock shelters within the proposal site.</p>
<p><b>More time and space should be dedicated to the Dharawal story around Camden, Appin and Picton. The focus has been on the Gundungurra rather than on Dharawal on Dharawal Country. This is a flaw in the draft ACHAR.</b></p>	<p>The draft ACHAR summarised stories and information provided by knowledge holders to Transport. Knowledge holders may at times decide not to share with Transport stories or information that are considered culturally sensitive or may request they are not shared with the wider community. Consultation with RAPs and knowledge holders would continue to inform the proposal.</p>
<p><b>Scarred tree 52-2-3590 has been left standing alone, with more recent plantings of trees near and around it. It is hoped that the right species of trees have been planted there as companion plants, not just species that might appeal to the people doing the plantings.</b></p>	<p>Noted. The proposal includes an Urban Design Strategy which identifies the landscaping strategy for areas within the proposal site that would be disturbed by the proposal. These areas would be landscaped with native plants that support remaining trees and other vegetation. Local native tree species would be utilised where possible and appropriate. The strategy for the area surrounding Scarred tree 52-2-3590 has been informed by consultation with knowledge holders.</p> <p>A safeguard has been included in section 9 and the environmental assessment to continue to refine the landscaping strategy in consultation with Aboriginal knowledge holders during detailed design.</p>
<p><b>It is understood that scarred tree 52-5-4079 would not be impacted and as noted in the aboriginal assessment, the other trees around it should also be left intact to secure the ongoing life of the tree. Please confirm this is correct and identify the</b></p>	<p>The proposal has been designed to avoid AHIMS 52-5-4079. Safeguards will be included in the environmental assessment to ensure impacts to this AHIMS site are avoided and mitigated. Safeguards included in the environmental assessment would</p>

Feedback	Response
<p><b>procedure for protection during construction of the proposal.</b></p>	<p>be implemented during construction. The vegetation in the area surrounding this tree has been identified as to be retained in the Urban Design Strategy.</p>
<p><b>The draft ACHAR lacks reporting on cultural objects identified whilst conducting site walkover for PACHCI Stage 2 surveys. These cultural objects were reported during the site walk over but have not been identified within this report.</b></p>	<p>All newly identified Aboriginal sites and objects within the survey area were recorded in accordance with the Code. If the proposed survey area changes in the future, additional surveys would be carried out to determine the presence of any Aboriginal sites or objects. The surveys conducted to date were archaeological surveys and any cultural objects or sites have been identified through the ACVSR interviews, walks on Country and workshops. Transport would continue to consult with Aboriginal knowledge holders to further capture any areas and objects of cultural value that may be impacted by the proposal.</p>
<p><b>The draft ACHAR states “It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage” – this contradicts actions to date that have contributed to these reports. First Nations Peoples have identified trees as having cultural significance and the following process was to consult with non-identified persons, to overrule them to conclude that the First Nations Peoples knowledge about the landscape was deemed insufficient. Within our culture there are different levels of understanding with aspects of the country, flora, fauna and everything, that have holistic meaning spiritually and culturally.</b></p>	<p>Transport acknowledges the connection that Aboriginal people have to Country. The Stage 2 surveys identified a number of potentially culturally modified trees, which were subsequently investigated by an arborist experienced in culturally modified tree identification. The arbicultural assessment was completed and provided to the Aboriginal site officers who completed the survey for comment. No comments were received at that time. The report was then provided to RAPs for consultation as part of the draft ACHAR.</p> <p>Cultural objects or sites have been identified through the ACVSR, including flora identified by ASOs as culturally significant. Discussion with knowledge holders during interviews for this study resulted in their agreement with the arbicultural assessment for the tree located on the south-west corner of the Picton Road interchange with the M31 Hume Motorway.</p> <p>This tree is not currently considered an archaeological site and therefore have not been registered in AHIMS. Further consultation with knowledge holders would be completed to gain a better understanding of the cultural values potentially associated with the tree and recommended mitigation measures if impacted by the proposal.</p>

Feedback	Response
	<p>Further design development will be completed to avoid the tree on the south-west corner of the interchange where possible. If impacts cannot be avoided, additional mitigation measures would be identified as part of the Aboriginal Cultural Heritage Management Plan during detailed design and pre-construction planning, informed by consultation with Aboriginal knowledge holders.</p> <p>Direct impacts on the two AHIMS-registered trees would be avoided by the proposal and mitigation measures put in place to minimise the risk of indirect impacts.</p>
<p><b>Within the draft ACHAR there is heavy emphasis placed on a single site listed on AHIMS in relation to the site being relocated before any further action is taken. During site walkovers there were other AHIMS sites that that have not yet been located. All sites within and near the proposal site should be located and treated in the same way so direct and indirect impacts can be properly considered by all First Nations Peoples.</b></p>	<p>There are two previously identified AHIMS sites within the proposal site. Both sites were re-identified during the Stage 2 surveys. In the remaining parts of the survey area (outside of the proposal site) one of the eight AHIMS sites was re-identified. The sites that were not identified would be addressed in the ACHARs for the central and eastern sections. If potentially impacted, further surveys may be completed, and additional consultation carried out during concept design for the central and eastern section.</p>
<p><b>We find some of the actions that have taken place on site and within draft ACHAR to be racist and discriminatory to First Nations Peoples. As stated in the report “Ensure Aboriginal site offices don’t remove stones during test excavations as the stones might have spiritual power that bring bad luck if taken off country”. We do not believe that this statement is limited to only First Nations Peoples, but all people but in principle the processes and archaeologist are doing exactly what this statement says not to do. We believe that everything has a place for a reason and a purpose and as people we should respect this if we need to disturb items due to the destruction of these places the least that we could do is respect that this is their place and not remove them from their place at any time and just be moving them from harm’s way to an area where they will not be disturbed in the future but are as close as possible to where they originated from.</b></p>	<p>Noted. A cultural safety protocol was developed for the field investigations based on consultation with knowledge holders completed in February 2022 and included in the consultation for the survey report in May 2022 with RAPs. The protocol included the following measure recommended by knowledge holders: “Ensure workers don’t remove stones from the work site as the stones might have spiritual powers that bring bad luck if taken off Country”.</p> <p>This measure was included in plans for all field investigations and applied to all workers, independent of their cultural background.</p> <p>As per the test excavation methodology consulted on in May 2022, artefacts found during the test excavations were removed from site for analysis to meet legislative requirements and temporarily stored in the Biosis Wollongong office (30 Wentworth Street, Port Kembla, NSW 2505). Following feedback from RAPs, a draft repatriation methodology has been developed to return these artefacts to Country and shared</p>

Feedback	Response
	<p>with RAPs for comments.</p> <p>The development of a future appropriate cultural safety protocol has been included in the proposed safeguards in section 9. This protocol would take into consideration measures recommended by knowledge holders as per above. The protocol for future works would include considerations for all proposal staff not removing stones from site during construction and pre-construction activities. However, due to earthworks soil material may be removed from site in accordance with the safeguards included in environmental assessment and legislative requirements.</p>
<p><b>We do not give consent to destroy or remove any of our culture on our mother. We believe the correct action on any of our culture is to protect, preserve and allow the stories to continue without interruption. We believe any decisions in relation to our culture should come back to community to be brought together to discuss as a collective in an appropriate cultural way. So as to give the decision back to the First Nations People on how their culture is impacted and how they see their culture being able to start to repair from the wrong doings from colonisation that have been devastating to our cultural ways of being and prosper now and into the future. This approach would be in line with self-determination.</b></p>	<p>Transport has carried out the Aboriginal cultural heritage investigation in accordance with PACHCI and relevant legislation, including ongoing consultation with RAPs. Throughout the planning and development of the proposal, Transport has sought to avoid impacts wherever possible on Aboriginal cultural heritage items, places and values. Where impacts cannot be avoided, measures are proposed to minimise, mitigate and manage impacts.</p> <p>Transport would continue to consult with RAPs and other Aboriginal stakeholders on the management of Aboriginal cultural heritage for the proposal in accordance with PACHCI, Transport’s <i>Aboriginal Culture and Heritage Framework</i> (Transport for NSW 2022), <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW 2010) and <i>Transport’s Stretch Reconciliation Action Plan</i> (Transport for NSW 2022).</p> <p>A draft methodology to repatriate artefacts removed from site for the purpose of this Aboriginal cultural heritage assessment has been shared with RAPs for comment. The methodology would be implemented as soon possible following this consultation and pending negotiations with property owners.</p>
<p><b>We believe that some of the perspectives and information put forward in the Aboriginal Cultural Heritage Sensitivities and Values Mapping Report are not accurate to the stories we understand.</b></p>	<p>Noted. The ACVSR includes a record of all values put forth by the various knowledge holders and was provided to RAPs for review and comment. Consultation with Aboriginal stakeholders, including RAPs and knowledge holders would continue</p>

Feedback	Response
	<p>during future phases of design development and construction planning. If further information is received, this would be captured and considered as part of this process.</p>
<p><b>We believe the cultural area defined within the Aboriginal Cultural Heritage Sensitivities and Values Mapping Report is very minimal and concentrates on the closer family groups' areas and not our broader relationships between broader family groups. By doing this we believe that this type of approach reduces the true cultural significance within an area. We believe that through the country of this proposal and closely surrounding areas it shows us the broader connections with other family groups all across this country. With not just local family knowing stories about this area but an understanding of these storeys coming from a range of first nation families right across this country.</b></p>	<p>Noted. The consultation process sought Aboriginal knowledge holders over multiple LGAs and included a public notice in the nationally distributed Koori Mail. The ACVSR also undertook ethnohistorical research over a significantly larger area than the study area, extending east to the coast, west to the Great Dividing Range including Warragamba and the Wollondilly and Cox's River, north to the Georges River, and south to the Shoalhaven River.</p> <p>Consultation with Aboriginal stakeholders, including RAPs and knowledge holders, would continue during future phases of design development and construction planning. If further information is received, this would be captured and considered as part of this process.</p>

## 3 Existing environment

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It is important to consider the local environment of the area for any heritage assessment. The local environmental characteristics can influence human occupation and associated land use and consequently the distribution and character of cultural material. Environmental characteristics and geomorphological processes can affect the preservation of cultural heritage materials to varying degrees or even destroy them completely. Lastly, landscape features can contribute to the cultural significance that places can have for people.

### 3.1 Geology

The proposal site contains two geological formations: Hawkesbury Sandstone and Ashfield Shale. Hawkesbury Sandstone consists of medium to coarse-grained quartz sandstone with minor shale and laminate lenses that is Mid Triassic in age at 245-241 million years ago (mya) (Hazelton & Tille 1990, pp. 45), while the Ashfield Shale is confined to the upper slopes of spurs with the Hawkesbury Sandstone being located along the lower slopes and gullies. Sandstone is present in lower slope contexts and as steep cliff edges long the course of Allens and Clements Creeks and their associated tributaries and provides good resources for rock art, grinding grooves and rock shelter sites.

The Hawkesbury Sandstone formation consists of fairly friable medium to coarse grained quartz sandstone with some shale and laminate lenses. It weathers cavernously to form overhangs, which occur in a range of topographic locations. It also occurs as flat topped outcrops (platforms of varying sizes) and boulders, mainly on ridge tops, and also along the sides of gullies and in valley bottoms (Jo McDonald Cultural Heritage Management (JMCHM) 2008). It is also a middle Triassic formation of the Wianamatta Group shale (Chapman et al. 1989). The Ashfield Shale contains dark-grey to black claystone-siltstone and fine sandstone-siltstone laminate. It is a middle Triassic formation of the Wianamatta Group shale (Chapman et al. 1989).

There are no known Aboriginal stone quarries within the proposal site, reflecting the lack of large quantities of artefact making raw materials in the general geology of the landscape. However, silcrete is particularly abundant in the northern Cumberland Plain area, as both outcrops and cobble beds, and it is likely this material would have made its way into the area through day-to-day trade between the local Aboriginal communities. Artefact making raw materials do occur within the proposal site, although only in small quantities and in unreliable sources (JMCHM 2007). Quartz cobbles and pebbles large enough to manufacture artefacts occur within the Hawkesbury sandstone formation, and where exposed these would have been used opportunistically to manufacture artefacts. Within the Illawarra Coal measures, about 20 kilometres west of the proposal site, tuff and chert can occur, suggesting these may be available in cobble riverbeds, whilst igneous intrusions in the region may have provided small local sources of fine grained igneous rock. Overall, the proposal site has a relative lack of large, reliable lithic resources (JMCHM 2007).

### 3.2 Topography and hydrology

The proposal site sits within the Cumberland Lowlands and consists of rolling hills and river plains on shale soils, with most of the area being cleared for agriculture and small rural holdings. The major drainage feature of the Cumberland Lowlands is the Nepean River, which is deeply incised and characterised by high sandstone cliffs in some sections. Short tributaries drain east and west across the plain into the Nepean. There are also several tributaries of the Nepean River, Byrnes Creek, Stringybark Creek and Allens Creek, as well as seven man made waterbodies. Stream channels within the proposal site are typically erosional, closely

spaced and drain into narrow steep sided gullies which deepen and widen towards the confluence of rivers and creeks.

### 3.3 Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure. There are three soil landscapes contained within the proposal site: Lucas Heights, Blacktown and Luddenham (Table 6).

**Table 6 Soil landscape descriptions**

Soil landscape	Description
<p><b>Lucas Heights</b></p>	<p>The Lucas Heights soil landscape can be described as having gently undulating crests, ridges and plateau surfaces, with local relief between 10 to 50m and slopes of less than 10% (Hazelton &amp; Tille 1990). This soil type is confined to the ridge tops and gentle slopes within the proposal site. The soils are generally yellowed to lateritic podsollic; however, this landscape is known for outcrops and limited deep soil bases. Limitations include stoniness, hard-setting surfaces and low soil fertility. Although this soil landscape consists of generally shallower soils, it is still considered to be of some Aboriginal archaeological potential. These site types are more likely to comprise isolated stone artefact occurrences situated on travel routes rather than campsites.</p>
<p><b>Blacktown</b></p>	<p>The Blacktown soil landscape dominates the proposal site and is a residual soil landscape that consists of gently undulating rises, broad rounded crests and gently inclined slopes with a gradient of less than 5%. Local relief within the Blacktown soil landscape is up to 30m and rocky outcropping is absent. Dominant soils consist of shallow to moderately deep (&lt;100 centimetres (cm)) red and brown podzols on crests and in well drained topographies, and deep (150-300cm) yellow podzolic soils and soloths on lower slopes and drainage lines (Bannerman &amp; Hazelton 1990, pp. 28). Due to their age and slow accumulation, residual soil landscapes such as Blacktown have reasonable potential to contain archaeological deposits in an open context, such as stone artefacts derived from occupation sites. Other occupational evidence might include scarred trees where remnant vegetation occurs. However, the slow accumulation and high impact of extensive land clearing often results in poor preservation of archaeological material.</p>
<p><b>Luddenham</b></p>	<p>The Luddenham soil landscape is located in small, isolated areas within the proposal site. It is characterised as an erosional soil landscape with a local relief of 50 to 80m and slopes of 5 to 20%. Shallow (&lt; 100 centimetres) dark podzolic soils or massive earthy clays area located upon crests, while moderately deep (70 – 150cm) yellow podzolic soils and prairie soils can be found in drainage lines (Hazelton &amp; Tille 1990). This soil landscape is impacted by high soil erosion. Since erosional soils such as the Luddenham soil landscape are generally subject to movement of shallow soils, the result is poor preservation of the archaeological record. Dispersed sandy soils of Hawkesbury Sandstone bedrock and loose quartz sandy loam, and earthy clayey sands which occur as A1 and B horizons have a low erosion potential. However, when cleared of vegetation, the soils can be subject to high levels of erosion. As this soil landscape is characterised as highly erosional, the soil can be shallow and highly permeable, which would indicate that the presence of Aboriginal sites and objects is unlikely (Chapman et al. 1989, pp. 64–67,</p>



Soil landscape	Description
	McInnes 1997, p.45, cited by Umwelt (Australia) Pty Limited 2016, pp. 13).

### 3.3.1 Landscape resources

The wider region includes distinct ecological zones, including open forest and open woodland, with riparian vegetation extending along many of the watercourses. Each ecological zone hosts a different array of floral and faunal species, many of which would have been utilised according to seasonal availability. Aboriginal inhabitants of the region would have had access to a wide range of avian, terrestrial and aquatic fauna and repeated cultural burning of the vegetation would have opened up the foliage allowing ease of access through and between different resource zones.

Many of the plants found within the wider survey area were important to both Aboriginal people and European settlers inhabiting the area and could be used for numerous purposes. Food, tools, shelter and ceremonial items were derived from floral resources, with the locations of many campsites predicated on the seasonal availability of resources. Fibres were twisted into string, which was used for many purposes, including the weaving of nets, baskets and fishing lines. String was also used for personal adornment. Bark was used in the provision of shelter; a large sheet of bark being propped against a stick to form a gunyah (Attenbrow 2002).

The landscape surrounding Wilton more commonly features open forest of Sydney blue gum *Eucalyptus saligna*, Blackbutt *E. pilularis*, Grey box *E. moluccana*, Forest red gum *E. tereticornis*, White stringybark *E. globoidea*, with Australian boxthorn *Bursaria spinosa* and Kangaroo grass *Themeda triandra* on lower slopes. Endangered communities of dry vine forest can be found in gullies and under lithic sandstone escarpments; Red ash *Alphitonia excelsa*, Red cedar *Toona australis*, guioa *Guioa semiglauca*, Port Jackson fig *Ficus rubiginosa*, Prickly paperbark *Melaleuca styphelioides*, Mock olive *Notelaea longifolia*, Yellow pittosporum *Pittosporum revolutum*, Gum vine *Marsdenia rostrata*, Wonga vine *Pandorea pandorana*, Water vine *Cissus antarctica* and Slender grape *Cayratia clematidea*. (Mitchell 2002, pp. 111).

In the gully forests there of Grey gum *E. punctata*, Blackbutt, Smooth-barked apple, Red bloodwood *Corymbia gummifera*, Silvertop ash, and Blue-leaved stringybark *E. agglomerate* are present. This landscape contains a shrubby understory with Native cherry *Exocarpus cupressiformis*, Woolly pomaderris *Pomaderris lanigera*, Hairpin banksia, Cone sticks *Petrophile sp.*, and Narrow-leaved geebung *P. linearis*. (Mitchell 2002, pp. 108).

## 3.4 Ethnohistory

The Aboriginal people associated with the survey area connect to Country in multiple and complex ways; through language, through kinship, through ritual, through historical experiences and through a traditional land ownership system. Shortly after European occupation of the Camden – Appin - Picton area, the pre-existing Aboriginal system of ownership was documented. The complex Aboriginal land tenure system, which predates the European presence in the region, can be described by different types of groupings including tribal, sub-tribal, clan and linguistic. Places across the landscape were named and owned by particular groups; areas of Country at multilayered geographical scales were carefully managed by well-defined groups of people who passed on rights to Country to their descendants.

The survey area stretches across Dharawal Country which extends from the southern shores of Botany Bay, south along the coast to the Shoalhaven River and inland to Camden and Bowral (Tindale 1940). The tribal groups neighbouring the Dharawal are the Dharug (Eora) to the north – north-west, the Gundungurra to the west - south west and the Dhurga speaking groups (Yuin) to the south.

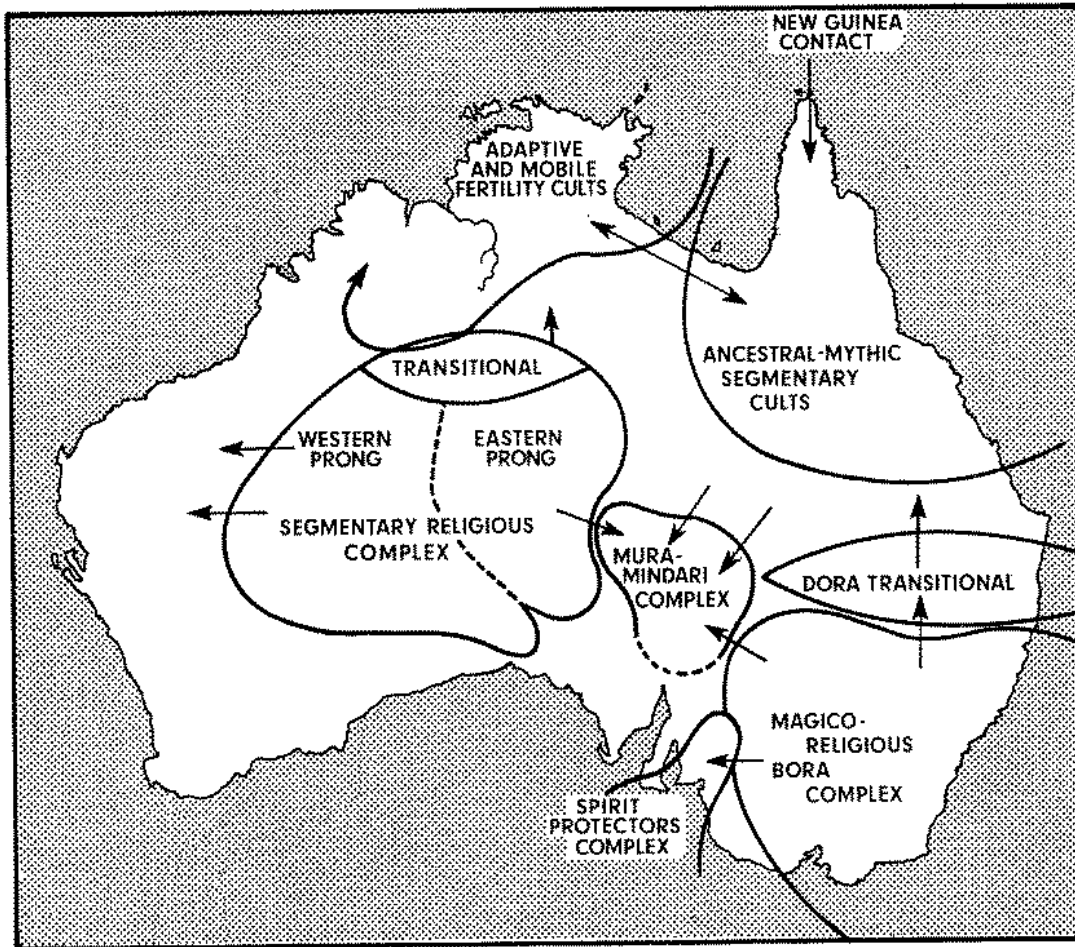
It is noted that differing views to these references exist. Feedback from local Aboriginal knowledge holders disputes the extension of Darug Country to Appin, given this would place the three groups (Dharawal, Gundungurra and Darug) in the same space.

Given intertribal kinship ties and the multilingual nature of Aboriginal society, tribal boundaries were not always marked by clearly defined geographical features. Tribal boundaries were often 'blurred' (ie an area shared by neighbouring groups) and shifted over time (Sutton 1995:46). Based on the ethnographic record, the western extent of the survey area appears to also be associated with Gundungarra People who occupied the southern rim of the Cumberland Plain west of the Nepean River into the southern foothills of the Blue Mountains and south to Goulburn (Attenbrow 2002, Mathews 1908, Eades 1976). Dharug and Dhurga people would have also frequented the survey area from time to time given their close proximity (Eades 1976).

Within these large tribal areas smaller land-owning groups (clans) existed with intimate cultural ties to focal geographical areas for instance the Cubbitch Bartha clan associated with the Camden area (becoming known as the Cowpastures clan), the Bulli clan from Bulli and the Natti clan from around the Natti River (Attenbrow 2010).<sup>1</sup>

The Dharawal and their neighbours occupied a wide variety of landscapes and resources between them, from coastal plains and estuaries, through managed grassland and forest areas and into the mountains. Exchange and shared ceremonies were carried out across these boundaries as well as with groups further inland and up and down the coast, creating a large area of connection and co-operation in the period before the arrival of the British in the late 1790s and early 1800s.

Berndt's analysis of Australian Aboriginal religion describes five very broad and general types of 'religious patterns' (Berndt, R.M. 1974) as detailed in the map below (Image 1).



**Image 1 Australian religious patterns (from (Berndt, R.M. 1974, pp. 23)**

The distinguishing features of Aboriginal religion in South-East Australia, which Berndt calls the ‘Magico-religious Bora Complex’, are ‘the degree to which ‘magical elements intrude on basic ritual, as expressed through the active participation of native doctors (or ‘clever men’); and the appearance of *super*-natural beings who are conceived of as set apart from man. Within the context of both, a special relationship exists between man and the Sky World’ (Berndt, R.M. 1974, pp. 23).

The basis for Dharawal and Gundungarra religious beliefs is the formation of *nguru* (camp / country) in a past era known in Dharawal as the *nanga mai* and in Gundungarra as the *gunyungalung*<sup>2</sup>. Part of Gundungarra creation mythology recorded by anthropologist R.H. Mathews further illustrates these spiritual linkages across Country. Mathews spent significant time amongst Gundungarra people and recorded belief, language and ceremony during the late 19th and early 20th century. He wrote that the Gundungarra called the far past the *gunyunggalung*, a time when all animals were men or had human attributes. These beings were referred to as *Burringilling* and were intimately connected to the physical creation of Gundungarra Country especially the rivers and waterholes on which they relied. One such being was *Gurangatch*, part fish and part reptile that lived in the deep waterholes and lagoons on the Wollondilly and Wingecarribee Rivers.

<sup>2</sup> Dharawal words from (Edwards) <https://www.dharawalwords.com.au/landscape>, Kohen 1993:36; and Eades 1976.

In relation to ceremonial activity, bora rings comprise circles of foot-hardened earth surrounded by raised embankments, formed as a result of many years of people dancing in a circular formation, over the same ground. Body oils would act to harden the earth and hinder the growth of vegetation. They were generally constructed in pairs and relate to initiation ceremonies. Bora rings have been recorded across the proposal cultural area but not within the survey area.

Although there was on occasion an uneasy relationship between the coastal Dharawal and the inland Gundungarra people, these were underpinned by strong family, religious and trade connections. Dharawal regularly traded fish, shellfish and waterfowl for possum skin coats and other items with the Gundungarra. Possum skin coats were valuable trade items. They could keep the wearer warm and dry, were good for sleeping on and the inside could be incised with geometric clan designs and patterns (Donaldson, Bursill, & Jacobs 2015, pp. 25).

The area around Campbelltown and south-west Sydney may have been an important boundary space for the Dharawal and Gundungarra and Dharug people of western Sydney, with a travelling corridor facilitating movement between the inland and the Illawarra coast through the Narellan Valley (Artefact Heritage 2015). It is likely that some of these pathways and corridors (path = *yawang* in the Dharawal language; Eades 1976) were exploited by the British when they first entered the area and formed the foundations of later roads and pathways.

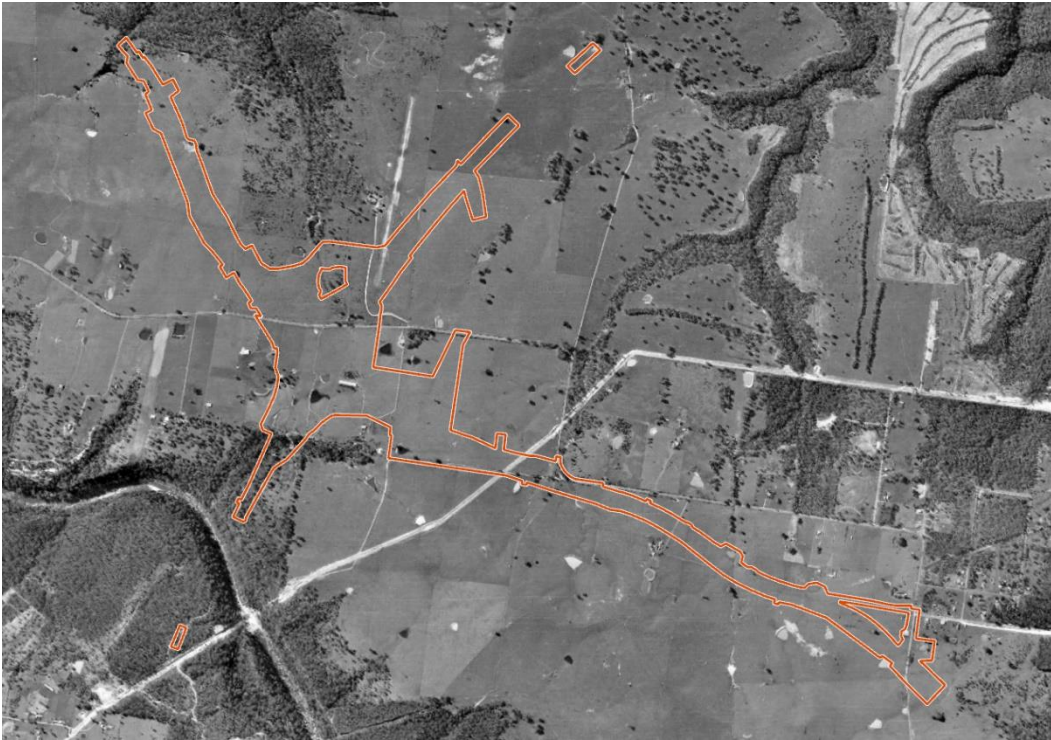
### 3.5 European land use history

Historical aerial photographs allow for the identification of modern developments within and around the proposal site. Aerial photographs dated to 1975 show there was no road along the current Picton Road and M31 Hume Motorway alignments in the northern portion of the proposal site (see Photo 1). The land here is divided, primarily in use for agricultural and residential purposes, and largely cleared of vegetation with the exception of trees following watercourses. An earlier road providing access to Wilton is visible, crossing the Nepean River to the west then running diagonally south-west to north-east across the proposal site.

South of Wilton, the landscape changes from cleared land to forest, and eventually merges with a previous road following the current general alignment of Picton Road. The current junction between Picton Road and MacArthur Drive is visible. This road appears to have two lanes, one travelling in each direction. There has been some construction along the road in two visible areas further to the south, in the Cataract area.

Aerial photography dated to 1980 shows that an earlier variation of the M31 Hume Motorway junction with Picton Road present in the north of the proposal site (Photo 2). However, this new "Picton Road" follows an alternate course, running further towards the east to Wilton rather than to the south. With this development, the previously visible road leading to Wilton appears to have fallen out of use, becoming less visible. The land in the north of the proposal site is still largely divided for agricultural and residential use, transitioning to dense forest cover south of Wilton. The proposal site merges into the previous road following the current Picton Road alignment close to the MacArthur Drive junction. In the Cataract area there appears to be other access roads running parallel to the survey area. Some man-made waterbodies are visible in northern portion of the proposal site.

A recent aerial photograph dated to 2005 shows the current Picton Road alignment has been constructed, now running south rather than to the east, as seen in the 1980 aerial photograph (Photo 3). The previous road to Wilton now appears entirely unused, but the previous access corridor is still visible. Further tree clearance to the south of Wilton has been undertaken to allow for the new road alignment. Similarly, the previous road following the alignment has been entirely rebuilt in some areas – the new road is more curved (this is visible north of junction with MacArthur Drive).



**Photo 1** Aerial photograph dated to 1975, with the proposal site outlined in orange



**Photo 2** Aerial photograph dated to 1980, with the proposal site outlined in orange



**Photo 3** Aerial photograph dated to 2005, with the proposal site outlined in orange

## 4 Aboriginal cultural heritage context

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According to Allen and O'Connell (2003), Aboriginal people have inhabited the Australian continent for the last 50,000 years. New evidence out of the Northern Territory has pushed this date back with the Malakanunja II rock shelter dated at around 65,000 years BP (before present) (Clarkson et al. 2017). In NSW, according to Bowler et al. (2003), Aboriginal people have occupied the land for over 42,000 years.

The majority of south coast Aboriginal sites date to the last 6,000 years when the sea-level stabilised following the end of the last Ice Age. Prior to this, sea levels were lower, and the coast was located about 14 kilometres to the east of its current position. Coastal sites older than 6,000 years are rare, as most would have been most likely inundated by the rising sea. Pleistocene-age Aboriginal sites on the south coast include a rock shelter at Burrill lake (located approximately 150 kilometres south of the proposal site) which has been dated to 20,830±810BP (ANU-138) (Lampert 1971, pp. 122) and a coastal midden at Bass Point (located approximately 35 kilometres south of the proposal site) dated to 17,010±650BP (ANU-536) (Bowdler 1970, pp. 254).

Without being part of the Aboriginal culture and the productions of this culture, it is not possible for non-Aboriginal people to fully understand the meaning of sites, objects and places to Aboriginal people – only to move closer towards understanding this meaning with the help of the Aboriginal community. Similarly, definitions of Aboriginal culture and cultural heritage without this involvement constitute outsider interpretations.

With this preface Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010b, pp. 3). There is an understanding in Aboriginal culture that everything is interconnected. In essence Aboriginal cultural heritage can be viewed as potentially encompassing any part of the physical and/or mental landscape, that is, 'Country' (DECCW 2010b, pp. iii).

Aboriginal people's interpretation of cultural value is based on their 'traditions, observance, lore, customs, beliefs and history' (DECCW 2010b, pp. 3). The things associated with Aboriginal cultural heritage are continually and actively being defined by Aboriginal people (DECCW 2010b, pp. 3). These things can be associated with traditional, historical or contemporary Aboriginal culture (DECCW 2010b, pp. 3).

### 4.1 Tangible Aboriginal cultural heritage

Three categories of tangible Aboriginal cultural heritage may be defined:

- Things that have been observably modified by Aboriginal people
- Things that may have been modified by Aboriginal people, but no discernible traces of that activity remain
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

### 4.2 Intangible Aboriginal cultural heritage

Examples of intangible Aboriginal cultural heritage would include memories of stories and 'ways of doing', which would include language and ceremonies (DECCW 2010b, pp. 3).

### 4.3 Statutory definition

Currently Aboriginal cultural heritage, as statutorily defined by the *National Parks and Wildlife Act 1974* (NPW Act), consists of objects and places which are protected under Part 6 of the Act.

Aboriginal objects are defined as:

*any deposit, object or material evidence...relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains*

Aboriginal places are defined as a place that is or was of special Aboriginal cultural significance. Places are declared under Section 84 of the NPW Act.

### 4.4 Cultural values

Aboriginal cultural heritage is identified and valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010b, pp. iii). More specifically it is used:

- To provide a:
  - ‘*Connection and sense of belonging to Country*’ (DECCW 2010b, pp. iii)
  - Link between the present and the past (DECCW 2010b, pp. iii).
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010b, pp. 3).

As further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010b, pp. 3).



## 5 Aboriginal cultural sensitivities and values

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An ACVSR was prepared to identify known cultural values and sensitivities across the survey area and its surrounds. By drawing together primary and secondary historical research, oral history interviews, on-Country visits and information gathered during the archaeological survey and test excavation program for the ACHAR, a narrative history of Aboriginal people in and around the survey area has been created.

This has allowed the significance of the cultural values of the survey area to be identified and assessed, and the potential impacts the proposal would have on Aboriginal cultural heritage values to be determined. The report also makes management recommendations to protect Aboriginal cultural values in the vicinity of the proposal.

A summary of the detailed cultural assessment is provided below for the Picton Road upgrade survey area, including the proposal site.

### 5.1 Identification of Aboriginal knowledge holders and stakeholders

Transport commenced consultation in October 2021 for the survey area, which included advertising in local papers, contacting Aboriginal stakeholder groups, government organisations and individuals for nominations of people with cultural knowledge and/or interested in registering as RAPs for the proposal (refer section 2). Transport prepared a public notice inviting Aboriginal groups and individuals who hold cultural knowledge relevant to determining the significance of Aboriginal objects, places and values for the Picton Road upgrade to register and be consulted for the ACVSR.

Responses to these notices and letters were used to compile an initial list of Aboriginal stakeholders (the knowledge holder list) from these nominations, including RAPs. Additional knowledge holders were identified by Biosis staff with previous experience working in the Illawarra and Wollondilly areas, by members of the local Aboriginal community during phone calls and face-to-face meetings, and with the assistance of Aboriginal Community Consultant, Owen Carriage. These additional people were included on the knowledge holder list.

Biosis contacted Aboriginal liaison officers at both Wollongong City Council and Wollondilly Shire Council. Wollongong City Council provided additional contact details of Aboriginal knowledge holders, which were added to the knowledge holder list. Wollondilly Shire Council's Aboriginal liaison officer was sent information about the proposal but did not respond to calls or emails.

Several Elders', cultural and Aboriginal men's groups were included on the knowledge holder list and were contacted by phone and email. No responses were received. Biosis contacted the ILALC by phone and the TLALC by phone, email and personal visit. TLALC provided names of two knowledge holders, both of whom were already on the knowledge holder list.

Finally, participants at the online forum, focus group workshop and oral history interviews (refer sections below) were also asked whether there were other members of the Aboriginal community who should be contacted as knowledge holders for the area. Where people were identified, their names were added to the knowledge holder list.

## 5.2 Focus group workshops

Following the first ACEF in December 2021, Biosis and Transport team members prepared an information flyer, aimed at inviting Aboriginal knowledge holders and other Aboriginal community members to participate in focus group workshops and oral history interviews for the ACVSR.

Forty-three community members were contacted by phone, email or face-to-face invitation. A portion of the community members only had email addresses, so an introductory email and copy of the information flyer was sent to these individuals or organisations. Some phone numbers were found to be no longer in use, others were unattended. Where possible, phone messages were left, requesting people to call Biosis team members back.

Initially, four focus group workshops were planned. Due to COVID-19 concerns, two of these workshops were held online on 22 and 23 February 2022. There were no participants on 22 February, and one participant on 23 February. The participant on the 23 February agreed to undertake an oral history interview.

On 24 February 2022, a face-to-face workshop was held at the Ribbonwood Centre at Dapto, with seven participants from the Aboriginal community present. Four participants indicated that they would be willing to undertake oral history interviews. Two additional people were nominated as potential oral history interviewees by the workshop participants; however, both people had already been contacted and had agreed to participate in oral history interviews.

## 5.3 Oral history interviews

Following the focus group workshop, the Biosis research team contacted 20 Aboriginal community members identified by focus group participants and Biosis team members as knowledge holders suitable for oral history interviews. A number of people declined to be interviewed or stated they did not hold the necessary cultural knowledge or authority for the survey area.

Thirteen oral history interviews were undertaken. Oral histories were recorded either using a handheld digital voice recorder, or by handwritten notes. Digital recordings were transcribed via a transcription service, Rev.com into a Microsoft Word document. Handwritten notes were also transcribed into a Microsoft Word document. Following transcription, the interviews were 'coded' into categories of values, significance and sensitivity.

Oral history interview notes, recording devices, and transcripts were stored in locked, secure locations accessible only to Biosis staff and Transport staff, in accordance with the information management protocols set out in the *Picton Road Upgrade Proposal Aboriginal Stakeholder Consultation Strategy Technical Memo* (ASCS) (Biosis 2022b).

## 5.4 Sensitivity ratings

Sensitivity ratings based on vulnerability of cultural values to change were developed during the focus group workshop and community forum using the following categories:

- Highly sensitive – cultural values are highly vulnerable to change (rare, localised, immovable) and with direct or indirect impact, will likely be totally and permanently lost, damaged, destroyed or desecrated.

- Moderately sensitive – cultural values are moderately vulnerable to change (are important but found elsewhere / adaptable / replaceable) and with direct or indirect impact, will likely be temporarily altered, but not permanently.
- Minimally sensitive – cultural values are minimally sensitive to change (are important but found elsewhere / adaptable / replaceable) and are unlikely to be temporarily or permanently altered.

## 5.5 Summary of cultural values

Cultural values within and surrounding the survey area were identified within documentary sources including archaeological, ethnographic and historical reports, government records, and newspapers. Most importantly, cultural values were identified by members of the local Aboriginal community who participated in the cultural values focus group workshops and oral history interviews.

AHIMS sites and new archaeological sites identified during the archaeological survey and test excavation program were not incorporated in the identified cultural values, unless identified by members of the Aboriginal community or in the ethnohistory of the area.

Cultural values identified within and surrounding the survey area are summarised in Table 7. The identified cultural values have been separated into the following broad categories:

- Spiritual and ceremonial: including sacred sites, Bora grounds, birthing places, initiation places, dangerous/gender-restricted places.
- Resource gathering: associated with fresh water supplies, hunting, fishing, bush foods or medicines, or places where utilitarian materials like ochre, bark and reeds were gathered.
- Campsite: any place Aboriginal people occupied on a semi-permanent or permanent basis.
- Travel routes: pathways and other routes where Aboriginal people moved across the land in a transitory manner.
- Burial: any place associated with interring the dead.
- Historic: places with personal, familial or community significance, or which are documented historical places.
- Archaeological places: any place with archaeological material or significance.

**Table 7 Cultural values identified within and around the survey area (from all sources)**

Feature/place name	Spiritual/ ceremonial	Resource gathering	Campsite	Travel route	Burial	Historic	Archaeological
Undisturbed bushland	X	X	X	X	X	X	X
Walking/travelling routes	X	X	X	X		X	X
Swamps	X	X	X				
Fresh water creek lines	X	X	X	X		X	X
Appin massacre site	X	X	X			X	X
Appin Road	X	X	X	X		X	X
Camping sites		X	X	X		X	X
Cowpastures		X	X			X	
Mermaid Pools	X	X	X				
Minerva Pool	X	X	X	X		X	X
Mount Keira	X	X	X	X		X	X
Mount Kembla	X	X	X	X		X	X
Picton Road	X	X	X	X			x
Culturally modified trees	X	X			X	X	X
Women's & men's places	X	X	X				X
Workplaces			X			X	
Flora and fauna	X	X					
Archaeological sites	X						X
Historical Aboriginal Reserves		X	X		X	X	X

## 6 Aboriginal archaeological investigations

### 6.1 Background research

Biosis undertook comprehensive background research including a review of existing archaeological work and AHIMS sites in order to prepare a predictive model for the presence of Aboriginal sites.

Based on this information, a predictive model was developed, indicating the site types most likely to be encountered across the survey area. An Aboriginal site prediction statement was prepared, which describes each site type and the predicted likelihood of each site type occurring within the survey area (Table 8).

**Table 8 Aboriginal site prediction statement**

Site type	Site description	Potential
<b>Flaked stone artefact scatters and isolated artefacts</b>	Artefact scatter sites can range from high-density concentrations of flaked stone and ground stone artefacts to sparse, low-density ‘background’ scatters and isolated finds.	High: Stone artefact sites have been previously recorded in the region across a wide range of landforms as well as within the survey area. Therefore, they have the high potential to be present in undisturbed areas within the survey area.
<b>PADs</b>	Potential sub surface deposits of cultural material.	High: PADs have been previously recorded in the region across a wide range of landforms including alluvial flats. They have the potential to be present in undisturbed landforms.
<b>Rock shelters with art and / or deposit</b>	Rock shelter sites include rock overhangs, shelters or caves, and generally occur on, or next to, moderate to steeply sloping ground characterised by cliff lines and escarpments. These naturally formed features may contain rock art, stone artefacts or midden deposits and may also be associated with grinding grooves.	High: The geology of the survey area contains suitable sandstone rock outcrops that have the potential to contain rock shelters and this site type has been previously recording within and in the vicinity of the survey area. Therefore, there is high potential for this site to be located in the survey area.
<b>Modified trees</b>	Trees with cultural modifications.	High: Large sections of the survey area have not been historically cleared and this site type has been previously recording within and in the vicinity of the survey area. Therefore, there is high potential for modified trees to be located within the survey area.
<b>Axe grinding grooves</b>	Grooves created in stone platforms through ground stone tool manufacture.	High: The geology of the survey area contains suitable horizontal sandstone rock outcrops for axe-grinding grooves which have been previously recorded within and in vicinity of the survey area. Therefore, there is high potential for axe grinding grooves to be located in the survey area.

Site type	Site description	Potential
<b>Aboriginal resource and gathering zones*</b>	Related to everyday activities such as food gathering, hunting, or collection and manufacture of materials and goods for use or trade.	High: The Catchment part of the survey area is within relatively undisturbed bush; therefore, Aboriginal resource gathering zones have a high potential to be present.
<b>Shell middens</b>	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Low: Shell midden sites have not been recorded within the survey area. There is low potential for shell middens being present within the survey area.
<b>Aboriginal ceremony and Dreaming Sites</b>	Such sites are often intangible places and features and are identified through oral histories, ethnohistoric data, or Aboriginal informants.	Low: There are currently no recorded mythological stories for the survey area.
<b>Post-contact sites</b>	These are sites relating to the shared history of Aboriginal and non-Aboriginal people of an area and may include places such as missions, massacre sites, post-contact camp sites and buildings associated with post-contact Aboriginal use.	Low: There are no post-contact sites previously recorded in the survey area and historical sources do not identify one.
<b>Aboriginal places</b>	Aboriginal places may not contain any 'archaeological' indicators of a site, but are nonetheless important to Aboriginal people. They may be places of cultural, spiritual or historic significance. Often they are places tied to community history and may include natural features (such as swimming and fishing holes), places where Aboriginal political events commenced or particular buildings.	Low: There are currently no recorded Aboriginal historical associations for the survey area.
<b>Quarries</b>	Raw stone material procurement sites.	Low: There is no record of any quarries being within or surrounding the survey area.
<b>Burials</b>	Aboriginal burial sites.	Low: Aboriginal burial sites are generally situated within deep, soft sediments, caves or hollow trees. Areas of deep sandy deposits will have the potential for Aboriginal burials. The soil profiles associated with the survey area are not commonly associated with burials.

\* This is not an Aboriginal object and therefore not included in the legislative process

## 6.2 Archaeological survey

An archaeological survey was undertaken between 14 to 31 March 2022 across the survey area, which includes the proposal site, to test the predictive model developed by Biosis and identify any potential Aboriginal cultural sites. Due to access issues, minor changes in the survey area and failure to locate one restricted AHIMS site (outside of the survey area) during the initial survey, three additional Aboriginal archaeological site surveys were carried out on 10 August, 21 November and 28 November 2022.

Nine Aboriginal site officers and two Transport Aboriginal Cultural Heritage Officer participated in the surveys in a roster system, along with Biosis archaeologists. The archaeological survey was conducted on foot, which consisted of meandering pedestrian transects. Recording during the survey followed the archaeological survey requirements of the Code and industry best practice methodology. A total of seven survey units were surveyed. All landform units located in properties which were accessible to the survey team were surveyed and areas of higher exposure and surface visibility were targeted by the survey team.

### 6.2.1 Archaeological survey results

Within the proposal site, there are two previously registered AHIMS sites: AHIMS 52-5-4079/WJ-ST-04, a modified tree located north of the Picton Road and M31 Hume Motorway interchange; and AHIMS 52-2-3590/Wilton 01, a second modified tree located south of Picton Road.

The PACHCI Stage 2 survey within the proposal site identified one additional potential Aboriginal site (a possible modified tree) and 16 potential archaeological deposits (PADs) (Table 9).

The survey results support the predictive models developed for the area. All PADs recorded during the survey were located on level ground adjacent to water sources or along ridges and crests.

**Table 9 Survey results for proposal site**

Site name	Survey unit	Site type	Description
<b>PRUP PAD 3</b>	4	PAD	PRUP PAD 3 is located within an elevated area, approximately 34m north-west of a first-order, non-perennial creek line and approximately 136m south-east from a second-order, non-perennial tributary of Byrnes Creek. The PAD measures approximately 40m by 40m and is covered by extensive grassy vegetation.
<b>PRUP PAD 4</b>	4	PAD	PRUP PAD 4 is located within a slightly elevated, gently sloping terrace landform, adjacent to a first-order, non-perennial creek line and measures approximately 70m by 40m.
<b>PRUP PAD 6</b>	3	PAD	PRUP PAD 6 is located on a gently sloping landform adjacent to Byrnes Creek on the northern side, measuring approximately 120m by 70m.
<b>PRUP PAD 7</b>	3	PAD	PRUP PAD 7 is located approximately 56m south-west of PRUP PAD 6 on the southern side of Byrnes Creek. The PAD measures approximately 100m by 70m and is also located in close proximity to AHIMS 52-5-4079/WJ-ST-04, which is a scar tree.
<b>PRUP PAD 8</b>	3	PAD	PRUP PAD 8 is located on the north-east facing side of a crest that gently slopes towards Byrnes Creek, which is a non-perennial creek line located approximately 310m north-east of the PAD. The PAD measures approximately 170m by 50m.

Site name	Survey unit	Site type	Description
<b>PRUP PAD 9</b>	3	PAD	PRUP PAD 9 is located below a crest, within a lower slope terrace landform, approximately 24m north-west of a creek line and measures approximately 100m by 50m
<b>PRUP ST 1</b>	3	Modified tree	PRUP ST 1 is a potential Aboriginal scarred tree located on a moderate slope within a property that is currently being used for stock grazing and residential purposes, approximately 106m south-east of PRUP PAD 8. The Blue-leaved Stringybark <i>Eucalyptus agglomerate</i> is approximately 15m in height, with a diameter of 90cm. There are two scars located on the tree which were assessed as being caused by mechanical wounding and longicorn borer and were not cultural
<b>PRUP PAD 10</b>	3	PAD	PRUP PAD 10 is located below a crest, within a mid to lower slope of a gently sloping landform, approximately 100m north of a tributary of the Nepean River and 130m south of Byrnes Creek. The PAD measures approximately 330m by 106m.
<b>PRUP PAD 11</b>	3	PAD	PRUP PAD 11 is located within the same mid to lower slope of the gently sloping landform as PRUP PAD 10, which is located approximately 46m south-west. PRUP PAD 11 is located approximately 68m north of a first-order, non-perennial creek line and approximately 240m south-west of Byrnes Creek, a first-order, non-perennial creek line. The PAD measures approximately 200m by 50m.
<b>PRUP PAD 12</b>	3	PAD	PRUP PAD 12 is located within the mid to lower slope of a very gently sloping landform, approximately 63m south-west of a second-order, non-perennial water course. The PAD measures approximately 60m by 40m.
<b>PRUP PAD 13</b>	3	PAD	PRUP PAD 13 is located adjacent to Picton Road, 53m north-east of a non-perennial tributary of the Nepean River and 266m south-east of a non-perennial tributary of Stringybark Creek. The PAD measures approximately 40m by 30m.
<b>PRUP PAD 14</b>	3	PAD	PRUP PAD 14 is located within a property bounded by Picton Road to the north and Janderra Lane to the south, approximately 56m south of PRUP PAD 12. The PAD is 60m east of a non-perennial tributary of the Nepean River. The PAD is located on a high point in the landform and measures approximately 40m by 30m.
<b>PRUP PAD 15</b>	2	PAD	PRUP PAD 15 is located immediately north of Picton Road, within the southern extent of a property on Hornby Street. The PAD is 100m east of Stringybark Creek, on a raised area overlooking a dam, and measures approximately 60m by 30m.
<b>PRUP PAD 17</b>	1C	PAD	PRUP PAD 17 is located at the southern end of a property on Argyle Street. The PAD is located between two non-perennial tributaries of Allens Creek, one located 51m to the south and the other 43m to the north. The site is relatively elevated in the surrounding landscape. The PAD measures approximately 100m by 70m.



Site name	Survey unit	Site type	Description
<b>PRUP PAD 18</b>	1C	PAD	PRUP PAD 17 is located at the southern end of a property on Argyle Street, just 20m north-west of PRUP PAD 18. The PAD is located between two non-perennial tributaries of Allens Creek, one located 51m to the south and the other 43m to the north, and measures approximately 100m by 70m.
<b>PRUP PAD 20</b>	1C	PAD	PRUP PAD 18 is located 20m south-east of PRUP PAD 17, at the southern end of a property on Argyle Street. The site is similarly located between two branching tributaries of Allens Creek, located 8m to the east and 135m north. The PAD measures approximately 60m by 30m.
<b>PRUP PAD 34</b>	3	PAD	PRUP PAD 34 is located 60m north of PRUP PAD 7 and approximately 20m to the south-west of Byrnes Creek on an elevated, flat terrace. The PAD measures approximately 80m by 30m and is located on a property that is currently being used for horse agistment purposes. It has been subjected to extensive vegetation clearance.

### 6.2.2 Arboricultural assessment of possible and AHIMS-registered culturally modified trees

During the archaeological survey undertaken in March 2022, one possible culturally modified tree was identified and recorded within the proposal site. This possible culturally modified tree is located within the proposal site (PRUP ST 1), along with two previously recorded scar trees AHIMS 52-5-4079/WJ-ST-04 and AHIMS 52-2-3590.Wilton 01. Urban Tree Management Australia (UTM) was engaged by Transport to prepare an arboricultural assessment of these three trees following recommendations made in the Aboriginal site survey report (Biosis 2022).

PRUP ST 1 was assessed for trunk wound likely causation (Urban Tree Management Australia Pty Ltd 2022) as well as general health and tree protection zone. The report concluded that the wound on PRUP ST 1 was likely to be the result of mechanical wounding from surveyor’s blaze (Urban Tree Management Australia Pty Ltd 2022).

The report also included further details about the two AHIMS-registered trees within the proposal site in terms of their current health, tree protection zones and provided a more comprehensive record of the wounds and characteristics of the tree that can be used for their ongoing management and protection.

The report was made available for comments to the ASOs who participated in the survey where the trees were identified and requested to provide comments with 28 days. No comments were received.

Additionally, Biosis reached out to the ASO who identified the potential culturally modified trees to seek comments after this period had closed. Additional consultation with knowledge holders was also conducted by Biosis, including discussion on the conclusions and recommendations of the arboricultural assessment. There were no issues raised with it during this period. The report was then also shared for consultation with RAPs in April 2023, as part of the ACHAR review (refer Table 5).

Safeguards have been included in section 9 in response to feedback provided by RAPs regarding the cultural values of these trees and their proposed management.

## 6.3 Archaeological excavations

Following the recommendation from the ASR, archaeological test excavations were conducted within all areas of PADs within the proposal site in accordance with the Code, with the exception of PRUP PAD 34 which was not tested as impacts were considered to be avoidable through the implementation of management measures during construction. The principal objective of the test excavations was to identify and understand the nature, extent and significance of any areas of PAD likely to be impacted.

Test excavations were undertaken between August 2022 and June 2023 with a team of up to four Biosis archaeologists, 10 ASOs at any one time. A roster system was implemented to enable the participation of multiple ASOs and ASO Trainees.

### 6.3.1 Test excavation methodology

The first test pit within each PAD area was excavated in 5cm spits with subsequent test pits being excavated in 10 cm spits. All test pits were 50 by 50cm. For each test pit excavated, documentation was taken including GPS coordinates, Munsell soil colour and texture, nature of disturbances, stratigraphy, amount and location of cultural material within the deposit, archaeological features (if present), photographic records and spit records.

All excavated soil was sieved in 5mm sieves utilising wet sieving. All cultural material was collected, bagged and clearly labelled and is being temporarily stored in the Biosis' Wollongong office for analysis (at 30 Wentworth Street Port Kembla NSW 2505).

### 6.3.2 Test excavation results

A total of 152 test pits were excavated across 15 areas of PADs within the proposal site. A total of 29 artefacts were recorded from the sub-surface excavations within the proposal site (Table 10).

The archaeological test excavations revealed a low-density subsurface artefact scatter across four of the 15 PADs tested in the proposal site (see Table 10). PRUP PAD 7 contained the highest number of artefacts (n=18), which equates to an artefact density of 4.8 artefacts per square metres. Raw material types are consistent with other assessments in the region with quartz dominating the assemblage. Chert, mudstone, silcrete, quartzite and petrified wood were also identified, demonstrating a range of raw material was utilised. One tool was identified within the current assemblage, a backed artefact, along with two pieces of ochre.

The test excavations supported the predictive models developed for the Wilton area to some degree. PADs that contained artefacts were located within flat terrace and simple slope landforms; however, no artefacts were present within crest landforms. The size and density of sites did vary and were either less dense or less complex the further the sites were located away from a major water source such as the Nepean River. Angular fragments were the most commonly recorded artefact type suggesting that this debitage arose from the opportunistic discard or repair due to breakage of tools. Furthermore, the analysis of the artefact assemblage suggests that it could be placed within the early to middle Bondaian phases of occupation between 5,000 to 1,000 years BP, although the lack of formal tool types and low artefact numbers makes it impossible to determine without more accurate methods of dating.

The low density artefact scatters are most likely remnants of people traversing the area or may represent short-term camping grounds. The most suitable locations for short-term occupation for those travelling between the Cumberland Plain and the coast are likely to be on gently sloped sections of the side slopes or flat elevated terraces due to the more level gradient of these locations.

Disturbance could also be a factor in the low artefact numbers identified. Vegetation clearance and pastoral activities would have caused spatial, as well as stratigraphical movements of cultural material due to cattle trampling and removal of big trees. Erosion would have most likely been extensive after the land clearance and would have caused washing out of artefacts, particularly on slopes. This was evident in the lack of top soil and shallow depth across the majority of test pits.

Occupation patterns of the Wilton area are poorly understood due to the lack of systematic archaeological investigation in the region. When compared to the Cumberland Plain and Woronora Plateau models, there is little information available to build a robust model of Aboriginal occupation and site distribution (EMM 2017, pp. 146). The results of this test excavation program have contributed to our understanding of Aboriginal site patterning in the Wilton region. The proposal site contains sporadic low density subsurface artefact scatters which indicates that this area was utilised to some degree, although occupation was not intensive in areas tested. The surrounding area offered a variety of resources that were utilised by Aboriginal people and the area was likely used as a resource gathering zone rather than an area of intensive occupation.

**Table 10 Test excavation results**

PAD	Landform	Soil landscape	Archaeological potential	PAD area (m <sup>2</sup> )	Number of test pits	Area tested (m <sup>2</sup> )	PAD effectively tested (%)	No. of artefacts	Artefacts per square metre
3	Simple slope	Blacktown	Moderate	432.19	4	1.0	0.23	0	N/A
4	Flat terrace, simple slope	Blacktown	Moderate	1,274.88	6	1.5	0.11	2	1.33
6	Simple slope	Blacktown	Moderate	6,451.79	15	3.75	0.05	2	0.53
7	Simple slope	Blacktown	Moderate	6,007.86	14	3.5	0.05	18	4.80
8	Simple slope, crest	Blacktown	Moderate	6,235.11	9	2.25	0.03	0	N/A
9	Simple slope	Blacktown	Moderate	4,087.01	11	2.75	0.06	0	N/A
10	Simple slope	Blacktown	Moderate	28,610.99	43	10.75	0.03	7	0.65
11	Simple slope	Blacktown	Moderate	15,379.53	18	4.5	0.02	0	N/A
12	Simple slope	Blacktown	Moderate	941.37	3	0.75	0.08	0	N/A
13	Simple slope	Blacktown	Moderate	729.33	2	0.5	0.07	0	N/A
14	Simple slope	Blacktown	Moderate	822.56	6	1.5	0.18	0	N/A
15	Flat terrace	Blacktown	Moderate	916.98	5	1.25	0.13	0	N/A
17	Flat terrace	Blacktown	Moderate	4,976.99	7	1.75	0.03	0	N/A
18	Flat terrace	Blacktown	Moderate	1,184.61	3	0.75	0.06	0	N/A
20	Simple slope	Blacktown	Moderate	2,496.34	4	1.0	0.04	2	2.0
34	Flat terrace	Blacktown	Moderate	2,103.56	<i>PAD 34 was not excavated</i>				

## 6.4 Summary of archaeological sites

The archaeological assessment identified six Aboriginal archaeological sites and one PAD within the proposal site. This comprises two previously registered AHIMS sites, four sites that contained sub-surface artefact scatters and one PAD that was not tested and is proposed to be protected from impacts from the proposal through the implementation of exclusion zones. The remaining 12 PADs did not contain artefacts and are therefore not Aboriginal heritage sites.

A brief description of each Aboriginal heritage sites within the proposal site is provided below in Table 11

**Table 11 Aboriginal archaeological sites within the proposal site**

AHIMS no/site name	Description
<b>Previously identified Aboriginal archaeological sites</b>	
<b>AHIMS 52-5-4079/ WJ-ST-04</b>	AHIMS 52-2-4079/ WJ-ST-04 is located in the south-eastern corner of PRUP PAD 7 and consists of a modified tree. The site is located north of the Picton Road and M31 Hume Motorway interchange. The tree is a Stringybark and has one oval scar measuring 3.5m to 4m long and 60cm wide. The depth of the scar is 15cm and is located 1.25m above the ground. The scar faces south-west and is noted to be weathered, but in good condition. The aboricultural assessment by UTM confirmed WJ-ST-04 as containing wound/s of Aboriginal cultural origin.
<b>AHIMS 52-2-3590/ Wilton 01</b>	Wilton 01 is a scarred tree that is located south of Picton Road. The tree is approximately 30m high with a girth of 4.25m. The scar is situated on the southern side of the tree and measures 1.4m by 0.25m. The overgrowth measures approximately 20cm. The scar is situated 1.5m from the ground and the dry face has been largely destroyed by termites. The archaeological test excavations conducted in association with AHIMS 52-2-3590 by Biosis (2019) did not identify any artefacts. AHIP 4642 was issued on 10 September 2020 to the proponent of the Wilton South East Stage 1 and Stage 2 residential subdivision, which states that AHIMS 52-2-3590 must not be harmed. There is currently a 10m fenced 'no-go' zone around the site. The aboricultural assessment by UTM confirmed WJ-ST-04 as containing wound/s of Aboriginal cultural origin.
<b>Aboriginal archaeological sites identified during this assessment</b>	
<b>AHIMS 52-2-4885/ PRUP PAD 4</b>	PRUP PAD 4 is located within a slightly elevated, gently sloping terrace landform, adjacent to a first-order, non-perennial creek line and measures approximately 70m by 40m. PRUP PAD 4 was identified as having moderate archaeological potential due to proximity to water and elevated landform, in combination with limited disturbances. Test excavations undertaken within PAD 4 recovered two artefacts from one test pit, which included one proximal flake fragment and one angular fragment both made from chert. This site type is a common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.
<b>AHIMS 52-2-4884/ PRUP PAD 6</b>	PRUP PAD 6 is located on a gently sloping landform adjacent to Byrnes Creek on the northern side, measuring approximately 120m by 70m. PRUP PAD 6 has been assessed as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with the limited ground disturbances.

AHIMS no/site name	Description
	<p>Test excavations undertaken within PAD 6 recovered two artefacts from two test pits, which included one silcrete distal flake fragment and one quartz angular fragment. This site type is a common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.</p>
<p><b>AHIMS 52-2-4883/ PRUP PAD 7</b></p>	<p>PRUP PAD 7 is located south-west of PRUP PAD 6 on the southern side of Byrnes Creek. The PAD measures approximately 100m by 70m and was assessed as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with the limited ground disturbances. It is also located in close proximity to AHIMS 52-5-4079/ WJ-ST-04, which is a scar tree.</p> <p>Test excavations undertaken within PAD 7 recovered 18 artefacts from seven test pits, which included complete flakes, distal and proximal flake fragments, angular flake fragments and a quartz bipolar complete flake. A total of five different raw material types were recorded within PAD 7; however, quartz dominated the assemblage. This site type is an occasional occurrence within the local region and the scientific significance of this site has been assessed as moderate. The site has moderate aesthetic value and low historical value.</p>
<p><b>AHIMS 52-2-4882/ PRUP PAD 10</b></p>	<p>PRUP PAD 10 is located below a crest, within a mid to lower slope of a gently sloping landform, north of a tributary of the Nepean River and south of Byrnes Creek. The PAD measures approximately 330m by 106m. PRUP PAD 10 was identified as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with limited disturbances.</p> <p>Test excavations undertaken within PAD 10 recovered seven artefacts from six test pits, which included distal and proximal flake fragments, and angular flake fragments. A total of two different raw material types were recorded within PAD 10; however, mudstone dominated the assemblage. This site type is common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.</p>
<p><b>PRUP PAD 34</b></p>	<p>PRUP PAD 34 is located north of PRUP PAD 7 and south-west of Byrnes Creek on an elevated, flat terrace. The PAD measures approximately 80m by 30m and is located on a property that is currently being used for horse agistment purposes. It has been subjected to extensive vegetation clearance. PRUP PAD 34 has not undergone test excavations as it would not be impacted by the proposal and is therefore of unknown significance.</p>

## 7 Aboriginal cultural significance assessment

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The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values.

This report considers the cultural values of Aboriginal sites within the proposal site.

### 7.1 Statement of significance

The significance of sites was assessed in accordance with the following criteria:

- Requirements of the Code.
- The Burra Charter.
- Guide to Investigating and Reporting on Aboriginal Heritage.

The combined use of these guidelines is widely considered to represent the best practice for assessments of Aboriginal cultural heritage. The identification and assessment of cultural heritage values includes the four values of the Burra Charter: social, historical, scientific and aesthetic values. The resultant statement of significance has been constructed for the proposal site based on the significance ranking criteria assessed in Table 12. The 'level' of significance is then developed by averaging the significance of cultural, historical, scientific and aesthetic into low, moderate or high significance.

**Table 12** Significance assessment criteria for the proposal site

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>Aboriginal archaeological sites</b>							
<b>AHIMS 52-2-4885/ PRUP PAD 4</b>	PAD	H	L	L	M	Moderate	PRUP PAD 4 is located within a slightly elevated, gently sloping terrace landform, adjacent to a first-order, non-perennial creek line and measures approximately 70m by 40m. PRUP PAD 4 was identified as having moderate archaeological potential due to proximity to water and elevated landform, in combination with limited disturbances. Test excavations undertaken within PAD 4 recovered two artefacts from one test pit, which included one proximal flake fragment and one angular fragment both made from chert. This site type is a common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.
<b>AHIMS 52-2-4884/ PRUP PAD 6</b>	PAD	H	L	L	M	Moderate	PRUP PAD 6 is located on a gently sloping landform adjacent to Byrnes Creek on the northern side, measuring approximately 120m by 70m. PRUP PAD 6 has been assessed as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with the limited ground disturbances. Test excavations undertaken within PAD 6 recovered two artefacts from two test pits, which included one silcrete distal flake fragment and one quartz angular fragment. This site type is a common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.



Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>AHIMS 52-5-4079/ WJ-ST-04</b>	Modified tree	H	L	H	L	High	AHIMS 52-2-4079/ WJ-ST-04 is located in the south-eastern corner of PRUP PAD 7 and consists of a modified tree. The site is located north of the Picton Road and M31 Hume Motorway interchange. The tree is a Stingybark and has one oval scar measuring 3.5m to 4m long and 60cm wide. The depth of the scar is 15cm and is located 1.25m above the ground. The scar faces south-west and is noted to be weathered, but in good condition. This site type is a rare occurrence within the local region and the scientific significance of this site has been assessed as high. The site has low aesthetic value due to the residential development surrounding the site and low historical value.
<b>AHIMS 52-2-4883/ PRUP PAD 7</b>	PAD	H	L	M	M	Moderate	PRUP PAD 7 is located approximately 56m south-west of PRUP PAD 6 on the southern side of Byrnes Creek. The PAD measures approximately 100m by 70m and was assessed as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with the limited ground disturbances. It is also located in close proximity to AHIMS 52-5-4079/ WJ-ST-04, which is a scar tree. Test excavations undertaken within PAD 7 recovered 18 artefacts from seven test pits, which included complete flakes, distal and proximal flake fragments, angular flake fragments and a bipolar complete flake. A total of five different raw material types were recorded within PAD 7; however, quartz dominated the assemblage. This site type is an occasional occurrence within the local region and the scientific significance of this site has been assessed as moderate. The site has moderate aesthetic value and low historical value.

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>AHIMS 52-2-4882/ PRUP PAD 10</b>	PAD	H	L	L	M	Low	PRUP PAD 10 is located below a crest, within a mid to lower slope of a gently sloping landform, north of a tributary of the Nepean River and south of Byrnes Creek. The PAD measures approximately 330m by 106m. PRUP PAD 10 was identified as having moderate archaeological potential due to proximity to water and slightly elevated landform, in combination with limited disturbances. Test excavations undertaken within PAD 10 recovered seven artefacts from six test pits, which included distal and proximal flake fragments, and angular flake fragments. A total of two different raw material types were recorded within PAD 10; however, mudstone dominated the assemblage. This site type is a common occurrence within the local region and the scientific significance of this site has been assessed as low. The site has moderate aesthetic value and low historical value.
<b>AHIMS 52-2-3590/ Wilton 01</b>	Modified tree	H	L	H	L	High	Wilton 01 is a scarred tree that is located south of Picton Road. The tree is approximately 30m high with a girth of 4.25m. The scar is situated on the southern side of the tree and measures 1.4m by 0.25m. The overgrowth measures approximately 20cm. The scar is situated 1.5m from the ground and the dry face has been largely destroyed by termites. The archaeological test excavations conducted in association with AHIMS 52-2-3590 by Biosis (2019) did not identify any artefacts. AHIP 4642 was issued on 10 September 2020, which states that AHIMS 52-2-3590 must not be harmed. There is currently a 10m fenced 'no-go' zone around the site. This site type is a rare occurrence within the local region and the scientific significance of this site has been assessed as high. The site has low aesthetic value due to the residential development surrounding the site and low historical value.

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>PRUP PAD 34</b>	PAD	Unknown	Unknown	Unknown	Unknown	Unknown	PRUP PAD 34 is located north of PRUP PAD 7 and south-west of Byrnes Creek on an elevated, flat terrace. The PAD measures approximately 80m by 30m and is located on a property that is currently being used for horse agistment purposes. It has been subjected to extensive vegetation clearance. PRUP PAD 34 has not undergone test excavations as it is not proposed to be impacted by the proposal and is therefore of unknown significance.
<b>Aboriginal cultural sites</b>							
<b>Walking and travelling routes/ Picton Road</b>	N/A	H	L	L	H	High	The Aboriginal knowledge holders who participated in the focus group workshops, oral history interviews and community engagement events conducted as part of the ACVSR, identified one walking or travelling route that is located within the proposal site. The area around Picton Road was an important travelling corridor for Aboriginal people prior to colonisation, facilitating movement between the inland and the Illawarra coast. Based on oral history interviews the Picton Road alignment followed the path of a traditional walking route. The route was used seasonally by Dharawal people to move between the coast and areas atop the escarpment as far inland as Warragamba or the Blue Mountains. These pathways have high cultural and aesthetic associations, along with low historical and scientific significance. Therefore, the overall significance of the pathways associated with the proposal site has been assessed as high.

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>Undisturbed bushland</b>	N/A	H	H	L	H	High	The Aboriginal knowledge holders who participated in the focus group workshops, oral history interviews and community engagement events conducted as part of the ACVSR, identified areas of undisturbed bushland as containing cultural values such as spiritual/ceremonial, resource gathering, campsite, travel route, historic and archaeological. Interview participants emphasised the value of undisturbed bushland in terms of deep spiritual connections with Dreaming stories and Ancestors across the cultural landscape, as well as for its ongoing nurturing and life-giving qualities. Even though no specific areas were identified in the ACVSR within the proposal site, there are pockets of undisturbed bushland on either side of Picton Road on the approach to the Nepean River. These areas have high cultural, historical and aesthetic associations, along with low scientific significance. Therefore, the overall significance of undisturbed bushland associated with the proposal site has been assessed as high.
<b>Freshwater creek lines</b>	N/A	H	M	L	H	High	There are a number of freshwater creek lines (and their tributaries) that transect or are located near the proposal site including Brynes Creek, Stringybark Creek and Allens Creek. The Aboriginal knowledge holders who participated in the focus group workshops, oral history interviews and community engagement events conducted as part of the ACVSR, identified areas with freshwater creek lines as containing cultural values such as spiritual/ceremonial, resource gathering, campsite, travel route and historic. These creek lines have high cultural and aesthetic associations, along with moderate historical and low scientific significance. Therefore, the overall significance of creek lines associated with the proposal site has been assessed as high.

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
<b>Culturally modified trees</b>	Modified tree	H	M	H	L	High	The Aboriginal knowledge holders who participated in the focus group workshops, oral history interviews and community engagement events conducted as part of the ACVSR, identified culturally modified tree sites as containing cultural values such as spiritual/ceremonial, resource gathering, burial, historic and archaeological. One oral history interviewee indicated two AHIMS-registered culturally modified trees of cultural significance at the Wilton end of Picton Road, representing tangible evidence of Dharawal people’s ongoing connection to the landscape, as well as being representative tree species that hold cultural significance. These trees comprise AHIMS 52-2-4079/ WJ-ST-04 and AHIMS 52-2-3590/ Wilton 01. These sites are a rare occurrence within the local region and the scientific significance of this site has been assessed as high. The sites have low aesthetic value due to the residential development in the surrounding areas and moderate historical value.
<b>Flora and fauna</b>	N/A	H	M	L	H	High	The Aboriginal knowledge holders who participated in the focus group workshops, oral history interviews and community engagement events conducted as part of the ACVSR, identified flora and fauna as containing cultural values such as spiritual/ceremonial and resource gathering. Focus group and oral history interview participants described a number of plant species and resources within both the survey area and broader cultural area as being of ongoing use and significance to Dharawal people. Specific bush food, medicinal and resource plants mentioned were: <ul style="list-style-type: none"> <li>• Sarsaparilla.</li> <li>• Geebung.</li> <li>• Mountain Devil.</li> <li>• Paperbark.</li> <li>• Stringybark.</li> </ul>

Site name/ place name	Site type	Significance assessment criteria				Level of significance	Statement of significance
		Cultural	Historical	Scientific	Aesthetic		
							<ul style="list-style-type: none"> <li>• Garara.</li> <li>• Wombat berry.</li> <li>• Illawarra plum.</li> <li>• Black wattle.</li> <li>• River gum.</li> <li>• Stringy bark.</li> <li>• Kurrajong.</li> </ul> <p>Some participants also expressed the importance of animal species, and the need for a wildlife overpass. One participant noted that Dharawal people maintained the environment as a 'parkland' by using regular controlled fires for the purpose of hunting larger game, such as kangaroos, wallaby and emus. These areas that contain flora and fauna have high cultural and aesthetic associations, along with low historical and scientific significance. Therefore, the overall significance of flora and fauna associated with the proposal site has been assessed as high.</p>

## 7.2 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS 2013)* (the Burra Charter). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, a historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Australian Government, Heritage NSW and the Heritage Branch, and the NSW Department of Planning and Environment. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the Heritage NSW Guidelines to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) also specify the importance of

considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that ‘the significance of individual features is derived from their inter-relatedness within the cultural landscape’. This means that sites or places cannot be ‘assessed in isolation’ but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock ‘better understanding of the cultural meaning and importance’ of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists and the Aboriginal community. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

### 7.3 Cultural (social significance) values

Cultural or social significance refers to the spiritual, traditional, historical and/or contemporary associations and values attached to a place or objects by Aboriginal people. Aboriginal cultural heritage is broadly valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010b, pp. iii). More specifically it provides:

- A ‘*connection and sense of belonging to Country*’ (DECCW 2010b, pp. iii).
- A link between the present and the past (DECCW 2010b, pp. 3).
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010b, pp. 3).
- Further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010b, pp. 3).

It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage.

The Aboriginal knowledge holders who participated in the interviews conducted as part of the ACVSR, identified a number of cultural values within the Picton Road area. Six of these are located within the proposal site and comprise:

- Undisturbed bushland
- Walking/travelling pathways, including Picton Road
- Freshwater creek lines
- Culturally modified trees
- Flora and fauna
- Archaeological sites:
  - AHIMS 52-2-4885/PRUP PAD 4
  - AHIMS 52-2-4884/PRUP PAD 6



- AHIMS 52-5-4079/ WJ-ST-04
- AHIMS 52-2-4883/PRUP PAD 7
- AHIMS 52-2-4882/PRUP PAD 10
- AHIMS 52-2-3590/ Wilton 01
- PRUP PAD 34.

## 7.4 Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to Aboriginal and other communities.

Aboriginal knowledge holders who participated in the focus group workshop, community engagement events and interviews conducted as part of the ACVSR, identified a number of historic values within the vicinity of the proposal site. Four are located within the proposal site and comprise:

- Undisturbed bushland
- Walking/travelling pathways
- Freshwater creek lines
- Culturally modified trees.

## 7.5 Archaeological (scientific significance) values

An archaeological assessment was undertaken for the proposal site and is presented in detail as part of the ASR and the AAER.

The outcomes of the assessment are summarised in section 6.

Six Aboriginal sites of archaeological value and one PAD were identified within the proposal site and comprise:

- AHIMS 52-2-4885/PRUP PAD 4
- AHIMS 52-2-4884/PRUP PAD 6
- AHIMS 52-5-4079/ WJ-ST-04
- AHIMS 52-2-4883/PRUP PAD 7
- AHIMS 52-2-4882/PRUP PAD 10
- AHIMS 52-2-3590/ Wilton 01
- PRUP PAD 34.

## 7.6 Aesthetic values

There is a diverse yet accessible literature regarding the identification of aesthetic values and determining aesthetic significance (Burke & Smith 2004, pp. 248–249). It is generally agreed that aesthetic values are an important part of cultural heritage significance; however, they are dependent on an individual's sensory response, which means determining aesthetic value is fraught with difficulty, and should be applied on a

case-by-case basis as it is not always a value applicable to archaeological sites. However, when dealing with some types of sites aesthetic values and landscape context are an important consideration. The question ‘does the place have a relationship between its parts and the setting which reinforces the quality of both’, while originally proposed in an architectural context (Kerr 2013, pp. 15), is relevant also for many sites in a local setting — such as in forests, deserts, or coastlines, where there is often an important relationship between cultural sites and the natural environment, which contribute to the values of a ‘sense of place’.

The proposal site has sustained moderate levels of disturbance. Vegetation present is a typical example of the Cumberland Lowlands in its cleared context. Despite these disturbances the landscape of the proposal site is closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place. The Aboriginal community strongly identifies with the landscape of the proposal site.

## 8 Potential risks and management

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Within the proposal site, there are six recorded Aboriginal sites, one PAD and five cultural values that may be subject to harm. It is expected that the potential of harm to Aboriginal archaeological sites from the proposed Picton Road upgrade within the proposal site ranges from none to direct. Strategies to avoid or minimise harm to Aboriginal heritage in the proposal site are discussed below.

### 8.1 Potential risks to Aboriginal cultural heritage

The proposal includes activities which have the potential to impact six Aboriginal heritage sites or objects, one PAD and five cultural values. The following activities have the potential to impact Aboriginal sites:

- Construction of the proposal, including a new interchange for Picton Road and the M31 Hume Motorway
- Tie-ins with existing roads
- Associated drainage works and utilities adjustments.

Left unmitigated, these activities have the potential to completely remove or disturb archaeological deposits and Aboriginal objects.

### 8.2 Management recommendations

Heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of 'doing as much as necessary, as little as possible' (Marquis-Kyle & Walker 1994, pp. 13). In cases where conservation is not practical, several options for management are available to mitigate impacts. For sites, management can often involve the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation of information.

Avoidance of direct impact to archaeological and cultural heritage sites through design of the development is a primary management strategy and should be implemented where practicable.

Where possible the proposal has avoided impacts to sites by redesigning the proposed works. The proposal has been designed to avoid direct impacts to PRUP PAD 34 and the two culturally modified trees within the proposal site (AHIMS 52-5-4079/WJ-ST-04 and AHIMS 52-2-3590/ Wilton 01). Further design work would also be completed during detailed design to avoid and minimise impacts on other heritage items, places and values where possible, inclusive of other trees identified as having cultural value.

The proposal cannot avoid impacts to all the Aboriginal sites identified within the proposal site due to needing to balance impacts on these items, against impacts on other environmental values such as biodiversity, property and land use, water quality as well as considerations such as safety, traffic performance and cost. As it is not possible for the proposal to completely avoid impacts to all sites, the following management recommendations have considered the principles of ecologically sustainable development and intergenerational equity in their design. The measures are recommended for the archaeological sites identified during the archaeological survey, test excavation program and previously recorded AHIMS sites within the proposal site as well as cultural values.

### 8.2.1 Archaeological test excavation

Archaeological test excavations were undertaken across the proposal site in order to determine the nature and significance of the archaeological resource, and to assist in developing appropriate management and mitigation measures. The archaeological testing was completed in accordance with requirement 16 of the Code.

A total of 29 artefacts from four PADs were recorded from the sub-surface excavations in the proposal site. Raw material types are consistent with other assessments in the region with quartz dominating the assemblage. Angular flake fragments were the most commonly recorded artefact type followed by distal flake fragments and complete flakes. The assemblage also contained two pieces of ochre and one tool, a backed artefact.

All sites identified by the excavations contained low density deposits which are characterised as containing less than 10 artefacts per square metre. PRUP PAD 7 contained the highest number of artefacts (n=18), which equates to an artefact density of 4.8 artefacts per square metre. The remaining PADs contained artefact densities of, or less, artefacts per square metre. The presence of low density artefact deposits likely represent areas of low intensity occupation, potentially as a result of short-term occupation by small groups of people, or discard during transitory movement as part of travel and resource gathering.

The proposal site contains sporadic low density subsurface artefact scatters, which indicates that this area was utilised to some degree, although occupation was not intensive. The surrounding area offered a variety of resources that were utilised by Aboriginal people and the area was likely used as a resource gathering zone rather than an area of intensive occupation.

The results of the test excavations have characterised the Aboriginal sites within the proposal site and adjusted and determined the boundary of the PADs. By identifying the relationship between the PADs and the proposal, this provides the best opportunity to avoid or partially avoid harm to Aboriginal heritage sites. The artefacts recovered during the test excavations have been catalogued and analysed, which has contributed to our current knowledge of Aboriginal archaeological site types and distribution throughout the Wilton area. The test excavations have also increased our current understanding of Aboriginal occupation in the region ensuring that any scientific and cultural information obtained can be accessed and used by future generations.

PRUP PAD 34 was not subjected to test excavations as impacts can be avoided. However, if impacts to this PAD cannot be avoided through design changes, then test excavations should be undertaken prior to impacts occurring.

### 8.2.2 Avoidance through design

The proposal site contains two modified trees (AHIMS 52-5-4079/WJ-ST-04 and AHIMS 52-2-3590/Wilton 01) of high significance. It is therefore recommended that the proposal avoids impacts to these highly sensitive and significant areas. AHIMS 52-2-3590/Wilton 01 is currently protected under AHIP 4642, which was issued to the proponent of the Wilton South East Stage 1 and Stage 2 residential subdivision on 10 September 2020 for a period of 10 years. There is currently a 10 metre fenced 'no-go' zone around the site.

AHIMS 52-5-4079/WJ-ST-04 is associated with PRUP PAD 7 and the extent of this PAD has been determined and refined through the results of the test excavations. Even though the artefact density within PRUP PAD 7 is considered low, there is a relationship between the modified tree and the artefact deposit. It is therefore recommended that the proposal within the proposal site be redesigned or modified where possible to avoid and conserve these highly sensitive and significant areas inclusive of impacts to PRUP PAD 7.

PRUP PAD 34 is currently located within of the proposal site at a proposed ancillary facility. All impacts should be avoided to this site through the implementation of management measures. An exclusion zone with a minimum 10 metre buffer around the extent of the PAD should be established where no works can occur.

The road and interchange design are likely to encompass a large portion of the proposal site; therefore, complete avoidance may not be possible and partial avoidance should be implemented where possible. Total or partial avoidance through redesign is considered to be an effective mitigation method following collection of site information through test excavations.

### 8.2.3 Management through an Aboriginal Cultural Heritage Management Plan

It is also recommended that an Aboriginal Cultural Heritage Management Plan (ACHMP) be prepared in consultation with the Aboriginal stakeholders and Heritage NSW for the proposal. The ACHMP would facilitate the implementation of the mitigation and conservation strategies by clearly setting out a process for the management of Aboriginal cultural heritage prior to, during and subsequent to the construction stages of the proposal.

### 8.2.4 Interpretation strategy

The Wilton area has a rich Aboriginal history, and it is recommended that opportunities for heritage interpretation are explored and implemented for the proposal in consultation with Aboriginal stakeholders. The purpose of the strategy would be to ensure that the traditional, historical and contemporary cultural values and meanings held by Aboriginal people of the region are indelibly integrated into the proposal in a meaningful, culturally appropriate and practical way. This should be developed in consultation with Aboriginal stakeholders and completed following finalisation of the proposal design.

### 8.2.5 Cultural value features and places

The Aboriginal knowledge holders who participated in the interviews conducted as part of ACVSR workshops and oral history interviews recommended a number of mitigation measures which could be implemented to reduce impacts to cultural value features and places within the proposal site if found appropriate. These measures comprised:

- Avoid impacts to culturally modified trees.
- Identify and avoid where possible stands of culturally relevant species including Sarsaparilla (*Smilax glycyphylla*), Geebung (*Perseosia pinifolia*), Mountain Devil (*Lambertia Formosa*), Paperbark (*Melaleuca sp.*) and Stringybark (*Eucalyptus obliqua*). Any potential impact should be mitigated in consultation with Aboriginal people (e.g. resources could be collected and utilised prior to potential impacts).
- Acknowledge Picton Road as a traditional pathway linking the coast to inland areas, part of the network of pathways across Australia.
- Given the possibility of unrecorded massacres in the area surrounding the proposal area, an unexpected finds protocol should be applied.
- Given the possibility of unrecorded massacres in the area surrounding the proposal area, and the presence of unrestful spirits, a smoking ceremony should be undertaken prior to the commencement of construction works.
- Where possible, roadside areas should be replanted with local native species.

- Where possible, if mature native trees such as Ironbark, Spotted Gum, Bloodwood, Blue gum or Oak are felled, options to offer these to Aboriginal people for cultural use should be explored (avoid mulching).
- Members of the Aboriginal community should be given the opportunity for employment during the construction phases of the proposal.
- Favour further damage to already disturbed bushland over undisturbed bushland.
- Avoid impact to waterways including swamps and creeks where possible.
- Members of the Aboriginal community should be given the opportunity to retain recovered artefacts from test excavations for the purpose of teaching, interpretation and community education through care agreements.
- Where care agreements are not possible, recovered artefacts should be repatriated to a location as close as possible to where they were originally located.
- Transport should work with the Aboriginal community to create interpretation strategies of the cultural landscape and other aspects of culture for roadside rest areas.
- Enable additional opportunities for oral history, for the creation of interpretive signage, books and educational materials that would be of benefit to the Aboriginal community and contribute to wider understanding of Aboriginal people’s culture and continued connections to the area.
- Continue to consult with Aboriginal people associated with the western extent of the survey area; Campbelltown Picton, Moss Vale, and Mittagong.
- Install ‘Welcome to (or Acknowledgement of) Country’ signs.
- Continue to engage with ILALC and the TLALC.

## 9 Impacts and safeguards

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### 9.1 Impact assessment

Within the proposal site, there are six recorded Aboriginal sites, one PAD and five cultural values that may be subject to harm. It is expected that the potential of harm to Aboriginal archaeological sites from the proposal ranges from none to direct.

An arboricultural assessment of the possible culturally modified tree concluded that the wound was likely to be the result of mechanical wounding from a surveyor's blaze. This tree is not currently considered to be an archaeological site and therefore has not been registered in AHIMS. However, further consultation with knowledge holders would be completed during detailed design to gain a better understanding of the cultural values associated with this tree and two other trees identified as potentially having cultural value during the field investigations completed in June 2023.

Where possible the proposal has avoided impacts to sites by redesigning the proposed works. The proposal has been designed to avoid direct impacts to PRUP PAD 34 and the two culturally modified trees within the proposal site (AHIMS 52-5-4079/WJ-ST-04 and AHIMS 52-2-3590/ Wilton 01).

Further design work would also be completed during detailed design to avoid and minimise impacts on other heritage items, places and values where possible, inclusive of other trees identified as having cultural value.

A summary of the potential impacts of the proposal on known Aboriginal sites within the proposal site is provided in Table 15.

#### 9.1.1 Cumulative impacts

Cumulative impacts are defined as the incremental, collective or aggregate effect of a development on a region or area with respect to the existing or surviving regional Aboriginal archaeological resource and cultural heritage values (Buckley 1994). These can result from individually minor, but collectively significant, actions and must therefore be considered to minimise impacts.

A cumulative impact assessment considers the past and current impacts, along with the anticipated consequences of the development. The assessment aims to 'consider the potentially deleterious effect of the development from a broad regional perspective, rather than as a localised impact within the development boundary' (Navin Officer 2016, p.171).

The measure of cumulative impacts is also influenced by the avoidance and mitigation measures that would be implemented during the proposed development.

The Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) notes an understanding of the cumulative impact of the proposal is informed by 'the nature and extent of the Aboriginal object or place proposed to be harmed in relation to other identified sites in the region'.

An extensive search of the AHIMS database undertaken on the 1 December 2021 (Client service IDs: 643736; 643743; 643746; 643747) identified 311 registered Aboriginal archaeological sites within a 3.5 kilometre search area, centred on the survey area. Eleven of these registered sites were located within the survey area, and nine were within approximately 50m of the survey area boundary. Within the proposal site, there are two previously registered AHIMS sites.

A simple analysis of the registered Aboriginal cultural heritage sites obtained from the search of the AHIMS database (Table 13) indicated that art was the most common site type representing 35.53% (n=135), followed by artefacts which represented 32.89% (n=125), and grinding groove and PAD sites each representing 12.63% (n=48 each). Modified trees represented 2.90% (n=11), while habitation structures and shell sites each represented 1.32% (n=5 each). The site types with the lowest frequency were Aboriginal resource gathering zone (ARGZ), fish trap and stone arrangement sites each representing 0.26% (n=1 each).

Some recorded sites consist of more than one element, for example artefacts and a modified tree, however for the purposes of this breakdown and the predictive modelling, all individual site types were studied and compared. This explains why there are 380 results presented here, compared to the 311 sites identified in AHIMS. Furthermore, some of the recorded AHIMS sites in this area were duplicated when recorded. Duplicates have been removed from the data in Table 13.

**Table 13 AHIMS site type frequency**

Site type	Number of occurrences	Frequency (%)
Art (Pigment or Engraved)	135	35.53
Artefact	125	32.89
Grinding Groove	48	12.63
PAD	48	12.63
Modified Tree (Carved or Scarred)	11	2.90
Habitation Structure	5	1.32
Shell	5	1.32
Aboriginal Resource Gathering Zone (ARGZ)	1	0.26
Fish Trap	1	0.26
Stone Arrangement	1	0.26
<b>Total</b>	<b>380</b>	<b>100</b>

Through the implementation of mitigation measures including avoidance through design, both pre-existing AHIMS sites within the proposal site are being avoided by the proposal.

Four additional sites were identified as part of archaeological test excavations, (increasing the number of known sites to 317 within and near the survey area). These four sites consisted of artefact sites which make up the second most common site type in the region. Of the six sites within the proposal site (pre-existing and found through the investigations for the proposal), four would be totally or partially impacted by the proposal, which accounts for 1.3% of sites identified on AHIMS. It is therefore considered that the cumulative impact of the proposal is low.

Multiple projects are currently in planning or development near the proposal site to support the Wilton Growth Area. A search of the AHIP Public Register 2021-23 on 20 October 2023 showed three issued AHIPs and one application in the suburb of Wilton (Table 14).



The cumulative impact of these projects, combined with the proposal, would reduce the number of registered Aboriginal heritage sites in the area. The proposal is also part of a program of works to upgrade Picton Road and as such would have the potential to contribute to further impacts to Aboriginal heritage along the Picton Road corridor.

**Table 14 AHIPs and applications in Wilton**

AHIP Status	Project Name	Applicant / AHIP Holder
<b>Issued (4632)</b>	Bingarra Gorge Bingarra Pathway	Lendlease Communities (Wilton) Pty Ltd
<b>Issued (4757)</b>	Greenbridge East Precinct Bingara Gorge Stage 4C and 4D	Bingarra Development Pty Ltd
<b>Issued (4944)</b>	Bingarra Gorge Balance of Site, Wilton - Residential Subdivision	Bingarra Development Pty Ltd
<b>Application</b>	Bingarra Gorge Golf Course - Hole 16 ACHA Project	Bingarra Development Pty Ltd

Cumulative effects on cultural values would include landscape changes from the proposal and other projects in the area.

Landscaping of the proposal site with native species would be undertaken following construction activities to maximise opportunities for revegetation and to provide a vegetated buffer to the culturally modified trees, contributing to the ecological safety of these trees.

The proposal would improve the functionality and efficiency of Picton Road and the Picton Road and M31 Hume Motorway interchange, connecting communities travelling through the area. As such, the proposal has the potential to positively impact the walking and travelling routes / Picton Road by enabling communities to connect. The proposal also has the potential to improve knowledge sharing about existing cultural values and historic context of the region through the implementation of appropriate Aboriginal cultural heritage recognition and interpretation measures.

**Table 15 Summary of potential impacts**

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm	Management recommendations
<b>Aboriginal archaeological sites</b>						
<b>AHIMS 52-2-4885</b>	PRUP PAD 4	Low	Direct	Total	Total loss of value	AHIP to impact
<b>AHIMS 52-2-4884</b>	PRUP PAD 6	Low	Direct	Total	Total loss of value	AHIP to impact
<b>AHIMS 52-5-4079</b>	WJ-ST-04	High	Indirect	Partial	Partial loss of value	Avoidance
<b>AHIMS 52-2-4883</b>	PRUP PAD 7	Moderate	Direct	Total	Total loss of value	Avoidance
<b>AHIMS 52-2-4882</b>	PRUP PAD 10	Low	Direct	Total	Total loss of value	AHIP to impact
<b>AHIMS 52-2-3590</b>	Wilton 01	High	Indirect	Partial	Partial loss of value	Avoidance
<b>N/A</b>	PRUP PAD 34	Unknown	No harm	None	No loss of value	Avoidance
<b>Aboriginal cultural sites</b>						
<b>N/A</b>	Walking and travelling routes/Picton Road	High	Direct	Partial	Partial loss of value	Minimise impacts through design, interpretation where pathways intersected/overwritten by the works
<b>N/A</b>	Undisturbed bushland	High	Direct	Partial	Partial loss of value	Stands of culturally relevant species should be identified and avoided where possible. Any potential impact should be mitigated in consultation with Aboriginal people. Minimise impacts through design (RAPs favour impacts to existing disturbed bushland over undisturbed bushland), collection of native plant seeds by RAPs prior to works, replanted with native plant species following works
<b>N/A</b>	Freshwater creek lines	High	Direct	Partial	Partial loss of value	Minimise impacts through design

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm	Management recommendations
N/A	Culturally modified trees	High	Indirect	Partial	Partial loss of value	Avoidance
N/A	Flora and fauna	High	Indirect	Partial	Partial loss of value	Minimise impacts through design, create interpretation strategies of the cultural landscape

## 9.2 Safeguards and management measures

Safeguards and management measures to avoid, minimise, mitigate and manage the potential impacts of the proposal are summarised in Table 16.

**Table 16 Safeguards and management measures**

ID	Impact	Safeguards	Responsibility	Timing	Reference
AH01	Aboriginal heritage management	An Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared in accordance with the <i>Procedure for Aboriginal cultural heritage consultation and investigation</i> (Roads and Maritime Services, 2011) and the <i>Unexpected Heritage Items Procedure</i> (Transport for NSW, 2022) and implemented as part of the CEMP. The ACHMP will provide specific guidance on measures and controls to be implemented for managing impacts on Aboriginal heritage. The ACHMP will be prepared in consultation with Registered Aboriginal Parties.	Contractor	Detailed design / pre-construction	Section 4.9 of QA G36 <i>Environment Protection</i>
AH02	Aboriginal heritage	Opportunities to minimise impacts on PRUP PAD 7 will be investigated during detailed design and construction planning due to its association with AHIMS 52-5-4079.	Transport / contractor	Detailed design / pre-construction	Additional safeguard
AH03	Aboriginal heritage	An Arboricultural Impact Assessment report will be prepared during detailed design for the trees with Aboriginal cultural value, including AHIMS registered trees, in accordance with AS 4970-2009 Protection of Trees on Development Sites to inform exclusion zones and other protection measures in the ACHMP. The report will be prepared by a suitably qualified Arborist (minimum AQF level 3 or above) in consultation with Registered Aboriginal Parties.  Minimum working distances by types of construction activities and associated management measures will be developed based on the results of the report and included in the relevant CEMP sub-plans.	Transport	Detailed design	Additional safeguard

ID	Impact	Safeguards	Responsibility	Timing	Reference
AH04	Aboriginal heritage	Further design development will be completed during detailed design to avoid impacts on trees with Aboriginal cultural value where possible. Impacts on AHIMS-registered trees will be avoided in accordance with AS 4970-2009 Protection of Trees on Development Sites, with effective exclusion zones established prior to construction.	Transport	Detailed design / pre-construction	Additional safeguard
AH05	Aboriginal heritage	The Urban Design and Landscaping Plan will be further developed in consultation with Aboriginal knowledge holders during detailed design. The plan will incorporate measures to integrate appropriate native vegetation around trees with Aboriginal cultural value, including AHIMS-52-2-3590 and AHIMS 52-5-4079.	Transport	Detailed design	Additional safeguard
AH06	Aboriginal heritage	An Aboriginal Heritage Impact Permit (AHIP) will be sought under section 90 of the <i>National Parks and Wildlife Act 1974</i> for Aboriginal sites expected to be directly impacted by the proposal. Overlapping impact areas with other existing AHIPs will be resolved as required.	Transport	Detailed design / pre-construction	Additional safeguard
AH07	Aboriginal heritage	If any activities associated with the proposal are required in the exclusion zone of PRUP PAD 34 area, the <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i> (Roads and Maritime Services, 2011) would be followed prior to any works taking place at this location.	Transport	Detailed design / pre-construction	Additional safeguard
AH08	Aboriginal archaeological material	Aboriginal archaeological material excavated for the preparation of the Aboriginal cultural heritage assessment will be returned to Country and repatriated as soon as practicable in a secure location in accordance with requirements 16b and 26 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010a) or an alternative method agreed upon in consultation with the Registered Aboriginal Parties.	Transport	Detailed design / pre-construction	Additional safeguard

ID	Impact	Safeguards	Responsibility	Timing	Reference
<b>AH09</b>	Aboriginal heritage interpretation	<p>An Aboriginal heritage interpretation strategy will be developed to guide incorporation of appropriate interpretation and integration of Aboriginal cultural heritage in the design.</p> <p>The strategy will be prepared and implemented with regard to the following:</p> <ul style="list-style-type: none"> <li>• <i>Interpreting Heritage Places and Items: Guidelines</i> (NSW Heritage Office, 2005)</li> <li>• <i>Heritage Interpretation Policy</i> (NSW Heritage Office, 2005)</li> <li>• <i>Connecting with Country Framework</i> (Government Architect, 2023)</li> <li>• <i>Signposting Country Technical Manual</i> (Transport for NSW, 2021)</li> <li>• <i>Aboriginal Art Strategy</i> (Transport for NSW, 2022)</li> <li>• <i>Aboriginal Cultural Heritage Framework</i> (Transport for NSW, 2022)</li> <li>• <i>Heritage Interpretation Guideline</i> (Transport for NSW, 2016).</li> </ul> <p>The strategy will also:</p> <ul style="list-style-type: none"> <li>• be developed in consultation with relevant stakeholders, including Registered Aboriginal Parties and nominated Aboriginal cultural knowledge holders</li> <li>• be prepared in accordance with the urban design objectives and principles for the proposal</li> <li>• include measures to ensure a meaningful design response to Aboriginal heritage and cultural values.</li> </ul> <p>The design will include appropriate interpretation of Aboriginal heritage in accordance with the heritage interpretation strategy.</p>	Transport	Detailed design / pre-construction	Additional safeguard
<b>AH10</b>	Cultural safety	A cultural safety protocol will be developed prior to construction that includes measures recommended by knowledge holders for implementation during preconstruction and construction activities.	Transport / Contractor	Pre-construction / Construction	Additional safeguard

ID	Impact	Safeguards	Responsibility	Timing	Reference
<b>AH 11</b>	Cultural practices	Options to make culturally significant plant species identified in the Aboriginal Cultural Heritage Working Paper to be cleared available to Aboriginal stakeholders for cultural practices will be investigated during detailed design in consultation with Registered Aboriginal Parties.	Transport / Contractor	Detailed design/ pre-construction	Additional safeguard

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