



ADDITIONAL CROSSING OF THE CLARENCE RIVER AT GRAFTON

Appendix H – Technical Paper: Aboriginal heritage assessment

AUGUST 2014

Acknowledgements

Biosis Pty Ltd gratefully acknowledges the contributions of the following people and organisations (listed alphabetically) in preparing this report:

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- Toby Heys - Arup

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- Ana Jakovljevic for assistance in the field
- James Shepherd for mapping
- Sally Koehler for internal quality assurance review

Abbreviations

Abbreviation	Meaning
ACHAR	Aboriginal Cultural Heritage Assessment Report
AGD	Australian Geodetic Datum
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
c.	Circa
cm	Centimetre
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DGR's	Director Generals Environmental Assessment Requirements
PI	Planning and Infrastructure
EIS	Environmental impact statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ICOMOS	International Council on Monuments and Sites
km	Kilometre
LALC	Local Aboriginal Land Council
LGA	Local Government Authority
m	Metres
NPWS	National Parks and Wildlife Service
NSW	New South Wales
OEH	Office of Environment and Heritage
RAPs	Registered Aboriginal Parties

Abbreviation	Meaning
Roads and Maritime	Roads and Maritime Services
RTA	Roads and Traffic Authority (now Roads and Maritime)
SSI	State Significant Infrastructure

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Executive summary

Roads and Maritime Services (Roads and Maritime) is seeking approval for an additional crossing of the Clarence River at Grafton (Figure 1) to address short-term and long-term transport needs. Arup (on behalf of Roads and Maritime) has engaged Biosis Pty Ltd to undertake an Aboriginal cultural heritage assessment of the study area. The project involves:

- Building a new bridge about 70 m downstream of the existing bridge (which would be retained)
- Upgrading parts of the road network in Grafton and South Grafton to connect the new bridge to the existing road network.
- The project would also include ancillary works, structures and facilities required for the purposes of the project.

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the assessment of Aboriginal cultural values for the project area. This ACHAR has been undertaken to inform the environmental impact statement (EIS) for the project and to address Director General's Environmental Assessment Requirements (DGRs) issued by Planning and Infrastructure. An archaeological assessment of the project area including desktop assessment, pedestrian survey and sub surface test excavations was undertaken, however no Aboriginal cultural material has been identified in the project area. Details of the archaeological investigations are provided in an Archaeological Assessment which has been prepared as an appendix to this ACHAR.

Consultation with the Aboriginal community has been undertaken by Roads and Maritime throughout the development of the proposed project to determine the cultural heritage values and identify potential impacts in accordance with the OEH guideline *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005) This consultation has been undertaken in accordance with the *Roads and Maritime Services procedure for Aboriginal cultural heritage consultation and investigation* (2011) and addresses the DGR's to demonstrate effective consultation with Aboriginal communities.

One registered Aboriginal party was identified for the project: the Grafton Ngerrie Local Aboriginal Land Council. The Grafton Ngerrie Local Aboriginal Land Council considered the project area to have a high level of cultural significance due to the presence of the Golden Eel dreaming and ceremonial site. Specific information has not been provided about this significant site due to its sensitive nature. Consultation with the Grafton Ngerrie Local Aboriginal Land Council has focussed on identifying the significance of this site in broad terms. The consultation process has similarly focused upon the identification of potential impacts to cultural heritage values with the objective to avoid or minimise these potential impacts where possible. As a result of consultation, major impacts to the Golden Eel site have been avoided through modification of the project design.

Management Recommendations

The recommendations resulting from the consultation process are provided below.

Management strategies were developed based on the Aboriginal cultural significance of heritage relevant to the project area and have been influenced by:

1. Predicted impacts to Aboriginal cultural heritage;
2. The planning approvals framework;
3. Current best conservation practise, widely considered to include:
 - a. Ethos of the Australia ICOMOS Burra Charter; and

b. The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).

Prior to any works occurring within the project area, the following actions are recommended:

Recommendation 1: Avoid harm to Golden Eel dreaming site

The bridge constructed on current proposed alignment is acceptable, but there should be no further encroachment towards the Golden Eel dreaming site. Detailed design and construction stages are to avoid further encroachment towards the Golden Eel dreaming site.

Recommendation 2: Consultation with Aboriginal community

Consultation with the Aboriginal community should continue as an identified group within the overall community consultation strategy for the project.

Recommendation 3: Aboriginal Cultural Heritage Induction

The project site induction will incorporate Aboriginal culture awareness training for all relevant staff and contractors. This induction will include information about the Aboriginal culture and history of the locality, the location of sites and items that require protection, heritage management measures and protocols, and legal obligations. This training will be developed in consultation with the Grafton Ngerrie Local Aboriginal Land Council and provided prior to commencing work on-site.

Recommendation 4: Known Aboriginal Objects and Places

Aboriginal sites located in close proximity to the project construction work zone will be designated 'no-go' areas which would be clearly identified and appropriately fenced to prevent access or damage during construction.

Recommendation 5: Discovery of Unanticipated Aboriginal Cultural Material and Human Remains

In the event that unexpected Aboriginal cultural material or skeletal remains are encountered, the Roads and Maritime *Standard Management Procedure for Unexpected Archaeological Finds* (2012) should be implemented.

Recommendation 6: Interpretive Strategy for Tangible and Intangible Aboriginal Heritage

An interpretive strategy must be formulated in conjunction with the local Aboriginal community. This would highlight salient sites and features within the landscape in a manner that respectfully enhances and protects these values.

1. Introduction

1.1. Project background

Roads and Maritime Services (Roads and Maritime) is seeking approval for an additional crossing of the Clarence River at Grafton (Figure 1) to address short-term and long-term transport needs. Arup (on behalf of Roads and Maritime) has engaged Biosis Pty Ltd to undertake an Aboriginal cultural heritage assessment of the project area. The project involves:

- Building a new bridge about 70 m downstream of the existing bridge (which would be retained)
- Upgrading parts of the road network in Grafton and South Grafton to connect the new bridge to the existing road network.
- The project would also include ancillary works, structures and facilities required for the purposes of the project.

The Grafton Bridge project will be assessed against Part 5.1 of the *Environmental Planning and Assessment Act 1979 NSW* (EP&A Act) as a State Significant Infrastructure (SSI) project.

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the assessment of Aboriginal cultural values for the project area. This ACHAR has been undertaken to inform the environmental impact statement (EIS) for the project and to address Director General's Environmental Assessment Requirements (DGRs) issued by Planning and Infrastructure. An archaeological assessment of the project area including desktop assessment, pedestrian survey and sub surface test excavations was undertaken, however no Aboriginal cultural material has been identified in the project area. Details of the archaeological investigations are provided in an Archaeological Assessment which has been prepared as an appendix to this ACHAR.

Consultation with the Aboriginal community has been undertaken by Roads and Maritime throughout the development of the proposed project to determine the cultural heritage values and identify potential impacts in accordance with the OEH guideline *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005). This consultation has been undertaken in accordance with the *Roads and Maritime Services procedure for Aboriginal cultural heritage consultation and investigation* (2011) and addresses the DGR's to demonstrate effective consultation with Aboriginal communities.

1.2. Study area and project area

This report refers to the study area and the project area. The study area covers all areas of Grafton and South Grafton in the Clarence Valley Council, local government area (LGA), that have been considered for all project options for this and previous heritage reports for the project. The study area is located on the NSW Mid North Coast, about 610 km north of Sydney (Figure 1 and Figure 2).

The project area (Figure 2) encompasses the discrete project footprint based on the April 2014 design that includes all works during operation and construction, including:

- Operational road boundary
- Permanent ancillary elements such as operational detention basin and pump station in Grafton
- Construction work zone, which includes temporary facilities such as South Grafton ancillary site, Pound Street ancillary site and the jetty for barge launching

Flood mitigation works construction zone, which includes temporary stockpile areas.

1.3. The project

The main components of the Grafton Bridge project are:

- Construction of a new bridge over the Clarence River about 70 metres downstream (east) of the existing road and rail bridge, comprising two traffic lanes
- Construction of a new road to link the new bridge with Iolanthe Street in South Grafton
- Construction of a new road to link the new bridge with Pound Street in Grafton
- An approach viaduct, about 58 metres long, on the South Grafton side of the Clarence River and 29 metres long on the Grafton side.
- Upgrades to the road network in South Grafton to connect the new bridge to the existing road network, including:
 - Widening Iolanthe Street to four lanes
 - Widening the Gwydir Highway to four lanes between Bent Street and the Pacific Highway
 - Realigning the existing Pacific Highway to join Iolanthe Street near Through Street
 - Providing a new roundabout at the intersection of the Pacific Highway and Gwydir Highway
 - Providing a new roundabout at the intersection of Through Street and Iolanthe Street
 - Limiting Spring Street and the Old Pacific Highway to left in and left out only where they meet Iolanthe Street
 - Realigning Butters Lane
- Upgrades to the road network in Grafton to connect the new bridge to the existing road network, including:
 - Widening Pound Street to four lanes between Villiers Street and the approach to the new bridge
 - Providing traffic signals at the intersection at Pound Street and Clarence Street
 - Closing Kent Street where it is crossed by the bridge approach road
 - Realigning and lowering Greaves Street beneath the new bridge
 - Realigning Bridge Street to join directly to the southern part of Pound Street (east of the new bridge approach). There would be no direct connection between Pound Street south and the new bridge approach
 - Widening Clarence Street to provide formal car park spaces
 - Minor modifications to the existing Dobie Street and Villiers Street roundabout.
- Replacement of the existing three span concrete arch rail viaduct which crosses Pound Street in Grafton with a single span steel truss bridge
- Construction of a pedestrian and cycle path to provide connectivity between Grafton, South Grafton and the new bridge
- Provision of two signalised pedestrian crossings in South Grafton to improve safety for pedestrians crossing Iolanthe Street and Gwydir Highway
- Construction of new pedestrian links to connect the new bridge with the existing bridge
- Provision of designated car park spaces in Pound Street and Clarence Street, including some off street parking, to maintain a similar number of existing car park spaces currently available in those two street

- Flood mitigation works, which include raising the height of sections of the existing levee upstream from the new bridge in Grafton and South Grafton
- Construction of a stormwater detention basin and pump station in Grafton to manage local flooding
- Public utilities adjustment
- Ancillary facilities required for the construction of the project, including some or all of the following: site compounds, concrete batching plant, pre-cast facilities, and stockpile areas for materials and temporary storage of spoil and mulch.

The main elements of the project are shown in Figure 3, including the construction footprint of the project.

1.4. Study requirements

The Grafton Bridge project will be assessed against Part 5.1 of the *Environmental Planning and Assessment Act 1979* NSW (EP&A Act) as a State Significant Infrastructure (SSI) project. Relevant legislation and planning instruments that will inform this assessment include:

- State Environmental Planning Policy (State and Regional Development) 2011
- Environmental Planning and Assessment Regulation 2000
- National Parks and Wildlife Act 1974 (NSW)
- National Parks and Wildlife Amendment Act 2010 (NSW)
- Clarence Valley Local Environmental Plan 2011.

Director General Environmental Assessment Requirement's (DGR's) for the project were issued on the 3 October 2013 (SSI Application 13-6103) and detail requirements for an environmental impact statement (EIS). The DGR's identified heritage as a key issue for the EIS to address and presented the following requirements specific to Aboriginal heritage investigations (iv-v):

Table 1: Director General Environmental Assessment Requirement's

DGR Requirement	Addressed
An assessment of impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal objects and potential archaeological deposits (PAD), should be assessed. Where impacts are identified, the assessment shall:	
Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures) generally consistent with the <i>Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation</i> (Department of Environment and Conservation, 2005);	See Section 6.
Be undertaken by a suitably qualified heritage consultant(s);	See Section 1.5
Demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures);	See Section 4

DGR Requirement	Addressed
Assess and document the archaeological and cultural significance of cultural heritage values of affected sites; and	See Section 5 and Appendix 5 – Archaeological Assessment
Develop an appropriate assessment methodology, including research design, in consultation with the Department and the Office of Environment and Heritage, to guide physical archaeological test excavations of the sites and areas of PAD identified in a manner that establishes the full spatial extent and significance of any archaeological evidence across each site/area of PAD, and include the results of these excavations.	See Appendix 4

In accordance with DGRs, this ACHAR assesses and documents the cultural significance of Aboriginal heritage within the project area; documents consultation with Aboriginal stakeholders; assesses potential impacts to Aboriginal cultural heritage values; outlines mitigation and management measures. Archaeological test excavation strategies and methodology are also detailed in this report. Details of Aboriginal heritage archaeological values, archaeological assessment methodologies and results are detailed in the Archaeological Assessment (Appendix 5).

1.5. Investigators and contributors

The roles, previous experience and qualifications of the Biosis project team involved in the preparation of this ACHAR are described below in Table 2.

Table 2: Investigators and contributors

Melanie Thomson	BSc(Hons)	12 years experience
Melanie has over 12 years experience as an archaeologist, with application to cultural heritage management for various projects throughout Queensland, New South Wales and Victoria. Melanie has acquired extensive experience working as a consulting archaeologist for Biosis over the past five years as both a project archaeologist and project manager. During this time, she has developed skills in both Aboriginal and historical archaeological research, survey, excavation, monitoring, and reporting. She also has technical skills to undertake the analysis of Aboriginal stone tools and historical artefacts. Melanie specialises in assessing the Social Value of Cultural Landscapes in association with Aboriginal and Historical sites. Melanie has authored and / or co-authored over 180 consultant reports.		Project Roles • Technical Review. • Project Methodology.
Alexander Beben	MA, BA (Hons)	7 years experience
Alexander Beben is a Senior Archaeologist with Biosis in the Wollongong office. Alex has seven years archaeological experience and has conducted over 80 heritage projects across Australia and internationally in the UK and Italy. Alex has primarily undertaken projects on the east coast in New South Wales and Victoria and has a detailed understanding of the heritage values within the Illawarra, Sydney Basin, Cumberland Plain, Hunter Valley and rural areas such as Northern, Central West and Southern NSW. He has extensive experience in the successful completion of Aboriginal and Historical assessments, archaeological surveys, excavations, permits and management plans. He has operated as the heritage consultant within large multidisciplinary teams tasked with delivering Environmental Impact Assessments (EIAs) under the NSW <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) and Commonwealth projects under the <i>Environment Protection and Biodiversity Act 1999</i> (EPBC Act).		Project Roles • Lead cultural heritage advisor. • Archaeological survey leader. • Archaeological excavation leader. • Aboriginal community consultation. • Preparation of the report. • Technical Review.
Asher Ford	BA (Hons)	6 years experience
Asher is a Consultant Archaeologist with Biosis. Asher has over six years experience as a consultant archaeologist, with application to cultural heritage management for various projects throughout Victoria, New South Wales and South Australia. His skills include Aboriginal and non-Aboriginal archaeological assessments, Aboriginal and historical site recording, survey, sub surface testing and excavation, project research, geographic information systems (GIS), graphics and report writing. Asher has technical experience in recording artefact scatters, scarred trees, middens, axe grinding grooves, rock shelters, art sites and stone features across a range of Australian environments including the Victorian Western Volcanic Plains, Gippsland, Victorian High Country, Murray River, the NSW Southern Tablelands, Cumberland Plains, Illawarra region, Hunter Valley, and the Woomera Prohibited Area. Asher has authored and / or co-authored over 30 consultant reports.		Project Roles • Project Methodology. • Preparation of the report.

Melanie Thomson	BSc(Hons)	12 years experience
Ana Jakovljevic	BA (PostGrad Dip)	6 years experience
Ana Jakovljevic has over 6 years experience as an archaeologist that includes archaeological surveys and excavations, documentation and analysis of cultural material and cultural heritage site assessments. Her skills also include site significance assessments and preparing cultural heritage management plans. Ana also has extensive experience during the construction phase of projects implementing recommendations set out as cultural heritage requirements. Working extensively on monitoring programs, Ana has developed excellent technical skills in baseline recording and impact assessments of Aboriginal shelter and grinding grooves sites. She has also worked on, and has extensive technical skills in, shell midden excavations and analysis. Ana has also authored and co-authored numerous cultural heritage assessment reports, archaeological reports and due diligence assessments.		Project Roles • Archaeological excavation. • Archaeological survey.

1.6. Assessment objectives

The main objectives of this assessment are to:

- Identify and consult with any registered Aboriginal stakeholders
- Conduct additional background research in order to recognise any identifiable trends in site distribution and location
- Search statutory and non-statutory registers and planning instruments to identify listed Aboriginal cultural heritage sites within the project area
- Highlight environmental information considered relevant to past Aboriginal occupation of the locality and associated land use and the identification and integrity/preservation of Aboriginal sites
- Summarise past Aboriginal occupation in the locality of the study area using ethnohistory and the archaeological record
- Formulate a model to broadly predict the type and character of Aboriginal sites likely to exist throughout the study area, their location, frequency and integrity
- Conduct a field survey and archaeological excavation of the project area to locate unrecorded or previously recorded Aboriginal sites and to further assess the archaeological potential of the project area
- Assess the significance of any known Aboriginal sites in consultation with the Aboriginal community
- Identify the impacts of the proposed project on any known or potential Aboriginal sites within the project area
- Recommend strategies for the management of Aboriginal cultural heritage within the context of the proposed project.

1.7. Restricted and confidential information

Some of the Aboriginal places described in this report include values and information that are culturally sensitive to the Aboriginal community in Grafton and the wider Aboriginal community. As such, restricted cultural information in relation to these places is **not** discussed in this report. The level of information presented in this report for these places is aimed at providing sufficient detail to appropriately communicate the cultural values and significance of

these places. Attachment 2 in the Archaeological Assessment contains AHIMS information which is confidential and not to be made public.

1.8. Limitations

It should be noted that due to the nature of the project, a proportion of the project area was not accessible and/or not yet identified through earlier design in order to undertake surveys, namely some of the indicative ancillary site locations associated with flood mitigation works and large portions of the flood mitigation works (Figure 1). Flood mitigation works have not been surveyed on the basis that these works would be expected to impact on soil surfaces of existing flood levee structures only and thus present a very low risk of harm to Aboriginal heritage. An Aboriginal risk assessment for the ancillary stockpile sites has been undertaken through an AHIMS search by the project team only, as directed by Roads and Maritime. The Aboriginal risk assessment has concluded that the ancillary stockpile sites have a low potential for impacts to Aboriginal heritage and no further assessment of these areas has been undertaken.

1.9. Aboriginal cultural heritage values definitions

1.9.1. General description

According to Allen and O'Connell (2003), Aboriginal people have inhabited the Australian continent for the last 50,000 years, and the NSW area, according to Bowler *et al* (2003), for over 42,000 years. These dates are subject to continued revision as further evidence of Aboriginal cultural heritage is discovered and as more research of this evidence is conducted.

Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010: 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 2010: iii).

Aboriginal people's interpretation of cultural value is based on their "traditions, observance, lore, customs, beliefs and history" (DECCW 2010: 3). The things associated with Aboriginal cultural heritage are continually / actively being defined by Aboriginal people (also see DEC 2005: 1; DECCW 2010: 3). These things can be associated with traditional, historical or contemporary Aboriginal culture (also see DEC 2005: 1, 3; DECCW 2010: 3).

1.9.2. 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; and/or
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

1.9.3. 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 2010: 3).

1.9.4. Statutory

Currently Aboriginal cultural heritage, as statutorily defined by the *National Parks and Wildlife Act 1974*, consists of objects and places.

Aboriginal objects are defined as:

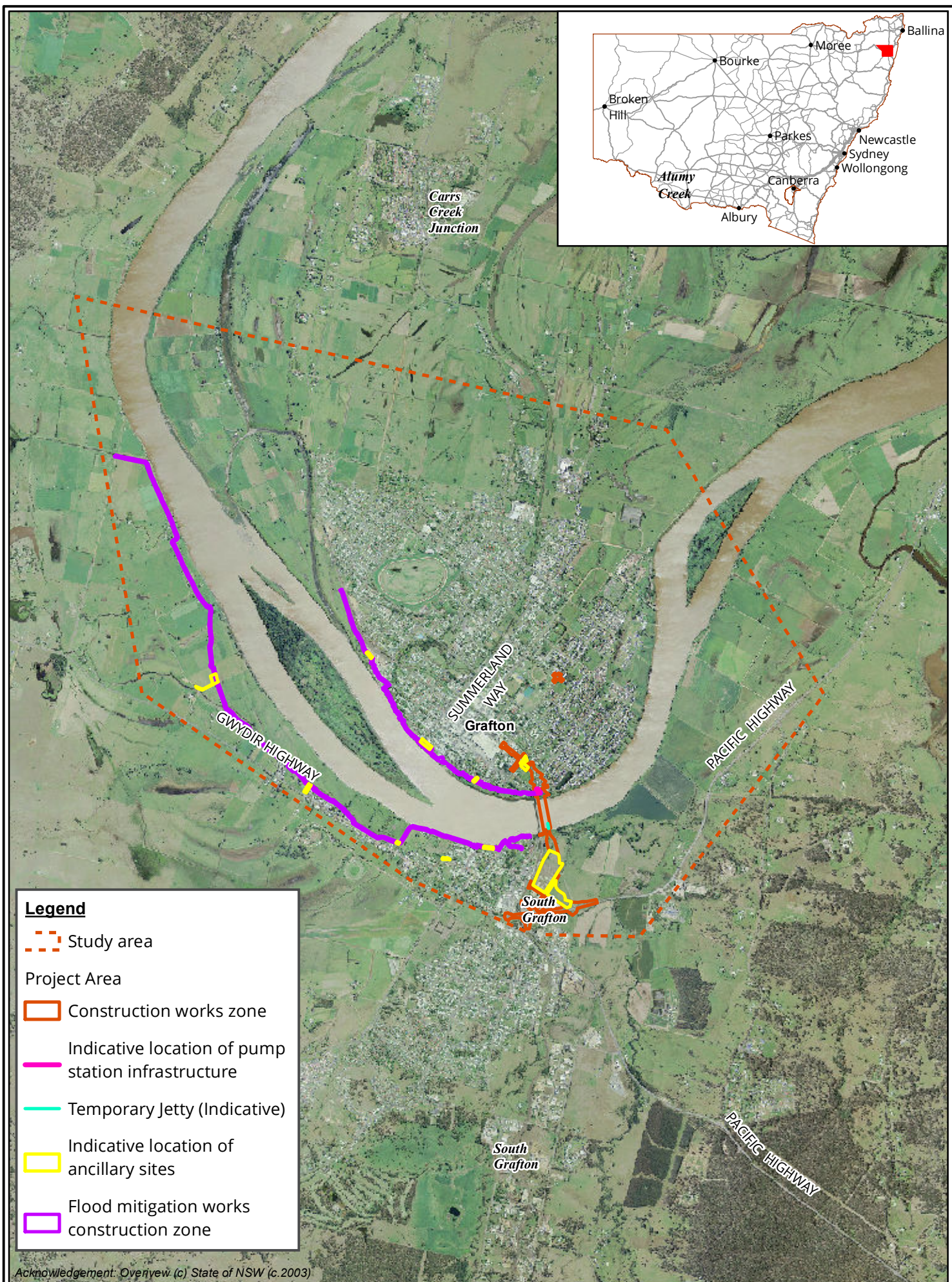
“any deposit, object or material evidence...relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains”

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 1974*.

1.9.5. Values

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 (also see DEC 2005: 1, 3; DECCW 2010: iii). More specifically it is used:

- To provide a:
 - “connection and sense of belonging to Country” (DECCW 2010: iii)
 - Link between the present and the past (DECCW 2010: iii)
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010: 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 (see also DECCW 2010: 3).



Acknowledgement: Overview (c) State of NSW (c.2003)



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Figure 2: Aerial of the project area



Figure 3: The project



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Acknowledgements: Imagery provided by Arup

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Coordinate System: GDA 1994 MGA Zone 56



2. Study area context

This section discusses the study area in regards to its landscape, environmental and Aboriginal cultural heritage context. This section should be read in conjunction with the Archaeological Assessment attached in Appendix 5.

2.1. Topography and hydrology

Grafton lies at the south-eastern end of the geological feature known as the Clarence-Moreton Sedimentary Basin, which covers 16,000 km² of north-eastern NSW. Across this basin there has been widespread fluvial and lacustrine to paludal deposition. This deposition is recorded in the grey siltstone, thick banded coal horizons and fine to medium grained lithic sandstone. Although the sediments are non-marine in origin, the quartz dominated sandstone of the Clarence-Moreton Basin is similar to the Sydney Basin sandstones, which have numerous outcrops and overhang formations present (NSW Trade and Investment Website).

In the south-east of the Clarence-Moreton Basin (where Grafton lies), an overlying layer of the erodible Grafton Formation remains, creating an undulating land surface. The Grafton Formation is a fluvial to lacustrine claystone and sandstone unit. This formation overlies the coarser Kangaroo Creek Sandstones which are comprised of sandstone, siltstone, claystone and conglomerate. Both the Grafton and Kangaroo Creek geological units are Mesozoic sediments comprised largely of sandstone and sandstone derivatives (NPWS 2006).

The geological processes that have contributed to the formation of the Grafton area have been largely the weathering of materials flowing down the Clarence River and deposited following flooding events to create the Clarence-Richmond alluvial floodplains. Landforms associated with the Clarence - Richmond alluvial plains include wide valleys, channels, floodplains, terraces and estuaries of the Clarence and Richmond rivers and other coastal streams on Quaternary alluvium, which have a general elevation of 0 m to 50 m Australian Height Datum (AHD), with a local relief of 15 m. The alluvium in the Clarence River at Grafton is estimated to be about 40 m thick (Department of Primary Industries 1970). These alluvial soils (structure loams) are characterised as being deep brown earths and structured brown clays on floodplains. These soils are fertile having a high organic content and are generally not considered to have high erosion potential.

Soils within the Grafton and South Grafton area have been substantially disturbed through sub-urban, agricultural and industrial land uses. Severe floods in the 1940s and 1950s prompted the development of an extensive levee and drainage network to mitigate the effects of major flooding events. The levee system was completed in the 1970s with levees present on both sides of the Clarence River and extending across the floodplains in South Grafton.

Less disturbed portions of the Grafton and South Grafton area where topsoils remain at least partially intact include isolated patches of native vegetation that is typical of the floodplains of the lower Clarence.

2.1.1. Hydrology

The Clarence River catchment, covering an area of 22,700 km² is located in the Northern Rivers region of NSW (Department of Primary Industries Office of Water Website). The catchment extends from the NSW/Queensland border and Richmond Range in the north to the Doughboy Range/Dorrigo Plateau in the south and drains east from the Great Dividing Range to the river entrance adjacent to the townships of Yamba and Iluka. It is characterised by upper tableland areas which fall away to a relatively large, flat coastal floodplain. Grafton and South Grafton are located within the upper reaches of the floodplain.

The Grafton and South Grafton areas have a history of droughts and floods. Since 1839 the Clarence River has experienced 78 moderate to major floods, the most recent flood events occurring in 2013 when the river reached

levels of 8.09 m AHD in January, 6.28 m AHD in February and 3.65 m AHD in March respectively at the Prince Street gauge in Grafton (Clarence Valley Council Website).

The flooding behavior of the Lower Clarence River floodplain in terms of peak flood levels and duration of inundation is dominated by the flow originating from upstream of Grafton. This is due to the size of the catchment upstream relative to its various downstream tributary catchments. The upstream flow typically contributes 80 – 90% of the total volume of floodwaters that enters the lower floodplains during main river flood events. Clarence River floods typically occur from low rainfall intensity events that last several days or even weeks.

Grafton has experienced frequent and significant flooding in the past. Levee bank construction and drainage improvement works have been progressively undertaken since around 1890 to help reduce the impact of flooding. These works commenced with the construction of minor levees along low sections of the riverbank. It was not until the 1960s that a major program of levee construction at Grafton and South Grafton was initiated. Since that time, additional levee banks have been gradually constructed, or the height of existing levees increased, to further reduce the frequency of flooding. Today, Grafton is protected by natural high ground, the elevated railway embankment and a series of seven levees that surround the town.

The Grafton and South Grafton levees begin to overtop when flood levels are at, or close to, 8 m on the Prince Street gauge, which translates to about a 20-year average recurrence interval (ARI) flood event. Following overtopping, significant areas of Grafton and South Grafton are inundated by floodwater. Cyclical flooding events have the potential to impact on the survival of Aboriginal archaeological features. Strong floodwater movement can scour the river banks and terraces, effectively removing stone artefacts from in situ. It can also result in the deposition of flood sediments that bury and preserve archaeological material.

2.2. Landscape resources

The geology of the immediate Grafton and South Grafton area does not suggest the likelihood of readily available raw material sources. Some stone types suitable for tool manufacture, such as quartz, are available in the local area as river bed outcrops or river pebbles.

The pre-contact vegetation communities supported numerous plant species utilised by Aboriginal people for a wide range of purposes. Certain plants provided important food sources (yams and roots) and/ or medicines, while others provided toxins which might be used to stupefy fish in waterholes. Sabine (1970: II: 21) notes that plant derived poisons used in fishing include Duboisine from the Corkwood Tree, a poison extracted from an unspecified weed and a poison made from pounding the leaves of a tree called “Cutiga”.

Plants were used to manufacture a wide range of items including personal decorations, clothing, tools, art (pigment fixatives), watercraft, traps and shelter. Certain plants also featured in local mythologies, and some were considered sacred and/or had ritual uses.

Wood, bark, fibres, and resin are all examples of useful materials derived from plants. For example: wood could be used to manufacture items such as boomerangs, clubs, digging sticks, weapons, shields or containers; bark could also be used to manufacture clothing, canoes, or dishes; fibres could be used to manufacture string, fishing nets, baskets, traps, or mats; and resin could be used as an adhesive in tool manufacture and decoration, or to seal leaks in canoes (Sabine 1970).

The plant species discussed previously would have supported a range of fauna also used by local Aboriginal inhabitants. Animals were not only used for food, but also contributed to several cultural aspects of Aboriginal life; they provided materials for tool technologies, played a role in local mythologies, and some were considered sacred or had ritual significance.

Reptiles, mammals, birds, insects, fish, molluscs, and amphibians would have all been exploited for food. The Clarence River and its floodplain would have supported the major food sources exploited by Aboriginal people,

including; a variety of fish, molluscs, tortoises, turtles, eels, and crayfish. Waterbirds flocking on the floodplains such as ibis, geese, ducks, swans, shags, darters and cormorants were harvested by the Aboriginals for meat, eggs and feathers (Sabine 1970). Macropods, possums and emu also found in the area were used for meat and skins.

Aboriginal technologies also made use of materials sourced from animals. Skins could be used as clothing, such as macropod and possum skin cloaks; bone points (awls) and sinews were used for sewing. Animal teeth, bones, and sinews were used in tool manufacture; and animal products, such as feathers and teeth were used as personal decoration (Sabine 1970).

2.3. European land use history

The land within and surrounding the Grafton and South Grafton area has undergone extensive modification. From the beginning of non-Aboriginal settlement in the 1830s, vegetation was cleared rapidly, followed by pastoral land activity and the steady growth of the urban environment.

The northern side of the Clarence River is mostly urban streets, residential and commercial development and some parkland. To the south, developed urban areas occur to the west of the existing bridge and open farm lands with associated houses and roads dominate the landscape to the east. The alluvial nature of the floodplain soils to the south and the impact of agriculture and urban development have reduced the likelihood of some types of evidence of Aboriginal occupation remaining intact.

3. Aboriginal cultural heritage context

Please note that names and photos of deceased Aboriginal persons have been removed from the public version of this report.

3.1. Ethnohistory

Our knowledge of the social organisation of Aboriginal people prior to European contact is, to a large extent, reliant on documents written by early European arrivals recording their impressions. By the time colonial diarists, missionaries and proto-anthropologists began making detailed records of Aboriginal people in the late 19th Century, pre-European Aboriginal groups had been broken up and reconfigured by European settlement activity. The inherent bias of the class and cultures of these authors necessarily affect such documents. They were also often describing a culture that they did not fully understand – a culture that was in a heightened state of disruption given the arrival of settlers and disease. Early written records and images can, however, be used in conjunction with archaeological information in order to gain a picture of Aboriginal life in the region. Oral histories from members of the Aboriginal community also provide valuable information. The following information relating to Aboriginal people of the Grafton region is based on such early detailed records.

At the time of non-Aboriginal arrival in Grafton, the area to the north of the Clarence River was within Bundjalung lands. The Yaegl tribe occupied lands on the coast. The Clarence River and Grafton are within the area previously inhabited by the Gumbainggir people. These people also inhabited the steep terrain of the escarpment zone located south of Grafton, where other sites and evidence of occupation have been found (Witter 2000).

The first interaction between the Aboriginal inhabitants of the Grafton region and the incoming European settlers came in 1825 in the form of an escaped convict Richard Craig, who would later inform the colonial government of the Clarence River and drive the first sheep into the area (McKay, 1938). Conflict between the Aboriginal population and the incoming settlers followed soon after initial European settlement. Killings were carried out by both communities and stock was speared to drive them off land. One man, Coutts (a squatter), was tried for poisoning Aboriginal people with arsenic laced flour but was acquitted (NSW Heritage Office 1996). Violence, displacement and disease reduced the number of Aboriginal people in the area. In 1882 a protector of Aborigines was appointed (Northern Star, 1882) and nine reserves were subsequently created to house the remaining Aboriginal population. By 1891 it was reported that the police had brought 'peace' to the region.

Following European settlement many Aboriginal people found employment in European industry as stockmen, cane strippers and fishermen (NSW Heritage Office 1996). Traditional hunting and bush skills continued to be practiced by many Aboriginal people (Plate 1) and were complemented by adaptations of European technologies such as shown in the construction of the timber hut shown in Plate 2. Interactions with traditional social groups also continued to be important with records of Clarence River Aborigines travelling to Casino in the c. 1880s to corroboree and fight with Richmond River and Queensland tribes (Northern Star, 1940). These connections and rivalries would continue into the 21st Century through well attended football matches between Clarence River, Cabbage Tree Island and Richmond River Aboriginal groups (Northern Star, 1931).

A community of Aboriginal people remains in Grafton to this day, many of them with strong spiritual links to the original inhabitants and important knowledge of their past ways of life.



Plate 1: Aborigines spear fishing in river at Grafton in 1895 (Source: George Washington Wilson and Co. 1935)



Plate 2: Aboriginal hut and family in Grafton District 1895 (Source: George Washington Wilson and Co. 1895)

3.2. Aboriginal heritage located in the project area

The archaeological assessment identified one Aboriginal site within the project area:

- Golden Eel Site (12-6-0326).

In addition there is one Aboriginal sites recorded in close proximity to the project area:

- Alipou Creek AS 1

The Archaeological Assessment attached in Appendix 5 provides details for Aboriginal sites identified during the archaeological assessment and shown on Figure 4. A brief description of each site is provided below.

Golden Eel site (12-6-0326) ceremonial and dreaming

The Clarence River Golden Eel site (Plate 3 and 4) is a culturally significant site, with a general restriction applying to access to the site card.



Plate 3: Looking across the Clarence River, to the southern banks near Alipou Creek, where part of the Golden Eel site story is linked



Plate 4: The Clarence River, identified as being created during The Dreamtime

Co-ordinates for this site have been provided by OEH, however the extent of the site has not been specified. On the basis of information provided in the field by Aboriginal representatives the entirety of the Clarence River and Alipou Creek has been identified as an Aboriginal site associated with the Golden Eel dreaming story. It is known that the Golden Eel site and the formation of the Clarence River are considered to be of high cultural significance to the local Aboriginal people. In her book, *Singing the Coast*, Somerville discusses with Tony Perkins the importance of the "Golden" dreaming stories to the Gumbaynggir Aboriginal people:

"Each of the different clan groups in Gumbaynggir country had different major storylines and associated miirlarl (sacred or special places) and where these storylines meet up are the most powerful places of all."

"Tony explained: 'The three main golden spirits that belong to Aboriginal people is that Golden Eel, that Golden Dog, and down at Nambucca way they got that Golden Kangaroo'."

"We've got, you know, the Golden Kangaroo and if you go up, between here and Grafton and Grafton does have the Golden Dog Hotel there and they also have the Golden Eel up at the bridge at Grafton there, so they're the three sites, the Waanyji Miirlarl in Coramba, Buurrga (Eel) Miirlarl at Grafton and Nunguu Miirlarl here, special places..." (Somerville, 2010, p. 215).

While there are discrete Aboriginal archaeological sites located in proximity to the Clarence River and Alipou Creek, the Golden Eel site is related specifically to the topographical features of the waterways themselves. Aboriginal representatives have indicated that the integrity and setting of the Clarence River and Alipou Creek is important to the overall cultural values of the Golden Eel site.

Alipou Creek AS 1 artefact scatter.

Two Aboriginal sandstone artefacts were identified in an exposure at the base of trees near the entrance to Lot 457 Iolanthe St, South Grafton, and designated Alipou Creek AS 1 (Plate 5 and Plate 6). Both artefacts from Alipou Creek AS 1 are sandstone river cobbles, with one being a modified river cobble most likely used for as a chopping tool (also referred to as a nuclear tool) and the other a grinding stone. The retouched cobble has been classified as a Bungwal basher as defined by Jo Kamminga (1978), a tool type ethnographically associated with preparing and processing fern roots for cooking. The grinding stone has pronounced indentation on the dorsal surface and limited wear on ventral side. Both of these artefacts are located 50 m south of Alipou creek and 150m east of the development footprint.

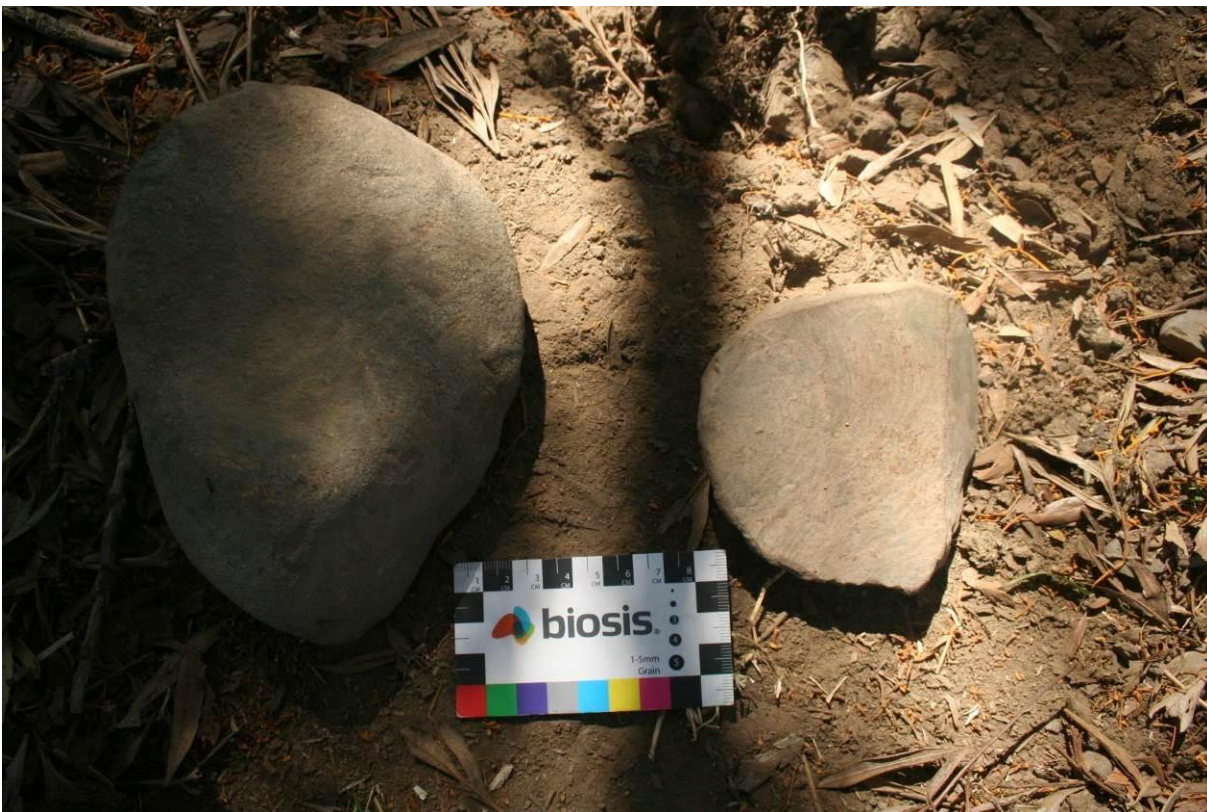


Plate 5. Grinding stones from Alipou Creek AS 1.



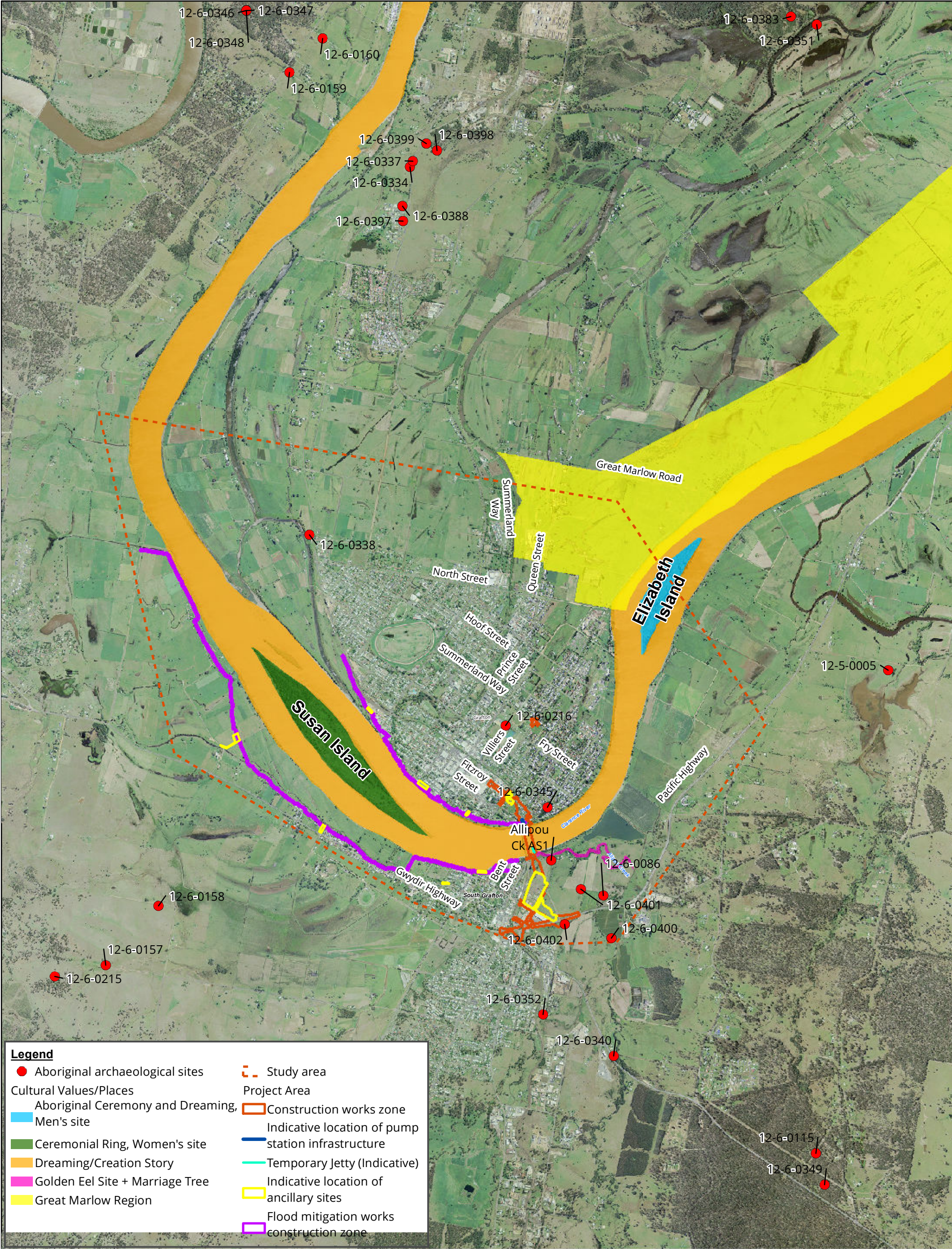
Plate 6. Looking northwest at Alipou Creek AS 1 (circled in red and facing northeast).

3.3. Interpretation of past Aboriginal land use

McBryde (1974) has argued that wide-ranging population movements of Aboriginal people on a seasonal basis would have occurred as part of annual migration between the coast and the tableland foothills. As such it would be expected that a range of seasonal sites across resource zones were visited in the local region. One of these key resource zones would have been the Clarence River. It is an important natural feature for Aboriginal people as it supported an abundance of resources integral to their lifestyles and cultural practices. The river is also the subject of several dreaming stories, the ones publicly available relate to the creation of the river, which also extends to Alipou Creek. The river has mythological values and this aspect of significance may have no additional tangible features beyond physical presence.

It should also be considered that the river may have cultural significance in the demarcation of space and place. The river creates a tangible barrier to accessing the opposite bank and the river islands, and this demarcation may have significance in the social organisation and cultural practices of local Aboriginal populations. Both Susan and Elizabeth islands (respectively west and east of the existing Grafton Bridge) are of significance to local Aboriginal people and are listed as gendered ceremonial places.

Although Aboriginal people would have frequented the local area particularly along the Clarence River, no Aboriginal archaeological places have been recorded within the proposed project footprint. This is largely a result of the significant disturbance from urban, industrial and infrastructure construction that has occurred in the areas likely to have been frequented by Aboriginal people, particularly the Clarence River, since European settlement. Archaeological investigations have identified sparse cultural material, including scarred trees and lithic assemblages in alluvial flood plains subject to minimal disturbance surrounding the Clarence River. Stone tools and cultural scars at Alipou Creek AS 1, Alipou SCT 1 (12-6-0401) and Alipou SCT 2 (12-6-0402), do indicate that Aboriginal people were utilising local flora resources for food and as raw materials for making implements.



Legend

- Aboriginal archaeological sites
- Cultural Values/Places
 - Aboriginal Ceremony and Dreaming, Men's site
 - Ceremonial Ring, Women's site
 - Dreaming/Creation Story
 - Golden Eel Site + Marriage Tree
 - Great Marlow Region

- Study area
- Project Area
- Construction works zone
- Indicative location of pump station infrastructure
- Temporary Jetty (Indicative)
- Indicative location of ancillary sites
- Flood mitigation works construction zone

Figure 4: Aboriginal sites location in the project area

4. Aboriginal community consultation

Consultation with the Aboriginal community has been undertaken by Roads and Maritime throughout the development of the proposed project to determine the cultural heritage values and identify potential impacts. This consultation has been undertaken in accordance with internal Roads and Maritime protocols and addresses the Director-General's requirement to demonstrate effective consultation with Aboriginal communities. Aboriginal consultation that have been followed include:

- *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005)
- *RTA procedure for Aboriginal cultural heritage consultation and investigation* (RTA 2008) (PACHCI), after November 2011, the 2008 procedure was updated and consultation subsequently followed the updated PACHCI process.

The *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010) has also been considered as part of consultation requirements.

The *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005) identify that consultation with Aboriginal communities is critical to determining Aboriginal cultural heritage values and understanding their significance. Formal consultation with Aboriginal communities was initiated in January 2011 under the *RTA procedure for Aboriginal cultural heritage consultation and investigation* (RTA 2008). Consultation actions after November 2011 have complied with the requirements of the *Roads and Maritime Services procedures for Aboriginal cultural heritage consultation and investigation* (Roads and Maritime 2011).

A consultation log of all communications with registered Aboriginal parties is provided in Appendix 1.

To initiate Aboriginal community consultation, Roads and Maritime commenced Stage 3 of the PACHCI process outlined in the *RTA procedure for Aboriginal cultural heritage consultation and investigation* (RTA 2008).

4.1. Notification, identification and registration of stakeholders

The first step of Stage 3 of the PACHCI process is to notify, identify and register relevant stakeholders to be consulted. Notifications to agencies, identified potential Aboriginal stakeholders and public notices were originally undertaken in March 2010 and then reissued between December 2010 to January 2011. Copies of public notices are provided in Appendix 1, copies of responses from agencies in Appendix 2 and copies of responses from registered Aboriginal parties in Appendix 3.

Initial Action 1. Notification of agencies

Notification letters were sent to following agencies and organisations to determine the relevant knowledge holders within the Grafton and South Grafton area between the 8 and 10 March 2010:

- Department of Aboriginal Affairs
- Grafton Ngerrie Local Aboriginal Land Council
- Department of Planning - Heritage Branch (now part of OEH)
- The Native Title Service of NSW
- NSW Aboriginal Land Council

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- National Native Title Tribunal
 - Department of Environment Climate Change and Water (DECCW now OEH)
 - Clarence Valley Council.

Grafton Ngerrie Local Aboriginal Land Council responded on the 15 March 2010 to register their interest in being consulted in regards to the Project.

DECCW responded on the 25 March 2010 and advised that the following three Aboriginal stakeholder groups could be potentially concerned with the project:

- Durahrwa Training and Development Aboriginal Corporation
- Grafton Ngerrie Local Aboriginal Land Council
- Burra Waj Ad.

Initial Action 2. Public notice

A public notice was placed in *The Daily Examiner* on the 1 March 2010. The notice invited Aboriginal people who hold relevant knowledge of the region to register with Roads and Maritime by the 23 March 2010. An Aboriginal person (as an individual stakeholder) contacted Roads and Maritime on the 7 March 2010 and indicated his interested in being consulted for the project.

Reissue Action 1. Notification of agencies

Notification letters were sent to the following agencies and organisations to determine the relevant knowledge holders within the Grafton and South Grafton on the 22 December 2010:

- Department of Aboriginal Affairs
- The Grafton Ngerrie Local Aboriginal Land Council
- The Heritage Branch, Department of Planning (now part of OEH)
- The Native Title Service of NSW
- The NSW Aboriginal Land Council
- The Registrar of the National Native Tribunal
- The Department of Climate Change & Water (DECCW now OEH)
- The Clarence Valley Council
- Catchment Management Authority.

In addition the following Aboriginal stakeholders were also notified of the project:

- Burra Waj Ad
- Individual Aboriginal stakeholder.

The NSW Aboriginal land Council responded on the 10 January 2010 and identified that the Grafton Ngerrie Local Aboriginal Land Council should be consulted.

DECCW responded on the 6 January 2011 and advised that the following four Aboriginal stakeholder groups could be potentially concerned with the project:

- Jana Ngalee Local Aboriginal Land Council

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- Durahrwa Training and Development Aboriginal Corporation
 - Burra Waj Ad
 - Grafton Ngerrie Local Aboriginal Land Council.

The Office of the Registrar Aboriginal Land Rights Act 1983 (NSW) responded on the 14 January 2011 and did not identify any Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW). There are no native title claims in the project area under the *Commonwealth Native Title Act 1993*. It was recommended that the Grafton Ngerrie Local Aboriginal Land Council be contacted.

Following responses from agencies, additional invitations for consultation were sent on the 14 January 2011 to:

- Jana Ngalee Local Aboriginal Land Council
- Durahrwa Training and Development Aboriginal Corporation.

No response was received from either the Jana Ngalee Local Aboriginal Land Council or the Durahrwa Training and Development Aboriginal Corporation.

Reissue Action 2. Public notice

A public notice in *The Daily Examiner* on the 22 January 2011. The notice invited Aboriginal people who hold relevant knowledge of the region to register with Roads and Maritime by the 14 February 2011. No responses were received to these notices.

Action 3. Registration

Only two responses were received from Aboriginal stakeholders wishing to register for consultation, these were:

- Grafton Ngerrie Local Aboriginal Land Council
- Individual Aboriginal stakeholder.

Following attempted correspondence with the individual Aboriginal stakeholder in December 2010, Roads and Maritime was advised that he had recently passed away. As such, the Grafton Ngerrie Local Aboriginal Land Council is the only registered Aboriginal party for the project.

4.2. Presentation of project information and gathering information of cultural significance.

4.2.1. Preliminary route options report

Consultation with the Grafton Ngerrie Local Aboriginal Land Council was undertaken throughout the preparation of the *Preliminary Route Options Report Technical Paper: Aboriginal Heritage* (Biosis, 2011) with a series of meetings held on 10 May 2011, 28 June 2011 and 1 July 2011 at the Grafton Ngerrie Local Aboriginal Land Council offices to identify relevant knowledge holders and determine the extent of Aboriginal cultural constraints on the proposed preliminary route options. Brett Duroux representing the Grafton Ngerrie Local Aboriginal Land Council participated in the preliminary route options field surveys. Mr Duroux provided local and cultural knowledge of the immediate Grafton area. Discussions of what would constitute potential direct and indirect impact to cultural values were undertaken with both Brett Duroux and Graham Purcell (Roads and Maritime Northern Region Aboriginal cultural heritage advisor).

Aboriginal Focus Group meeting 10 May 2011

An Aboriginal focus group meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on Tuesday 10 May 2011 to discuss the best way to identify Aboriginal cultural constraints on the proposed route options and relevant knowledge holders.

The meeting was attended by:

- Wesley Fernando and Rod Duroux, Grafton Ngerrie Local Aboriginal Land Council
- Graham Purcell, Chris Clark and Simon Millichamp, Roads and Maritime
- Peter Rand, Arup
- Samantha Higgs, Biosis.

Meeting outcomes

It was determined at the meeting that a workshop should be held at the Grafton Ngerrie Local Aboriginal Land Council office with relevant knowledge holders to investigate the extent of several Aboriginal cultural sites, particularly:

- The Golden Eel site
- Elizabeth Island
- Susan Island.

Wesley Fernando would contact the OEH AHIMS registrar to obtain copies of restricted site cards relating to these sites prior to the workshop.

Aboriginal Focus Group workshop 28 June 2011

An Aboriginal focus group workshop was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on Tuesday 28 June 2011 to identify relevant knowledge holders and further determine the extent of Aboriginal cultural constraints on the proposed route options.

The meeting was attended by:

- Wesley Fernando, Brett Tibbett and David “Bunny” Daley, Grafton Ngerrie Local Aboriginal Land Council
- Graham Purcell, Chris Clark and Simon Millichamp, Roads and Maritime
- Kathryn Nation, Arup
- Samantha Higgs and Paul Howard, Biosis.

Workshop outcomes

Several areas were identified as culturally significant and requiring further consultation to determine constraints. Grafton Ngerrie Local Aboriginal Land Council indicated it would consult with community members regarding the cultural significance and constraints to route options of the following areas:

- Elizabeth Island
- Alipou Creek
- Swan Creek.

Grafton Ngerrie Local Aboriginal Land Council indicated that they would provide a report on the cultural constraints, but this has not been provided.

It was indicated at the workshop that Elizabeth Island may be important to men as well as, or instead of, women.

Susan Island is not impacted by any of the route options and would not require further investigation.

The restricted site cards for sites 12-6-0326 and 12-6-0327 could not be obtained in time for the workshop.

Grafton Ngerrie Local Aboriginal Land Council Meeting 1 July 2011

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on Friday 1 July 2011 to discuss options set out by the wider community for the additional crossing of the Clarence River in Grafton and in particular the areas around Alipou Creek, Elizabeth Island and Great Marlow.

The meeting was attended by:

- Wesley Fernando, Brett Tibbett and David “Bunny” Daley, Grafton Ngerrie Local Aboriginal Land Council
- Graham Purcell, Chris Clark and Simon Millichamp, Roads and Maritime.

Meeting outcomes

The following is a summary of the meetings outcomes as provided in a letter from Wesley Fernando, Grafton Ngerrie Local Aboriginal Land Council. A copy of the letter in full is attached in Appendix 3.

Elizabeth Island is a sacred Aboriginal men’s site with high significance to the Aboriginal community. No disturbance should occur on any part of the Island. Any of the preliminary route options that impact on Elizabeth Island should be removed from the list of options.

Alipou Creek is the resting place of the Golden Eel which is of great significance to all of the neighbouring tribal groups. There are many scarred trees and a marriage tree in the area that can not be impacted on. The community feel strongly that Alipou Creek should not be directly impacted. The community is willing to discuss potential impacts on the area between Alipou Creek and the existing bridge once the alignment options are narrowed down and plans refined.

Great Marlow is an area that Aboriginal people commonly used to travel through and that contains many areas of high significance. Any route options considered in this area will need to be assessed by Land Council Site Officers before an accurate assessment can be given.

All development activities will impact on Aboriginal places and objects of cultural significance, as traditional Aboriginal people were nomadic moving through their country. All country is significant, in addition to this our spirituality is entwined throughout the landscape, therefore it is impossible for a development not to impact on Aboriginal culture and heritage.

Grafton Ngerrie Local Aboriginal Land Council comments on *Preliminary Route Options Report, Technical Paper: Aboriginal Heritage* (Biosis, 2011)

An email with comments following community review of the (Biosis, 2011) report, that was received from Wesley Fernando, Chief executive officer Grafton Ngerrie Local Aboriginal Land Council is attached at Appendix 3.

The Grafton Ngerrie Local Aboriginal Land Council expressed concern about the level of detail provided on the location of Aboriginal artefacts and places in the report. It was agreed following discussion that a public and private version of the report would be produced. Figure 3 of the 2011 report and precise location details for Aboriginal artefacts and places will be removed from the public report.

Grafton Ngerrie Local Aboriginal Land Council indicated they would like to assess low impact areas such as buildings and roads if these are to be disturbed in any way, as the Aboriginal community was not afforded the chance to assess these areas when they were initially developed. Due to the high significance of the area it is highly likely sites would be present.

Grafton Ngerrie Local Aboriginal Land Council also asked that the following statement be added to the report.

“It is the Grafton Ngerrie Land Councils opinion that all developments will impact on Aboriginal Culture and Heritage as all country whether it has been developed or not it is of significance to Aboriginal people and we must be afforded the opportunity to be fully involved in all aspects of the development and construction of the additional crossing of the Clarence river at Grafton.”

4.2.2. Route options development report

Consultation with the Grafton Ngerrie Local Aboriginal Land Council was undertaken throughout the preparation of the *Route Options Development Report Technical Paper: Aboriginal Heritage* (Biosis, 2012) with a meeting held on 10 November 2011 at the Grafton Ngerrie Local Aboriginal Land Council offices. The assessment included a targeted field survey of the six route options, conducted in February and April 2012. The field surveys were undertaken with Brett Duroux and Rod Duroux from Grafton Ngerrie Local Aboriginal Land Council.

Grafton Ngerrie Local Aboriginal Land Council Meeting 10 November 2011

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on Thursday 10 November 2011 to discuss the impacts of the 25 preliminary route options for the additional crossing of the Clarence River at Grafton on areas of Aboriginal cultural significance.

The meeting was attended by:

- Wesley Fernando, Brett Duroux and Rod Duroux, Grafton Ngerrie Local Aboriginal Land Council
- Chris Clark and Simon Millichamp, Roads and Maritime.

Meeting outcomes

The group reviewed the preliminary options within each of the five strategic corridors (one containing two route options) and discussed the potential impacts and issues of each option. The group provided indicative scoring for Aboriginal heritage values for each of the route options on a corridor by corridor basis, and provided reasoning for the scoring. Grafton Ngerrie Local Aboriginal Land Council raised concerns over the initial alignment of Option C (now the preferred option), due to the proximity of the proposed bridge to Alipou Creek and the Golden Eel site in South Grafton. These concerns were considered and addressed by modifying the alignment.

4.2.3. Aboriginal cultural heritage assessment.

Grafton Ngerrie Local Aboriginal Land Council Meeting 17 January 2013

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on 17 January 2013 to discuss a modified Option C route, which had been identified as the preferred option.

The meeting was attended by:

- Crystal Skinner and Brett Tibbett, Grafton Ngerrie Local Aboriginal Land Council
- Chris Clark and Vicky Sisson, Roads and Maritime.

Meeting outcomes

The adoption of a modified Option C route was discussed. Preliminary strategies to protect the Golden Eel site during construction were raised as well as interpretative signage and managing culturally sensitive information appropriately. Roads and Maritime was requested to provide maps for the January Elders Council.

Grafton Ngerrie Local Aboriginal Land Council Meeting 30 April 2013

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on 30 April 2013 to discuss the preferred route.

The meeting was attended by:

- Crystal Skinner, Grafton Ngerrie Local Aboriginal Land Council
- Adam Cameron, Roads and Maritime.

Meeting outcomes

The preferred route option was discussed at the January 2013 internal Grafton Ngerrie Local Aboriginal Land Council meeting. While some members of the land council were concerned about potential impacts on the Golden Eel site, overall there was a feeling that the Grafton Ngerrie Local Aboriginal Land Council could work with the modified version of Option C and still protect the mouth of the Alipou Creek which had significant associations with Golden Eel site. Options for mitigating impacts from both construction and early geotechnical works were discussed, including fencing off the area around the mouth of Alipou Creek to avoid possible disturbances. Further, the possibility of a plaque/seating area that would signify the importance of the area to the local Aboriginal dreamtime stories was proposed.

A pedestrian proof fence was subsequently erected by Roads and Maritime to separate the project area and Alipou Creek to avoid potential impacts from either construction or site investigations.

Project Methodology

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on 17 July 2013 and 17 September 2013 to discuss the Project Methodology Pack (provided to Grafton Ngerrie Local Aboriginal Land Council on the 17 July 2013) outlining the proposed Aboriginal cultural heritage assessment process and methodology for this project (Appendix 4).

These meetings were attended by:

- Crystal Skinner and Brett Tibbett, Grafton Ngerrie Local Aboriginal Land Council
- Vicky Sisson, Roads and Maritime.

Methodology Pack outcomes

The Grafton Ngerrie Local Aboriginal Land Council provided a written response to the Methodology Pack on the 24 September 2013 (Appendix 3). The Grafton Ngerrie Local Aboriginal Land Council did not raise any issues with the proposed methodology but requested that if artefacts/objects were found/located during the investigation the Local Aboriginal Land Council would be notified as soon as possible with the following action:

- The Local Aboriginal Land Council Board of Directors be consulted and a meeting organised to discuss, in consultation with Aboriginal site officers, any further actions to be undertaken with artefacts/objects.

Grafton Ngerrie Local Aboriginal Land Council Meeting 06 February 2014

A meeting was held at the Grafton Ngerrie Local Aboriginal Land Council offices in Grafton on 6 February 2014 to discuss the following items:

- A temporary boat launching facility to be used during the construction stage of the project and if the Land Council had any comments or feedback in relation to this proposal
- In regards to the movement of the alignment of the proposed bridge, which was shifted approximately 3m closer to the Alipou Creek

-
- Organising a meeting with the Grafton Ngerrie Local Aboriginal Land Council elders to discuss the Alipou Creek area and the elder's knowledge around the cultural significance.

Written feedback from these items was sought on the 6th, 12th and 18th February 2014. Grafton Ngerrie Local Aboriginal Land Council responded on the 12th February 2014 to indicate that these information requests were being followed up, but no further information was provided.

Information Gathered During Fieldwork

Whilst the Local Aboriginal Land Council was invited and attended fieldwork, no further cultural information was disseminated to Biosis during the fieldwork conducted for the project. Brett Duroux did however highlight that the Golden Eel dreaming site and Susan Island were significant places for the Aboriginal community and had been identified to Roads and Maritime to ensure their preservation.

4.3. Review of Draft Aboriginal Cultural Heritage Assessment Report

The Draft Aboriginal Cultural Heritage Assessment Report was provided to registered Aboriginal parties on 23 May 2014 for review and comment. The RAP was given 28 days to provide comments. No formal written response was provided, but phone discussions between the RAP and Roads and Maritime were held on the 23 June 2014. The Grafton Ngerrie Local Aboriginal Land Council was happy that recommendations for interpretive signage and temporary pedestrian proof fencing had been included in the report as requested.

The Grafton Ngerrie Local Aboriginal Land Council also indicated that they would like opportunities for Land Council site officers being used on site during construction to assist in identifying items of Aboriginal cultural heritage significance. Roads and Maritime acknowledges this request but considers council site officers would not be required during construction as the project area is considered to have low potential for Aboriginal archaeological sites. Nonetheless, in the event that unexpected Aboriginal cultural material or skeletal remains are encountered, Roads and Maritime would implement the *Standard Management Procedure for Unexpected Archaeological Finds* (Roads and Maritime, 2012). This procedure outlines the involvement of Aboriginal registered parties during construction where required (Refer to Section 8.6 of the *Standard Management Procedure for Unexpected Archaeological Finds*).

5. Aboriginal cultural significance assessment

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 will assess the cultural values of Aboriginal sites in the study area. Details of the scientific significance assessment of Aboriginal sites in the project area are provided in Appendix 5.

5.1. 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* (Australia ICOMOS 1999). 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 are provided as background and 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, an 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 ICOMOS 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 the following guidelines prepared by the Office of Environment and Heritage (OEH):

- *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC 2005)
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010)
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

These guidelines above state that an area may contain evidence and associations which demonstrate one or any combination of the ICOMOS 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 OEH Guidelines (DECC 2006) 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. The determinations of archaeological and cultural significance for sites and places should be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2. 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 (also see DECC 2005: 1, 3; DECCW 2010: iii). More specifically it provides a:

- “Connection and sense of belonging to Country” (DECCW 2010: iii)
- Link between the present and the past (DEC 2005: 2-3; and DECCW 2010: 3)
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010: 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 (also see DECCW 2010: 1; DECCW 2010: 3).

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

Throughout consultation, representatives of the Grafton Ngerrie Local Aboriginal Land Council have emphasised the importance of the Golden Eel site as having important cultural values to the local Aboriginal community. Broadly, the Golden Eel site is a creation story associated with the Clarence River and Alipou Creek. The confluence of the Alipou Creek and the Clarence River has been identified as a specific landscape feature with important an important relationship to the Golden Eel story. This landscape feature is not located in the project area, however the Grafton Ngerrie Local Aboriginal Land Council have indicated that alteration of this landscape feature would be considered to impact the cultural values of the Golden Eel site.

Dreaming stories such as the Golden Eel story, gain their importance to Aboriginal people as informative and communicative devices utilised to communicate spiritual beliefs and cosmology; relationships between people, genders and country; living arrangements and practices; food and food collecting; and designs on implements, weapons and body adornment (Attenbrow, 2003, p. 127).

The specific detail related to the Golden Eel story is culturally restricted information. Tony Perkins, a Gumbaynggir person, has described a deliberate cultural teaching practice among the Gumbaynggir Aboriginal people where some levels of information are restricted from certain members of the group. This restriction of information is used to encourage communication and sharing amongst individuals of a peer group as they aged to build a complete picture of each story from different fragments handed down to individuals by Elders (Sommerville, 2010, p. 217).

Although no Aboriginal cultural material was identified in the project area during this assessment, such material would be considered to have high cultural values to the local Aboriginal community as being tangible connections between Aboriginal past and present and evidence of past Aboriginal lifestyles.

5.3. Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to the Aboriginal and other communities. The project area is not known to have any historic associations.

5.4. Archaeological (scientific significance) values

An archaeological scientific assessment was undertaken for the project area and is presented in detail as part of the attached Archaeological Assessment (Appendix 5). There are no archaeological values specifically associated with the Golden Eel site located within the project area. Alipou Creek AS 1 is located near the project area and is a low density artefact scatter that contains a limited range of artefact types. It lacks stratified deposits and is a common site type within the local region. Alipou Creek AS 1 has some, although limited potential to provide new information about the exploitation of raw stone material and plant processing in the region and is of low scientific significance.

Although Aboriginal people would have frequented the project area, particularly along the Clarence River, no Aboriginal archaeological places have been recorded within the proposed project footprint. This is largely a result of the significant disturbance from urban, industrial and infrastructure construction that has occurred in the areas likely to have been frequented by Aboriginal people, particularly the Clarence River, since European settlement. As such the project area has limited archaeological research potential to inform research questions of the Aboriginal past in the local area and is of low scientific significance.

5.5. Aesthetic values

The project area has been heavily disturbed, however the setting and visual relationship between the Clarence River and Alipou Creek are closely linked with Aboriginal cultural values and provide a landscape context for Aboriginal dreaming stories that gives a strong sense of place. The local Aboriginal community strongly identifies with the landscape of the project area and the visual relationship between the Clarence River and Alipou Creek has aesthetic values to the local Aboriginal community.

5.6. Statement of significance

The following statement of significance for Aboriginal heritage values is for the project area and incorporates the cultural, historic, scientific and aesthetic criteria discussed above according to the Burra Charter and as required by guidelines developed by OEH.

The project area is located in an area associated with the Golden Eel dreaming story, which holds important cultural values with the local Aboriginal community associated with Aboriginal cosmology, spirituality and people's connection to place. While no tangible Aboriginal cultural material associated with the Golden Eel dreaming story is

located in the project area, the physical setting and integrity of the Clarence River and Alipou Creek are intrinsically linked to the Golden Eel dreaming story, particularly the mouth of Alipou Creek.

Although the landscape of the project area has been heavily modified by urban, industrial and infrastructure construction, the context of the Clarence River and Alipou Creek and their relationships within the Golden Eel dreaming story are readily interpretable by contemporary Aboriginal observers. As such, intangible cultural landscape values are associated with the physical landscape to provide a strong sense of place and identity to the local Aboriginal community.

Overall the project area is an important cultural landscape that has high cultural values with important visual components (aesthetic values) to the local Aboriginal community. In terms of Aboriginal heritage, the project area contains low historic and scientific values, but due to the high cultural values is of overall high heritage significance.

6. Impact assessment

Within the project area, there is one recorded Aboriginal site, the Golden Eel Site (12-6-0326) that may be subject to harm. The Alipou Creek AS 1 site is located in close proximity to the project area but will not be subject to harm. Strategies to avoid or minimise harm to Aboriginal heritage in the project area are discussed below.

A summary of the potential impact of the proposed project on known Aboriginal sites within the project area is provided in Table 3 below.

Table 3: Summary of potential impacts

AHIMS Site No.	Site Name	Significance	Type Of Harm	Degree Of Harm	Consequence Of Harm
12-6-0326	Golden Eel site	High	Direct	None	No or minor loss of value.

6.1. Potential impacts to Aboriginal cultural heritage

Golden Eel Site (12-6-0326)

The cultural importance of the Golden Eel site has been continually highlighted during consultation with the Grafton Ngerrie Local Aboriginal Land Council. Grafton Ngerrie Local Aboriginal Land Council have indicated that direct impacts, i.e. through landscaping and construction, to Alipou Creek would significantly impact the cultural values of the Golden Eel site and that such impacts must be avoided. As discussed in Section 6.2, the project has been designed to avoid direct impacts to the site.

Alipou Creek AS 1

Alipou Creek AS 1 consists of two stone artefacts located 150 m east of the project footprint, and will not be impacted by the project. There is potential for accidental harm occurring to the site via vehicle movement, however potential harm can be significantly reduced through appropriate avoidance of harm management strategies.

Carr's Creek Camp

Carr's Creek Camp consisted of a giant fig tree that is located 40m east of the proposed levee upgrade, and will not be impacted by the development. There is potential for accidental harm occurring to the site via vehicle movement, however potential harm can be significantly reduced through appropriate avoidance of harm management strategies.

6.2. Avoiding harm to Aboriginal heritage

Golden Eel Site (12-6-0326)

Meetings with Grafton Ngerrie Local Aboriginal Land Council on the 1 July 2011, 10 November 2011 and 30 April 2013 have discussed options for avoiding harm to the Golden Eel site. Generally, Grafton Ngerrie Local Aboriginal Land Council has requested that the bridge alignment avoid impacting Alipou Creek. Roads and Maritime responded to Grafton Ngerrie Local Aboriginal Land Council requests by investigating a bridge route located between the existing bridge and Alipou Creek that avoids direct impacts to Alipou Creek. To minimise any potential visual impacts to Alipou Creek, Grafton Ngerrie Local Aboriginal Land Council also requested that the new bridge be placed as west as possible within the Option C alignment. This request has been complied with by Roads and Maritime (Figure 4).

To avoid accidental harm to Alipou Creek during construction, Grafton Ngerrie Local Aboriginal Land Council suggested that temporary fencing be erected between the construction area and the creek during works. A pedestrian proof fence was subsequently erected by Roads and Maritime to separate the project area and Alipou Creek to avoid potential impacts from the field investigations (for example geotechnical investigations) which were undertaken for the EIS.

To promote community recognition and respect of the cultural importance of the area to the local Aboriginal community, the Grafton Ngerrie Local Aboriginal Land Council requested that a public interpretation strategy be developed. Grafton Ngerrie Local Aboriginal Land Council has suggested that signage containing culturally appropriate information for the area and potentially a seating area be considered.

Alipou Creek AS 1

To avoid accidental harm to Alipou Creek during construction, if works are undertaken within 30 m of the site then temporary fencing must be erected with a 2 m buffer around the site.

Carr's Creel Camp

To avoid accidental harm to Carr's Creek Camp during construction, if works are undertaken within 30 m of the site then temporary fencing must be erected with a 2m buffer around the site.

6.3. Management and mitigation measures

Ideally, 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 and Walker 1994: 13). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

The following management measures are recommended:

Prior to construction

The following activities are recommended:

- All construction staff and managers would undergo an Aboriginal heritage induction prior to commencing works. The Aboriginal heritage induction would be undertaken in consultation with Grafton Ngerrie Local Aboriginal Land Council, who would be given an opportunity to present the induction
- Fencing erected to bar access to Alipou Creek from the construction site would be checked regularly and this area clearly identified to site workers and contractors
- If works come within 30 m of a known Aboriginal site, a temporary above ground physical barrier (e.g. exclusion fencing) would be erected to protect the site during construction.

Public interpretation strategy

The public interpretation strategy is intended to heighten public awareness and enhance understanding of Aboriginal cultural heritage values. Public interpretation strategies can include print and electronic publications, public lectures, on-site and directly related off-site installations, educational programs, community activities, and ongoing research, training, and evaluation of the interpretation process itself.

An interpretive strategy must be formulated in consultation with the local Aboriginal community. This would highlight salient sites and features within the landscape in a manner that respectfully enhances and protects these values.

7. Recommendations

Strategies have been developed based on the cultural significance of cultural heritage relevant to the project area and have been influenced by:

1. Predicted impacts to Aboriginal cultural heritage;
2. The planning approvals framework;
3. Current best conservation practise, widely considered to include:
 - a. Ethos of the Australia ICOMOS Burra Charter; and
 - b. The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).

Prior to any works occurring within the project area, the following is recommended:

Recommendation 1: Avoid harm to Golden Eel dreaming site

The bridge constructed on current proposed alignment is acceptable, but there should be no further encroachment towards the Golden Eel dreaming site. Detailed design and construction stages are to avoid further encroachment towards the Golden Eel dreaming site.

Recommendation 2: Consultation with Aboriginal community

Consultation with the Aboriginal community should continue as an identified group within the overall community consultation strategy for the project.

Recommendation 3: Aboriginal Cultural Heritage Induction

The project site induction will incorporate Aboriginal culture awareness training for all relevant staff and contractors. This induction will include information about the Aboriginal culture and history of the locality, the location of sites and items that require protection, heritage management measures and protocols, and legal obligations. This training will be developed in consultation with the Grafton Ngerrie Local Aboriginal Land Council and provided prior to commencing work on-site.

Recommendation 4: Known Aboriginal Objects and Places

Aboriginal sites located in close proximity to the project construction work zone will be designated 'no-go' areas which would be clearly identified and appropriately fenced to prevent access or damage during construction.

Recommendation 5: Discovery of Unanticipated Aboriginal Cultural Material and Human Remains

In the event that unexpected Aboriginal cultural material or skeletal remains are encountered, the Roads and Maritime *Standard Management Procedure for Unexpected Archaeological Finds* (2012) should be implemented.

Recommendation 6: Interpretive Strategy for Tangible and Intangible Aboriginal Heritage

An interpretive strategy must be formulated in conjunction with the local Aboriginal community. This would highlight salient sites and features within the landscape in a manner that respectfully enhances and protects these values.

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