



**Transport**  
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# **APPENDIX B5**




## **Construction Heritage Management Plan Additional Crossing of the Clarence River at Grafton Project**

**AUGUST 2016**

## Document control

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## Glossary / Abbreviations

AHIMS	Aboriginal Heritage Information Management System
ARTC	The Australian Rail Track Corporation Ltd
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
CHMP	Construction Heritage Management Plan
CVLEP	Clarence Valley Local Environment Plan
DP&E	Department of Planning and Environment (formerly Department of Planning and Infrastructure)
DUAP	The Department of Urban Affairs and Planning (previous agency)
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EWMS	Environmental Work Method Statements
HMM	Heritage Management Measure
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
NCREP	The North Coast Regional Environmental Plan
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NT	The non-statutory <i>National Trust of Australia Plan</i>
OEH	Office of Environment and Heritage
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
Project, the	Additional Crossing of the Clarence River at Grafton
RAPs	Registered Aboriginal parties
RMS	Roads and Maritime Services
RNE	The non-statutory <i>Register of the National Estate</i>
s.170 HCR	Section 170 on the Heritage and Conservation Register
Secretary	Secretary of the NSW Department of Planning and Environment (or delegate) (formerly Director General of the NSW Department of Planning and Infrastructure)
SHR	State Heritage Register
SSI	The state significant infrastructure as generally described in Schedule 1 (SSI-6103) of the Infrastructure Approval.
WHS	World Heritage Site
UDLMP	Urban Design and Landscape Management Plan

# 1 Introduction

## 1.1 Context

This Construction Heritage Management Plan (CHMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Additional Crossing of the Clarence River at Grafton Project (the Project).

This CHMP has been prepared to address the requirements of:

- the Infrastructure Approval;
- the environmental management measures listed in the *Additional Crossing of the Clarence River at Grafton EIS* (ARUP, 2014) and the *Additional Crossing of the Clarence River at Grafton Submissions Report* (ARUP, 2014); and
- all applicable legislation.

## 1.2 Background

The Additional Crossing of the Clarence River at Grafton EIS assessed the impacts of construction of the Project on Aboriginal and non-Aboriginal heritage. As part of EIS development, Aboriginal and non-Aboriginal cultural heritage assessments were prepared to address the Director General's Requirements for the Project, issued by the Department of Planning and Environment. The assessments were included in the EIS as:

- Section 8.5 and Appendix G: Non-Aboriginal Heritage Assessment; and
- Section 8.6 and Appendix H: Aboriginal Heritage Assessment.

## 1.3 Environmental management document system

The Project Environmental Management System is described in the CEMP. The CHMP is part of Fulton Hogan's environmental management framework for the Project. In accordance with the requirements of CoA D46(d), this CHMP has been developed in consultation with the Heritage Council of NSW, the NSW Office of Environment and Heritage (OEH) and Registered Aboriginal Parties (RAPs). Further details of the consultation are provided in Chapter 4 of this CHMP.

Management measures identified in this CHMP will be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMSs will be developed and signed off by environment and management representatives prior to the commencement of the associated works. Construction personnel will be required to undertake works in accordance with the safeguards identified in the EWMSs.

The combination of the CEMP, issue-specific plans, strategies, procedures and EWMS identify the required environmental management actions for implementation by Fulton Hogan's personnel and contractors.

The review and document control processes for this CHMP are described in Chapter 10 of the CEMP.

## **2 Purpose and objectives**

### **2.1 Purpose**

The purpose of this CHMP is to describe how Aboriginal and non-Aboriginal heritage will be protected and managed by Fulton Hogan during construction of the Project.

### **2.2 Objectives**

The key objective of the CHMP is to ensure that impacts to Aboriginal and non-Aboriginal heritage are minimised and within the scope permitted by the Infrastructure Approval.

To achieve this objective, the following will be undertaken:

- ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise potential adverse impacts to Aboriginal and non-Aboriginal heritage along the Project corridor;
- ensure appropriate measures are implemented to address the relevant CoAs outlined in Table 3-1 and the safeguards detailed in the EIS and the Submissions Report; and
- ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 of this CHMP.

### **2.3 Targets**

The following targets have been established for the management of Aboriginal cultural heritage and non-Aboriginal heritage impacts during the Project:

- ensure compliance with the relevant legislative requirements, CoA;
- minimise or avoid impacts on known Aboriginal and non-Aboriginal heritage sites;
- follow correct procedure and ensure notification of any heritage objects / places uncovered during construction; and
- ensure training is provided in the form of inductions to all Project personnel on heritage items, protection measures and unexpected heritage items procedures before they begin work on site.

## 3 Environmental requirements

### 3.1 Relevant legislation and guidelines

#### 3.1.1 Legislation

Legislation relevant to heritage management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *National Parks and Wildlife Act 1974* (NPW Act);
- *Heritage Act 1977* (Heritage Act);
- *Native Title Act 1994* (NSW);
- *Native Title Act 1993* (Commonwealth);
- *Environment Protection Biodiversity Conservation Act, 1999* (EPBC Act) (Commonwealth);
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth); and
- *Historic Shipwrecks Act 1976*.

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

#### 3.1.2 Guidelines

The main guidelines, specifications and policy documents relevant to this CHMP include:

- RMS QA Specification G36 – Environmental Protection (Management System);
- RMS Standard Management Procedure – Unexpected Archaeological Finds (August 2013);
- DEC Interim Community Consultation Requirements for Applicants (December 2004);
- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005);
- Altering Heritage Assets (Heritage Office and DUAP 1996);
- Assessing Significance for Archaeological Heritage Sites and Relics (NSW Heritage Branch Department of Planning);
- RTA Heritage Guidelines (March 2004);
- Archaeological Assessment Guidelines (NSW Heritage Office and NSW Department of Urban Affairs and Planning 1996);
- NSW Government’s Aboriginal Participation in Construction Guidelines (1 May 2015);
- How to Prepare Archival Recording of Heritage Items (Heritage Office, 1998);
- Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Office 2006); and
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013).
- *RMS Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (2011)



## 3.2 Minister's Conditions of Approval

The CoAs relevant to this CHMP are listed in Table 3-1 below. A cross reference is also included to indicate where the condition is addressed in this CHMP or other Project / environmental management documents.

**Table 3-1: Conditions of Approval relevant to the CHMP**

CoA	Condition Requirements	Document Reference
<b>Environmental Performance - Aboriginal Heritage</b>		
B13	Impacts to Aboriginal heritage shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to encroachment on the Aboriginal dreaming site Golden Eel (AHIMS site number 12-6-0326). Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan required under condition D46(d).	Detailed design This Plan
<b>Environmental Performance - Non-Aboriginal Heritage</b>		
B14	Prior to the commencement of construction in proximity to the following heritage items: CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33 and CZB35, the Proponent shall complete all archival recordings, including photographic recording of these heritage items, unless otherwise agreed by the Secretary.	<i>Archival Report</i> (CoA B16) to be provided separately to this CHMP. Table 7-3 mitigation measure ID CHMM20
B15	Prior to construction partially affecting the following heritage items: CZB10, CZB11, CZB19, CZB20, CZB21 and CZB37, the Proponent shall complete archival recordings of existing condition, including photographic recording of these heritage items, unless otherwise agreed by the Secretary. The Proponent shall ensure the Project is conducted in a sympathetic manner that minimises impact to these sites.	As above
B16	Archival recording shall be undertaken by an experienced heritage consultant, in accordance with the Guidelines issued by the Heritage Council of NSW. The areas containing heritage items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the archival recording, the Proponent shall submit a report containing the archival and photographic recordings and the historical research, where required, to the Department, the Heritage Council of NSW, Australian Rail Track Corporation, the local library and the local Historical Society.	Sensitive Area Plan App A3 Table 7-3 mitigation measure ID CHMM21 <i>Archival Report</i> (CoA B16) to be provided separately to this CHMP.
B17	A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.	Table 7-3 mitigation measure ID CHMM2, CHMM26. Annexure B – Archaeological Monitoring Program Annexure A – RMS standard

CoA	Condition Requirements	Document Reference
		management procedure – Unexpected heritage items
B18	Prior to the commencement of construction, the Proponent shall implement ‘no-go’ exclusion zones to prevent access and protect the following heritage item: FMW29.	Sensitive Area Plan App A3 Table 7-3 mitigation measure ID CHMM3, CHMM22.
B19	The Proponent shall not destroy, modify or otherwise physically affect the heritage items listed in Table 8-46 in the <i>Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume</i> (RMS, August 2014).	Table 7-3 mitigation measure ID CHMM3 CEMP App A3 - Sensitive Area Plans
<b>Environmental Performance - Heritage General</b>		
B20	Identified impacts to heritage sites shall be minimised where feasible and reasonable through both detailed design and construction, particularly with regard to retained locally listed historic properties and the existing Grafton Bridge. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition D46(d) and under the guidance of an appropriately qualified heritage specialist.	Detailed design UDLMP Section 7 Annexure B – Archaeological monitoring program
B21	This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the SSI.	Section 7 Table 7-3 mitigation measure ID CHMM2
B22	The Proponent shall not destroy, modify or otherwise physically affect any heritage items outside the SSI footprint, unless otherwise agreed by the Secretary in accordance with condition D41.	Section 7 Table 7-3 mitigation measure ID CHMM3
B23	The measures to protect heritage sites near or adjacent to the SSI during construction shall be detailed in the Construction Heritage Management Plan required under condition D46(d).	Section 7
<b>Construction Environmental Management, Reporting and Auditing – Ancillary Facilities</b>		
D41	The Proponent may undertake archaeological investigations at ancillary sites that do not meet the criterion set out in condition D36, where this is required to assess the potential Aboriginal and non-Aboriginal archaeological impacts of the ancillary facility provided they are undertaken under a methodology prepared to the satisfaction of the Secretary in consultation with OEH.	Table 7-3 mitigation measure ID CHMM6
<b>Construction Environmental Management Reporting and Auditing – CEMP</b>		
D46(d)	a <b>Construction Heritage Management Plan</b> to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall be developed in consultation with the OEH, the NSW Heritage Council (for non-Aboriginal heritage) and Registered Aboriginal Parties (for Aboriginal heritage), and include, but not necessarily be limited to:	This Plan

CoA	Condition Requirements	Document Reference
	(i) In relation to Aboriginal Heritage:	
	A. details of management measures to be carried out in relation to Aboriginal heritage;	Section 7
	B. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and Registered Aboriginal Parties and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register;	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items
	C. procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force, OEH and Registered Aboriginal Parties and not recommencing any works in the area unless authorised by the OEH and/or the NSW Police Force;	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items
	D. heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal cultural heritage; and	Section 8.2 Section 7
	E. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and	Section 4.3
D46(d)	(ii) In relation to non-Aboriginal Heritage:	
	A. identification of heritage items directly and indirectly affected by the SSI;	Section 6.3
	B. details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity);	Section 7
	C. details of monitoring and reporting requirements for impacts on heritage items;	Section 8.3 Table 7-3 mitigation measure ID CHMM26 Annexure B – Archaeological Monitoring Plan
	D. procedures for dealing with previously unidentified heritage objects, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the Department, OEH, NSW Heritage Council, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI; and	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items

CoA	Condition Requirements	Document Reference
	E. heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under this approval including site identification, protection and conservation of non-Aboriginal cultural heritage; and	Section 8.2 Section 7
D46(d)	(iii) mechanisms for the monitoring, review and amendment of this plan.	Section 9.2

## **4 Consultation**

### **4.1 Consultation during preparation of EIS**

#### **4.1.1 Aboriginal consultation**

The RMS has developed the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) to provide a consistent means of effective consultation with Aboriginal communities regarding activities which may impact on Aboriginal cultural heritage and to provide a consistent assessment process for RMS activities across NSW. In accordance with the PACHCI, the early stages of RMS projects involve consultation with Local Aboriginal Land Councils and registered Native Title Claimants.

The EIS was developed in consultation with the Grafton Ngerrie Local Aboriginal Land Council (LALC). No Native Title Claimants are currently registered for the Project area. The Grafton Ngerrie LALC was contacted at the commencement of the EIS process to discuss the proposed road upgrades and bridge construction. The Grafton Ngerrie LALC was also invited to participate in the archaeological survey and subsurface test excavations of the Project area. Grafton Ngerrie LALC nominated site officers were present when these field investigations were carried out.

The Draft Aboriginal Cultural Heritage Assessment Report was provided to the RAPs (Grafton Ngerrie LALC) on 23 May 2014 for review and comment. Although no formal written response was provided, Grafton Ngerrie LALC have indicated that the Draft Aboriginal Cultural Heritage Assessment Report was satisfactory.

#### **4.1.2 Non- Aboriginal consultation**

Consultation was carried out with the Department of Planning and Environment (DP&E), Office of Environment and Heritage (including Heritage Division) (OEH) and the Heritage Council of NSW during the preparation of the EIS.

### **4.2 Consultation for preparation of the CEMP**

In accordance with CoA D46(d), this CHMP has been developed in consultation with the OEH, the NSW Heritage Council (for non-Aboriginal heritage) and RAPs (for Aboriginal heritage).

Grafton Ngerrie Local Aboriginal Land Council (LALC) is the only registered Aboriginal party for the Project.

A summary of consultation undertaken during the preparation of this CHMP is provided in Appendix A2 of the CEMP.

### **4.3 Ongoing Consultation during Construction**

In accordance with CoA D46(d)(i)(E), ongoing consultation between RMS, the Contractor and Aboriginal stakeholders regarding the management of Aboriginal cultural heritage within the Project area will continue. The process for the consultation will be documented in Fulton Hogan's Community Communication Strategy.

The CHMP includes procedures for dealing with previously unidentified heritage objects, (including identification of when works can re-commence in consultation with the OEH, NSW Heritage Council and DP&E).

**NH1** A heritage interpretation plan will be prepared to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with

Grafton. The heritage interpretation plan will be developed in consultation with Clarence Valley Council and relevant stakeholders.

**NH4/AH4** A construction heritage management plan (CHMP) will be prepared as part of the CEMP for the Project. The CHMP will include Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.

**AH2** The Aboriginal community will continue to be consulted as an identified group within the overall community consultation strategy for the Project.

**AH5** The Project site induction will incorporate Aboriginal culture awareness training for all relevant staff and contractors. This training will be developed in consultation with the Grafton Ngerrie LALC.

## 5 Existing environment

The following sections summarise what is known about Aboriginal and non-Aboriginal heritage within and adjacent to the Project corridor based on information provided in:

- EIS Section 8.5 Non-Aboriginal heritage;
- EIS Section 8.6 Aboriginal cultural heritage;
- EIS Appendix G:Non-Aboriginal Heritage Assessment; and
- EIS Appendix H: Aboriginal Heritage Assessment.

### 5.1 Aboriginal cultural heritage

As part of the EIS, a review of database searches and background information was conducted to characterise the Aboriginal heritage likely to occur within the Project area and surrounds. This was followed by an archaeological field survey carried out on 14 October 2013 and consultation with the RAP (Grafton Ngerrie LALC) as discussed in Section 4.1.1.

#### 5.1.1 Historical background

##### 5.1.1.1 Aboriginal occupation in Grafton and South Grafton

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. 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 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 and were complemented by adaptations of European technologies. Interactions with traditional social groups also continued to be important.

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.

#### 5.1.2 Existing native title

A search on the National Native Title Tribunal *TitleVision* online tool conducted on 18 April 2014 identified no native title claims within the Project area.

#### 5.1.3 Archaeological assessment

The archaeological assessment identified one Aboriginal site within the Project area: the Golden Eel Site (12-6-0326). The Golden Eel site and the formation of the Clarence River are considered to be of high cultural significance to the local Aboriginal people. There is also one Aboriginal site recorded in close proximity to the Project area: Alipou Creek AS 1.

Further details of these sites are provided in Table 5-1 below. The locations of the sites are shown on Figure 5-1.

#### **5.1.4 Aboriginal Heritage Information Management System**

The results of surveys and searches in the Aboriginal Heritage Information Management System (AHIMS) carried out for the EIS found no Aboriginal sites within the Project area. The nearest sites to the Project area are presented in Table 5-1. These sites are more than 200 m from the Project area. There are more known Aboriginal sites in the Grafton and South Grafton area but due to the culturally sensitive and tangible nature of some of these sites, only the nearest sites have been documented.

No potential archaeological deposits were identified within or close to the Project area.

#### **5.1.5 Subsurface test excavations findings**

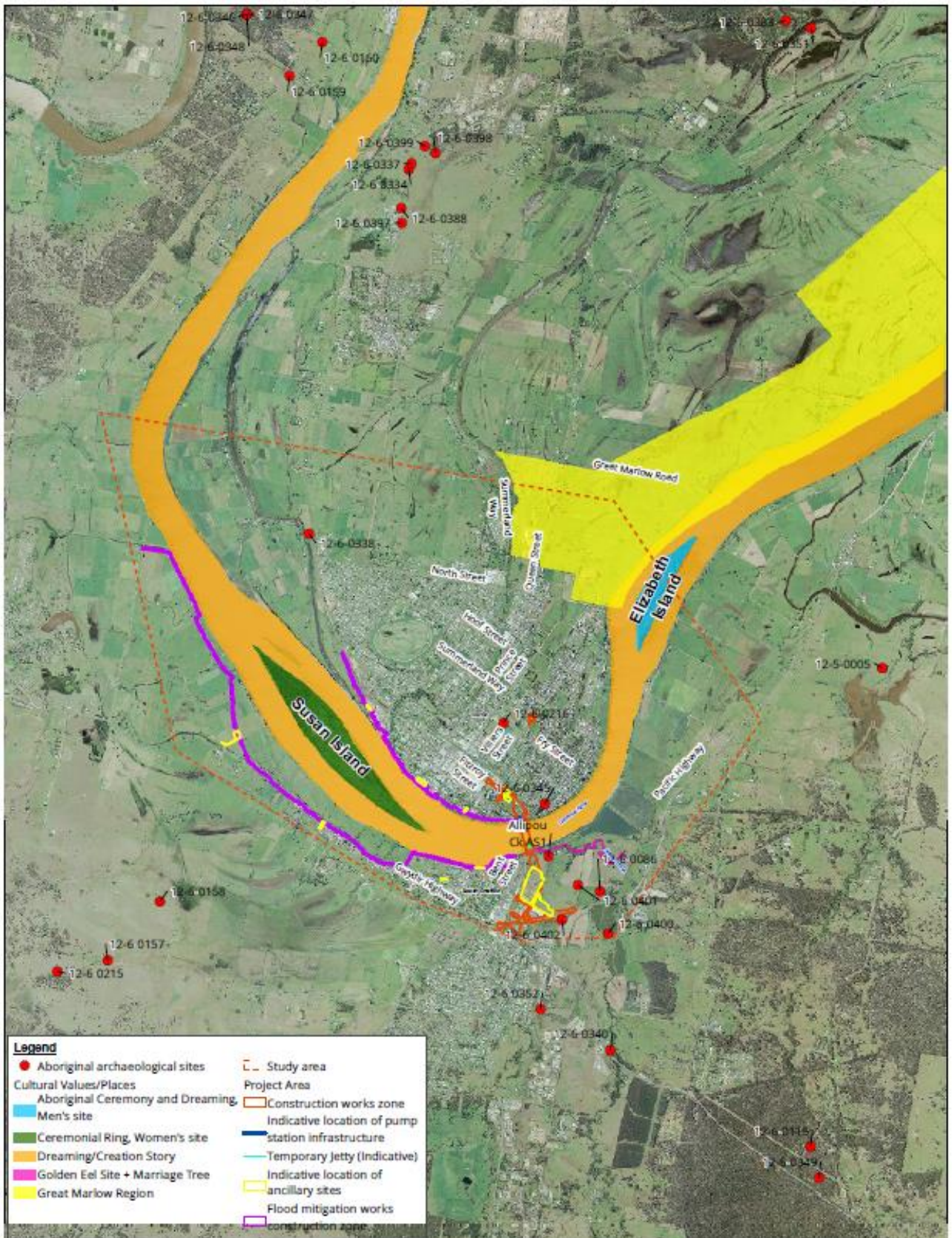
Excavations carried out between 14 and 16 October 2013 found no subsurface Aboriginal cultural material identified as having moderate to high archaeological potential within the Project area in South Grafton. As such, the Project area in South Grafton is assessed as having low potential.

#### **5.1.6 Aboriginal cultural places and significance**

Representatives of the Grafton Ngerrie LALC identified the Golden Eel site (AHIMS site number 12-6-0326) as a place of important cultural value to the local Aboriginal community. 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 in South Grafton has been identified as a specific landscape feature with an important relationship to the Golden Eel story. This landscape feature is located outside the Project area, but the Grafton Ngerrie LALC has indicated that changing this landscape feature would impact the cultural values of the Golden Eel site.

Overall, Grafton and South Grafton are important cultural landscapes that have high cultural values with important visual components (aesthetic values) to the local Aboriginal community. In terms of Aboriginal heritage, while the Project area contains low historic and scientific values, due to the high cultural values it is of overall high heritage significance.









**Figure 5-1: Aboriginal sites location in the Project area**

Source: EIS Appendix H, p20

**Table 5-1: AHIMS sites within 200 m of the Project area**

AHIMS Number	Site Name	Site Type	Remarks
12-3-0338	Carr's Creek Campsite	Open campsite	 <p>The campsite is about 40 m from the proposed flood mitigation works construction zone boundary in Grafton. It consists of a giant fig tree situated between Carr's Creek to the east and a railway easement to the west. Carr's Creek Camp consisted of small, low-level occupation immediately beneath the fig tree. The site is of high social significance to the Grafton Ngerrie community. It is important in demonstrating the social connections that still exist between present-day communities and former places of habitation.</p>
12-6-0326	Clarence River Golden Eel	Aboriginal Ceremony and Dreamtime	 <p>The site is located about 60 m from the bridge construction zone boundary. The site has a general restriction as it is within railway land. The Grafton Ngerrie LALC considers the Project area to have a high level of cultural significance due to the presence of the Golden Eel dreaming and ceremonial site.</p>



AHIMS Number	Site Name	Site Type	Remarks
12-6-0402	Alipou SCT 2	Modified tree	 <p data-bbox="1090 275 1410 611">This scarred tree is situated on the South Grafton open floodplain, about 900 m south of the Clarence River, and about 50 m away from the bridge construction zone boundary. The tree is dead. It is a Eucalyptus tereticornis (river red gum) with a 3.15 m girth. The tree contains one scar facing east (shown in the picture).</p>
14-10-13	Alipou Creek AS1	Grinding stones	 <p data-bbox="659 1272 1410 1384">The Aboriginal archaeological survey on 14 October 2013 identified a new Aboriginal site named 'Alipou Creek AS 1' in South Grafton, located about 50 m south of Alipou Creek and 150 m east (downstream) of the Project construction work zone.</p> <p data-bbox="659 1388 1410 1583">Alipou Creek AS 1 consists of two Aboriginal sandstone river cobble artefacts. Alipou Creek AS 1 is considered a low-density artefact scatter that contains a limited range of artefact types. It also lacks stratified deposits and is a common site type within the local region. The site has some limited potential to provide new information about the exploitation of raw stone material and plant processing in the region. The archaeological significance of this site is low.</p>

## 5.2 Non-Aboriginal heritage

### 5.2.1 Historical Context

The EIS identified eight local history themes for the Grafton area, as summarised in Table 5-2.

**Table 5-2: Historic themes for the Grafton area**

Dates	Themes
Pre 1835	<b>Aboriginal past</b>
1835–1840	<p><b>The cedar getters:</b></p> <ul style="list-style-type: none"> <li>• Timber-getters, graziers and shipbuilders move into the Grafton area in increasing numbers in the late 1830s.</li> <li>• First surveys conducted of the Grafton area.</li> </ul>
1840–1860	<p><b>Squatters, settlers and the town plan:</b></p> <ul style="list-style-type: none"> <li>• Development of early infrastructure and early commercial endeavours.</li> <li>• Grafton and South Grafton are surveyed into a grid layout town plan (adopted in 1849). Town allotments begin selling in Grafton and South Grafton.</li> <li>• Grafton and South Grafton incorporated as the Municipality of Grafton (1858).</li> </ul>
1860–1890	<p><b>Grafton boom and bust: the golden years:</b></p> <ul style="list-style-type: none"> <li>• Land becomes available for purchase as freehold, encouraging further development of agriculture along the river and attendant commercial and residential purchases in Grafton and South Grafton.</li> <li>• Various listed heritage items of local significance are built during this period including: Fishers Park (corner of Villiers and Dobie streets) (CZB08); 30–32 Villiers Street, Grafton (CZB09), built by the Henson Family; Ravensford (CZB10), built by the Henson family; and Grafton Court House (FMW15).</li> <li>• An official program for the planting and protection of trees in streets and parks begins.</li> </ul>
1890–1910	<p><b>The big river</b></p> <ul style="list-style-type: none"> <li>• A period of residential expansion starts, with construction of many Federation style dwellings. These include Dunvegan (CZB11) at 47 Pound Street, 18 Kent Street (CZB25), 14 Kent Street (CZB27), and Clarendon (CZB30) at 13 Pound Street. These items are listed in the <i>Clarence Valley Local Environmental Plan 2011</i>.</li> <li>• Arcola (State heritage item SHR 1546), at 150 Victoria Street, is built by the Strauss brothers (FMW24).</li> <li>• Fishers Park becomes the Grafton showground, and the complex is opened (CZB08).</li> <li>• Construction and opening of the Grafton to Casino railway.</li> </ul>
1910–1932	<p><b>Bridging the gap</b></p> <ul style="list-style-type: none"> <li>• SS Induna, a modified steamship, starts operation as a rail ferry across the Clarence River.</li> <li>• Interwar period residences are built, including 16 Kent Street (CZB26) and 12 Kent Street (CZB28).</li> <li>• Dwellings currently listed in the Clarence Valley Local Environmental Plan 2011 are built. These included 31 Pound Street (CZB18), 7 Greaves Street (CZB31), 5 Greaves Street (CZB32), 1 Greaves Street (CZB33), and 1 Pound Street (CZB34). Glyndon Private hospital (CZB35) is opened.</li> <li>• The railway from South Grafton south to Glenreagh is completed. This includes part of the Grafton City Railway Station Group (State Heritage item SHR No.1154).</li> <li>• Grafton Rail and Road Bridge over the Clarence River is built (State heritage item SHR No.1036). The bridge opens in 1932.</li> </ul>
1932–1957	<p><b>United city of two towns</b></p> <ul style="list-style-type: none"> <li>• Jacaranda trees are planted on Pound Street between Clarence Street and the river to commemorate the Silver Jubilee of King George V.</li> <li>• An avenue of Cassia trees is planted in Clarence Street between Bacon and Pound Streets to commemorate the coronation of Queen Elizabeth II.</li> <li>• Grafton and South Grafton reincorporated to form the City of Grafton in 1957.</li> </ul>
1957– present	<b>Modernism</b> - No events relevant to the HMP are documented during this period.

## **5.2.2 Terrestrial and maritime archaeological potential**

The assessment methodology adopted in the EIS to assess non-Aboriginal heritage comprised historical research and reviews of previous heritage assessments, preliminary field surveys and terrestrial and maritime archaeology field work and assessment between October 2013 and February 2014. A significance assessment was prepared for all heritage items in the vicinity of the Project.

### **5.2.2.1 Archaeological resources and archaeological research potential**

Properties within and beside the Project area identified as containing archaeological resources or research potential are presented in Figure 5-2.

### **5.2.2.2 Terrestrial archaeological test excavations results**

Archaeologically significant remains from the existing bridge construction workshops are unlikely to be present along the south bank of the Clarence River. The archaeological potential for the Grafton Road and Rail Bridge (CZB36) construction workshops is moderate and its archaeological research potential is low.

### **5.2.2.3 Maritime archaeological survey results**

The maritime surveys and visual inspection found submerged cultural material (wharf remains and early 20<sup>th</sup> century tools and fastenings) next to the southern bank of the Clarence River within the Project construction work zone. These items are not considered relics within the meaning of the *Heritage Act 1977*.

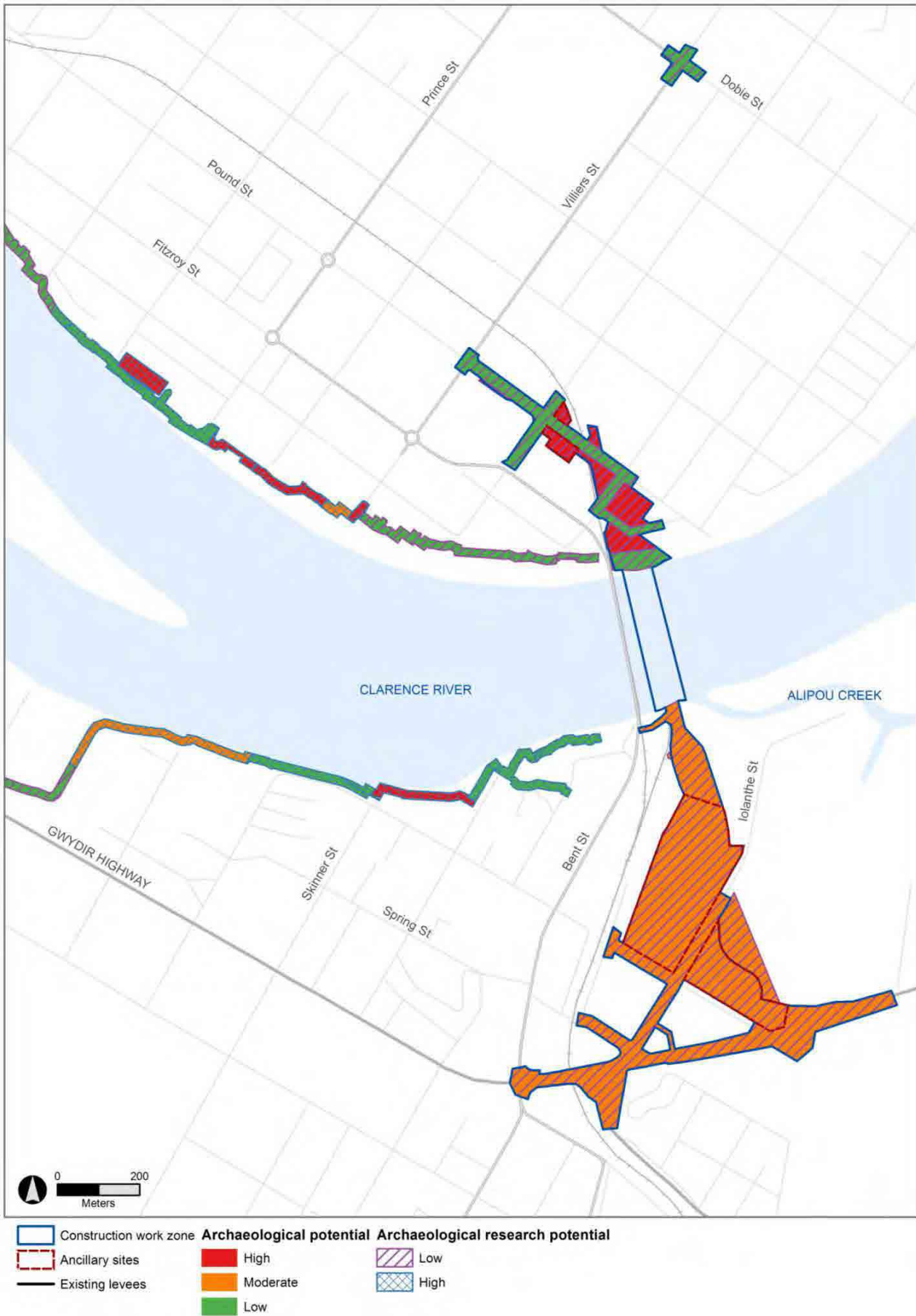
With the exception of the SS Induna (FMW29), none of the features identified through remote sensing and visual inspection are relics or heritage items. The remains of the SS Induna shipwreck are located beside the southern bank of the Clarence River, some 250 m upstream from the proposed bridge construction work zone, and adjacent to the proposed flood mitigation works construction work zone.

## **5.2.3 Conservation areas and built heritage**

Searches of the relevant heritage databases identified that, in the vicinity of the Project, there are:

- no World Heritage Sites ('WHS');
- no items on the National Heritage List or Commonwealth Heritage List;
- 2 heritage items included on the State Heritage Register (SHR);
- 2 heritage items listed under s170 on the Heritage and Conservation Register (s170 HCR);
- 24 heritage items/places identified in the Clarence Valley Local Environment Plan (CVLEP);
- 3 heritage items/places identified in the North Coast Regional Environmental Plan (NCREP);
- 5 heritage items/places identified in the non-statutory National Trust of Australia Plan (NT); and
- 2 heritage items/places identified in the non-statutory Register of the National Estate (RNE).

Details of significant heritage items are provided in Table 5-3 below. Other heritage items listed within statutory and non-statutory registers are summarised in Table 5-4. Conservation areas and built heritage relevant to the Project are shown in Figure 6-1, Figure 6-2, and Figure 6-3.



**Figure 5-2: Archaeological potential within and adjacent to the Project area**

Source: EIS, p217

**Table 5-3: Items of heritage significance**

Item no	Item	Listing	Statement of Significance	Heritage Significance
C3	Grafton Conservation area	CVLEP NCREP NT RNE	The Grafton and South Grafton conservation areas are examples of a subtropical mid-19th century river port city and pastoral seat. It contains a group of civic and ecclesiastical buildings and many spacious timber houses which display both craftsmanship in detail and the ubiquitous verandah of northern Australia. The magnificent canopies of Ficus (fig), Jacaranda and Camphor laurel trees provide shade and colour while serving to link the natural and man-made features of the city.	Local
C7	South Grafton Conservation area			Local
CZB36	The Grafton Rail and Road Bridge	SHR s170 HCR CVLEP NCREP NT	<p>This bridge is a double-deck road and rail structure, the only one of its type in NSW. There is a lift span to allow river traffic to pass under, however this is no longer in use. Opening of the bridge in 1932 completed the North Coast standard gauge line between Sydney and Brisbane, avoiding the winding route through Tenterfield.</p> <p>The approach viaduct in addition to the wharf remains are important relics of the development of the North Coast railway. The viaduct is representative of similar structures constructed at a range of locations, many of which have been replaced.</p>	State

**Table 5-4: Other heritage listings within the Project area**

Item no	Item	Listing	Statement of heritage	Heritage Significance
<b>Grafton</b>				
CZB07	Fisher's Drain: Corner of Villiers and Dobie streets	CVLEP	Fisher's Drain demonstrates early public works in Grafton and illustrates the need to drain low land near Fisher Park, an area subsequently subdivided into Fisher Park and the Grafton Showground. It is a significant archaeological relic and plans of the drain (GCC No 1 civil/drainage works plan) are also a significant moveable heritage item. It has the ability to be interpreted and to provide information on the development of Fisher Park and public works. This item would not be impacted by the project but an exclusion zone is proposed during construction as a precautionary measure	Local
CZB10	Ravensford, 36 Villiers Street, Grafton	CVLEP NT	This attractive two-storey residence has remarkably intact external details and is set within a garden of mature trees on an important corner site. It is significant historically for its association with Captain Greenway (c 1860) and later the Henson family who owned a cordial factory next door. It is representative of the quality two-storey residences built in the period 1890–1910 and can be compared with Lormont (16 Victoria Street). The site is likely to have archaeological potential.	Local

Item no	Item		Statement of heritage	Heritage Significance
CZB11	Dunvegan, 47 Pound Street, Grafton	CVLEP NT	Dunvegan is an imposing two-storey timber-clad residence, unusually large in scale and in largely original condition, demonstrating the local use of timber. Built for the Powell family in 1905 and extended in 1926 it presents a variety of Victorian and Federation elements including iron lace balustrading and valances and carved bargeboards with fretted work at the apex. It is now in public ownership and forms part of the Grafton TAFE complex. Buildings of this quality and size are becoming increasingly rare in Grafton. It is likely to be significant to the State.	Local
CZB13	Jacaranda, Brachychiton and Ficus trees over 3 metres on road reserve	CVLEP	Tree planting was introduced as early as 1881 to beautify the town and provide much needed shade. Street plantings have also been carried out to commemorate particular historic events. Street trees have become synonymous with Grafton and make a significant contribution in depicting the history and aesthetics of the town. As commemorative monuments they have a specific relationship to people and historic events in Grafton and are important to the Grafton community as a whole.	Local
CZB15	26 Clarence Street, Grafton	CVLEP	This is a modest Federation weatherboard-clad Street, cottage with several original elements, which Grafton contributes to the domestic scale of Clarence Street. It is located within the Grafton urban conservation area and is historically significant as it shows the continuing development of Grafton city.	Local
CZB16	12 Clarence Street, Grafton	CVLEP	This c1900 or earlier weatherboard-clad dwelling Street, has original joinery and contributes to the Clarence Street streetscape. Set back on the block on the same alignment as 10 Clarence Street, it tells of the growth of Grafton. Both dwellings have a pleasing backdrop of mature trees.	Local
CZB17	10 Clarence Street, Grafton	CVLEP	This c1900 single-storey weatherboard-clad Street, bungalow, is set back on a large block with a backdrop of mature trees. It may be a pair with 12 Clarence Street. It is historically significant as it demonstrates growth in Grafton and contributes to the city's social history.	Local
CZB18	31 Pound Street, Grafton	CVLEP	It is rare to find Spanish Mission style cottages in Street, Grafton, particularly those with barley curl columns supporting the front porch. This cottage is representative of its type and contributes to the historic fabric of Grafton. It can be compared with 4 Pound Street.	Local
CZB19	King George V Plaque, Pound Street, Grafton (CVLEP)	CVLEP	This plaque, dating from 1935, and the associated street trees, are historically significant street trees, as they show the warmth of feelings for the English, particularly King George V. The trees also demonstrate the continuing desire of Grafton Council to beautify the town through street plantings, a commitment begun in 1874 when Council adopted a by-law for the planting of street trees.	Local



Item no	Item		Statement of heritage	Heritage Significance
CZB20 & CZB21	Grafton Railway Viaduct, Grafton	CVLEP s.170 HCR	The railway viaducts are architecturally significant as the first use of precast reinforced concrete beams and of concrete Art-Deco arches Grafton over seven roads in Grafton. They have historic significance as part of the final link in the North Coast railway linking Brisbane and Sydney and for their social and commercial benefit to passenger and freight transport by rail.	Local
CZB24	22 Kent Street, Grafton (CVLEP)	CVLEP	While raised above flood levels, this is a representative example of an inter-war bungalow with much decorative timberwork. It is one of a group of three similar residences in Kent Street and complements the streetscape. It is also significant for its association with Mr B. C. Egginis who was Mayor of Grafton from 1932–35.	Local
CZB25	18 Kent, Street, Grafton	CVLEP	This is a typical example of a late Victorian residence (c1890) with vertical weatherboards cladding the exterior. Along with houses at 12–18 Kent Street, it makes a significant contribution to the streetscape and to the historic fabric of Grafton	Local
CZB26	16 Kent Street, Grafton	CVLEP	This is a representative example of a Californian bungalow. Along with houses at 14 and 18 Kent Street, it contributes to the domestic scale of this section of Kent Street.	Local
CZB27	14 Kent Street, Grafton	CVLEP	This cottage is representative of the late Victorian to Federation style with a steeply pitched roof and use of traditional elements and materials. The projecting gable is likely to have been a later addition. Along with cottages at 16 and 18 Kent Street, it contributes to the streetscape.	Local
CZB28	12 Kent Street, Grafton	CVLEP	While modified with the addition of a brick verandah, this Californian bungalow contributes to the form and scale of Kent Street. It is one of a group of dwellings extending from 12–18 Kent Street that demonstrates residential development in Grafton from the 1890s to the 1930s.	Local
CZB29	14 Pound Street, Grafton	CVLEP	This residence is aesthetically pleasing and makes use of its corner location. Built c1950 in liver coloured brick it is an unusual addition to the architecture of Grafton, which at that time saw the construction of mainly weatherboard or fibrocement- clad buildings. It features elements of the Spanish Mission style with its use of triple arches over the porches and a terracotta tiled roof. It is set on a large block with a mature garden.	Local
CZB30	Clarendon, 13 Pound Street, Grafton	CVLEP	This substantial single-storey weatherboard bungalow, with a hipped iron roof extending over deep front and side verandahs and brick chimneys with corbelled tops, contributes to the historic fabric of Grafton. While the bungalow is partially obscured from the street by an attractive garden, the exterior, with its tall chimneys, makes an aesthetic contribution to Pound Street. It is worthy of further historical research	Local
CZB31	7 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local

Item no	Item		Statement of heritage	Heritage Significance
CZB32	5 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local
CZB33	1 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local
CZB34	1 Pound Street, Grafton	CVLEP	Located on the riverbank, this substantial interwar Californian bungalow characterises properties in the Dovedale precinct. Its gardens and lawns extend to the road verge and the property boundary is defined only by a low fence. With its red tiled roof, intact chimney, wide verandah and casement windows, it appears to be in almost original condition and is representative of its type.	Local
CZB35	Former Glyndon Private Hospital, 4 Greaves Street, Grafton	CVLEP	This Californian bungalow is of historic importance as a second-generation home on the original Dovedale property. It is associated with Mrs Loxton (daughter of W. A. B. Greaves) and later Matron Blackwell of the Glyndon Private Hospital. The hospital was well known in the Grafton district and is likely to be socially significant to the community who spent time there.	Local
<b>South Grafton</b>				
CZB37	Grafton City Railway Precinct	SHR ARTC s.170 Register CVLEP	Grafton City Railway Precinct is of State historic significance as a former major railway administrative centre for the North Coast. The extant refreshment room is a unique structure on the NSW rail system built for the movement of troops during World War II and remains an important reminder of the site's role in the Australian war effort and the role played by rail in moving troops around the country. The extant barracks building is representative of a series of similar barracks buildings constructed throughout the NSW railway system for train crews to rest between shifts. The office block demonstrates the former administrative role of the site. Overall, the significance of the railway precinct has been compromised by modern buildings, the demolition of the extensive locomotive servicing depot and all other original buildings.	State
FMW34	Water Trough, Lane Park, Through Street, South Grafton	CVLEP	The Bills horse trough in Lane Park is significant as one of only 700 troughs manufactured and distributed by the George Bills Trust in Australia. This item would not be impacted by the project but an exclusion zone is proposed during construction as a precautionary measure.	Local

## 6 Environmental aspects and impacts

### 6.1 Construction activities

Construction activities that could result in adverse impacts to heritage items include:

- waterway activities
- geotechnical investigations
- demolition
- working near houses
- flood levee works;
- early works such as services/utility relocations;
- initial clearing and/or grubbing of vegetation;
- initial removal of topsoil;
- construction of site compounds and spoil / mulch and / or equipment stockpile areas;
- earthworks during construction; and
- temporary access roads during construction.

### 6.2 Aboriginal cultural heritage impacts

#### 6.2.1 Impacts on Aboriginal cultural places

The cultural importance of the Golden Eel site has been highlighted during consultation with the Grafton Ngerrie LALC, who advised that direct impacts on Alipou Creek through landscaping and construction would significantly impact the cultural values of the Golden Eel site and must be avoided. Accordingly, the Project has been designed to avoid direct impacts on this Aboriginal cultural place.

#### 6.2.2 Impact on known Aboriginal sites

There will be no impact on the closest known Aboriginal sites to the Project area, namely Clarence River Golden Eel site, Alipou SCT 2 site, Alipou Creek AS 1 site, and Carr's Creek Campsite. The assessment of impact found that there will be no harm or loss of heritage value on known Aboriginal sites as:

- test excavations on land within the Project area did not reveal any Aboriginal cultural material; and
- there are no identified Aboriginal archaeological values located within the Project area.

These findings are summarised in Table 6-1.

**Table 6-1: Potential archaeological impact**

Site	Cultural significance	Type of harm	Degree of harm	Consequence of harm
Clarence River Golden Eel (AHIMS site number 12-6 0326)	High	None	None	No loss of value
Alipou Creek AS 1 site	Low	None	None	No loss of value

## 6.3 Non-Aboriginal heritage impacts

The following section summarises the potential impacts to non-Aboriginal heritage items and conservation areas as a result of the construction of the Project based on information provided in the EIS.

### 6.3.1 Summary of impacts on known non-Aboriginal Heritage

Impacts on known non-Aboriginal heritage items in the vicinity of the Project are summarised in Table 6-2. The consolidated total is the total number of known heritage items in the vicinity of the Project. For further details about the potential impacts refer to Table 6-3Table 6-3.

**Table 6-2 Project impacts to known non-Aboriginal heritage items in the vicinity of the Project**

Impact	Heritage item no.	Total
Direct impact – whole	CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33, CZB35 (dwellings)	10
Direct impact – partial	CZB10, CZB11 (Dwellings) CZB19 (King George V Plaque) CZB20 & CZB21 (Grafton Railway Viaduct) CZB37 (Grafton City Railway Precinct) C3 (Grafton Conservation area) C7 (South Grafton Conservation area)	7
Indirect impact – visual	CZB16, CZB17 (Dwellings) CZB13 (Street trees) CZB36 (Grafton rail and road bridge)	4
Indirect impact – noise	CZB15, CZB22, CZB23 (Dwellings)	3
Indirect impact – visual and noise	CZB24, CZB29, CZB34 (Dwellings)	3
Indirect impacts – vibration	Nil	0
No impact	CZB01, CZB02, CZB03, CZB04, CZB05, CZB06, CZB09, CZB14, FMW01, FMW02, FMW03, FMW04, FMW11, FMW12, FMW18, FMW20, FMW21, FMW22, FMW23, FMW24, FMW25, FMW26, FMW31, FMW32, FMW37, FMW38 (Dwellings) CZB07 (Drain) CZB08 (Showground complex) CZB12 (Coronation plaque) FMW05 (Footpath sign) FMW06 (St Mary’s church) FMW07 (Roman Catholic presbytery) FMW08 (Flats) FMW09 (Convent) FMW10 (Offices) FMW13 (The deanery) FMW14 (Memorial Park) FMW15 (Grafton Court House) FMW16 (Policy Inspector’s Residence) FMW17 (Former location of Sharp’s store) FMW19 (Former location of courthouse and lockup) FMW27 (Hewitt’s store) FMW28 (Former site of CM Wilson store) FMW29 (SS Induna) FMW30 (Former site of public wharf)	49

Impact	Heritage item no.	Total
	FMW33 (Lane Park) FMW34 (Water trough) FMW35 (Former South Grafton public wharf/punt) FMW36 (Walker's marina hotel)	
Consolidated total		76

### 6.3.2 Impacts on terrestrial and maritime archaeology

#### 6.3.2.1 Road and bridge construction works

The Project would impact a number of land parcels assessed as having high archaeological potential in Grafton. The majority of these parcels correspond to heritage listed houses of local significance in Grafton that would be demolished as a result of the Project (EIS, p225). In accordance with Table 6-2, the EIS identified that ten (10) heritage listed houses of local significance would be demolished (CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33, CZB35).

In South Grafton, the proposed construction work zone includes land assessed as having moderate archaeological potential (EIS, p225). No land has been assessed as having high or moderate research potential within the Grafton and South Grafton construction work zones (EIS, p225).

#### 6.3.2.2 Flood levee works

Within the flood mitigation construction work zone in Grafton and South Grafton, a number of land parcels have been assessed as having moderate and high archaeological potential and moderate and high research potential associated with early settlement. Work along these areas would involve raising the levee up to 20 cm. It is unlikely that this work would require extensive below ground disturbance. If significant below-ground disturbance is required within areas of moderate to high archaeological potential, a program of archaeological monitoring will be implemented (refer to Annexure B – *Archaeological monitoring program*).

### 6.3.3 Impacts on maritime archaeology

The only maritime archaeological feature identified during investigations for the EIS is the shipwreck remains associated with the *SS Induna* (FMW29), however these remains are outside the Project construction work zone. As a precautionary measure, a 'no go' area will be implemented around the *SS Induna* during construction to protect the heritage values associated with the shipwreck remains (refer to Section 7).

### 6.3.4 Impacts on Grafton and South Grafton urban conservation areas

#### 6.3.4.1 Impacts on Grafton conservation area (C3)

The Project will have the following direct partial impacts on the Grafton conservation area C3:

- removal of 6 heritage items, 11 contributory items and the Ficus and Jacaranda trees on Pound Street between Villiers and Kent Street;
- impact on the visual aspects and relationship between Ravensford (CZB10) and Dunvegan (CZB12);
- alteration of street alignments from the grid established in the mid-19<sup>th</sup> century; and
- impact on 27 heritage items within the vicinity of the flood levee works construction zone including:
  - removal of gardens and cultural plantings associated with heritage items;

- moderate to minor visual impacts on existing views to and from the setting of the heritage item; and

While the project would result in significant impacts on the aesthetic values of some parts of Grafton, it would have the potential, through the implementation of an interpretation plan, to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with Grafton.

The flood levee construction work zone traverses 27 heritage items of local significance in the Grafton conservation area. Impacts are likely to consist of removal of gardens and cultural plantings associated with heritage items and moderate to minor visual impacts on existing views to and from the setting of the heritage items. There is potential for excavation to impact archaeological resources beneath the levee, specifically those relating to early settlement in Grafton.

#### **6.3.4.2 Impacts on South Grafton conservation area (C7)**

The flood levee construction work zone traverses 11 heritage items in the South Grafton conservation area and is expected to result in direct partial impacts on the coastal elements of the South Grafton conservation area (C7). If sections of the levee located in areas of high archaeological potential are required to be completely replaced, there is potential for below ground excavation to impact archaeological resources, specifically those relating to early settlement in Grafton.

The levee raising works within the Grafton and South Grafton conservation areas will be designed and constructed in a sympathetic manner that, as far as practical, will not diminish the aesthetic values of the conservation areas.

#### **6.3.5 Impacts on the Grafton Rail and Road Bridge**

The Grafton Rail and Road Bridge (CZB36) State heritage listed item will not be directly altered or impacted by the Project. The Project will have a positive effect on the heritage value of the existing bridge through reducing wear and tear on the bridge's fabric by reducing traffic volumes. The design of the new bridge will respect and respond to the presence and form of the Grafton Rail and Road Bridge in a complementary manner.

Archival recording will be prepared before commencement of the construction of the proposed bridge to document the visual relationships between the Grafton Rail and Road Bridge heritage item and its surrounds (refer to Table 7-3 mitigation measure ID CHMM20).

#### **6.3.6 Impacts on other built heritage**

The Project would have the following impacts on other heritage items:

- **Total direct impact:** Demolition of 10 heritage items of local significance. No items of State significance would be demolished.
- **Partial direct impact:** Acquisition of a small portion of lots occupied by one item of State significance and four items of local significance.
- **Indirect impact:** Impacts from architectural noise treatments at some properties and visual impacts from vegetation removal or when existing views to and from a heritage item are affected. Five items of local significance and one item of State significance would be impacted in this way.
- **Impact on listed trees:** impacts on trees listed under the *Clarence Valley Local Environmental Plan 2011*, namely *Brachychiton*, *Ficus* or *Jacaranda* trees over 3 m high, located in road reserves.

Table 6-3 provides further details of the impacts of the Project on these heritage items, the locations of which are shown in Figure 6-1, Figure 6-2 and Figure 6-3.

**Table 6-3: Potential impacts on non-Aboriginal heritage items and conservation areas**

No.	Name and listing	Heritage significance	Impact
<b>Grafton</b>			
CZB10	Ravensford, 36 Villiers Street, Grafton (CVLEP, NT)	Local	<p><b>Direct impact – partial</b>                      Minor property acquisition, which would have an impact on its heritage value by reducing its setting. Note the road design on Pound Street, Grafton, was refined by Roads and Maritime to avoid demolition of this heritage item.</p> <p><b>Indirect impact – trees</b>                      Removal of mature trees on the road reserve fronting this property, which would have an impact on views towards it. The property may require architectural noise treatment.</p> <p>The heritage values of the property would be diminished by the Project, but this is unlikely to affect its significance.</p>
CZB11	Dunvegan, 47 Pound Street, Grafton (CVLEP, NT)	Local	<p><b>Direct impact – partial</b>                      The project would require a minor property acquisition, which would have an impact on its heritage value by reducing its setting.</p> <p><b>Indirect impact – trees</b>                      The project would remove mature fig trees on the road reserve fronting this property, which would have an impact on views towards it.</p> <p>The property may require architectural noise treatment.</p> <p>The heritage values of the property would be diminished by the project, but this is unlikely to affect its significance.</p>
CZB13	Jacaranda, Brachychiton and Ficus trees over 3 m on road reserve (CVLEP)	Local	<p><b>Impact on listed trees</b>                      Removal of 34 Jacaranda and 4 Ficus heritage listed trees within Grafton conservation area, which would affect the aesthetic setting of heritage items in this area. The removal of large, mature fig trees at the junction of Pound and Villiers streets would have the greatest impact as they occupy a prominent position within Grafton and provide an aesthetic backdrop to the Ravenswood (CZB10) and Dunvegan (CZB11) heritage items.</p> <p>Cultural plantings along Victoria Street, Grafton may be affected by the proposed flood mitigation work. The levee raising within this area would be carefully managed to mitigate, where feasible and reasonable, any potential impact on these cultural plantings.</p>
CZB15	26 Clarence Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – noise</b>                      Property may require architectural noise treatment. The impact is not expected to be significant as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.</p>
CZB16	12 Clarence Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – visual</b>                      The construction zone boundary would be beside this heritage item and street trees at the front of this property would be removed. This would result in a minor visual impact through alterations to the street alignment which may affect views to and from the item in a south-westerly direction.</p>

No.	Name and listing	Heritage significance	Impact
CZB17	10 Clarence Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual</b> The construction zone boundary would be beside this heritage item and street trees at the front of this property would be removed. This would result in a minor visual impact through alterations to the street alignment, which may affect views to and from the item in a south-westerly direction.
CZB18	31 Pound Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Pound Street and a cumulative impact on the Grafton conservation area (C3).
CZB19	King George V Plaque, Pound Street, Grafton (CVLEP)	Local	<b>Direct impact – partial</b> The plaque is located on the section of viaduct to be replaced (It would not be viable to retain the viaduct). The removal of the plaque would have an impact on the historical appreciation of Pound Street. It is proposed the plaque be reinstated on the new section of viaduct after construction finishes.
CZB20 & CZB21	Grafton Railway Viaduct, Grafton (CVLEP, S.170)	Local	<b>Direct impact – partial</b> The section of the viaduct above Pound Street would be removed and replaced with a truss steel bridge. It would not be viable to retain the viaduct. The removal of this portion of the viaduct would have a significant impact on the aesthetic appreciation of Pound Street within the Grafton urban conservation area.
CZB22	26 Kent Street, Grafton (Kent Street Residential Group 2 CVLEP I627)	Local	<b>Indirect impact- noise</b> May require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item
CZB23	24 Kent Street, Grafton (Kent Street Residential Group 2; CVLEP I626)	Local	<b>Local Indirect impact- noise</b> May require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB24	22 Kent Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual and noise</b> The demolition of heritage items in Pound Street and alterations to the street alignment would change the views to and from the item. The property may also require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB25	18 Kent, Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).



No.	Name and listing	Heritage significance	Impact
CZB26	16 Kent Street, Grafton (CVLEP)	Local	<p><b>Local Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB27	14 Kent Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB28	12 Kent Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB29	14 Pound Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – visual and noise</b></p> <p>The Construction works zone boundary is located adjacent to the heritage item. This will result in visual impacts through the removal of heritage items in Pound Street and alterations to the street alignment which will affect view to and from the item. The property has been identified as being subject to noise exceedances as a result of the project that could potentially require architectural noise treatment at the property (EIS Appendix G, p211). The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.</p>
CZB30	Clarendon, 13 Pound Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Pound Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB31	7 Greaves Street (New Heritage Item)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).</p>

No.	Name and listing	Heritage significance	Impact
CZB32	5 Greaves Street (New Heritage Item)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
CZB33	1 Greaves Street (New Heritage Item)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
CZB34	1 Pound Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual and noise</b> The project would change the views between this heritage item and the Road and Rail Bridge State heritage item (CZB36). The property may require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB35	Former Glyndon Private Hospital, 4 Greaves Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
<b>South Grafton</b>			
CZB37	Grafton City Railway Precinct (SHR, ARTC s.170 Register, CVLEP)	State	<b>Direct impact – partial</b> <b>Indirect impact – visual</b> This item is located outside the Project's construction zone boundary and its built heritage aspects would not be impacted by the Project. However, there would be a direct impact on the disused rail turntable, which would be removed by the Project. There are archaeological remains associated with the locomotive depot, south of the sugar silo, which would be impacted by the project; these remains have a moderate archaeological potential but low research potential. Views from the railway station platform towards the east would change as a result of the proposed South Grafton approach embankment, pedestrian and cycle path, landscape planting and the vehicles travelling on the proposed approach road which are likely to be visible from the platform.

<sup>1</sup> SHR: State Heritage Register under the Heritage Act 1977

<sup>2</sup> S. 170: Section 170 Heritage Act 1977 Heritage and Conservation Registers

<sup>3</sup> CVLEP: Clarence Valley Local Environmental Plan 2011

The assessment carried out in the EIS indicated that no impacts are predicted on the items identified in Table 6-4 below and shown on Figure 6-1, Figure 6-2 and Figure 6-3. In

accordance with CoA B19, Fulton Hogan will not destroy, modify or otherwise physically affect the heritage items listed in Table 6-4. These items will be included on the Sensitive Area Plans contained in Appendix A3 of the CEMP.

**Table 6-4: Assessment of heritage items - no impact**

No.	Name and listing	Heritage significance	Impact
<b>Grafton</b>			
CZB01	129 Villiers Street, Grafton (Villiers Street Residential Group 2; CVLEP I848)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB02	127 Villiers Street, Grafton (Villiers Street Residential Group 2; I847)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB03	125 Villiers Street, Grafton (Villiers Street Residential Group 2; I846)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB04	123 Villiers Street, Grafton (Villiers Street Residential Group 2; CVLEP: I845).	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB05	106 Dobie Street, Grafton (CVLEP I537)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB06	108 Dobie Street, Grafton (CVLEP I538)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB07	Fisher's Drain: Corner of Villiers and Dobie Streets (CVLEP I535)	Local	<b>No impact</b> Fisher's Drain is located within the construction works zone boundary but outside of the areas of proposed impact. Any archaeological potential associated with Fisher's Drain is unlikely to be impacted by the proposed works. The heritage significance of this item is unlikely to be affected.  A no-go area is proposed to be established around this item during construction as a precautionary measure.

No.	Name and listing	Heritage significance	Impact
CZB08	Showground Complex: Corner of Villiers and Dobie Streets, Grafton (CVLEP; I116 & I533)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB09	30-32 Villiers Street, Grafton (Villiers Street Residential Group 1; CVLEP I132; NT R2624)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
CZB12	Coronation Plaque, Clarence Street, Grafton (CVLEP I516)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
CZB14	28 Clarence Street (Clarence Street Residential Group 1; CVLEP I522)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
FMW34	Water trough, Lane Park	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item. A no-go area is proposed to be established around this item during construction as a precautionary measure.



**Figure 6-1: Built heritage impacted by the Project in Grafton**

Source: EIS, p218



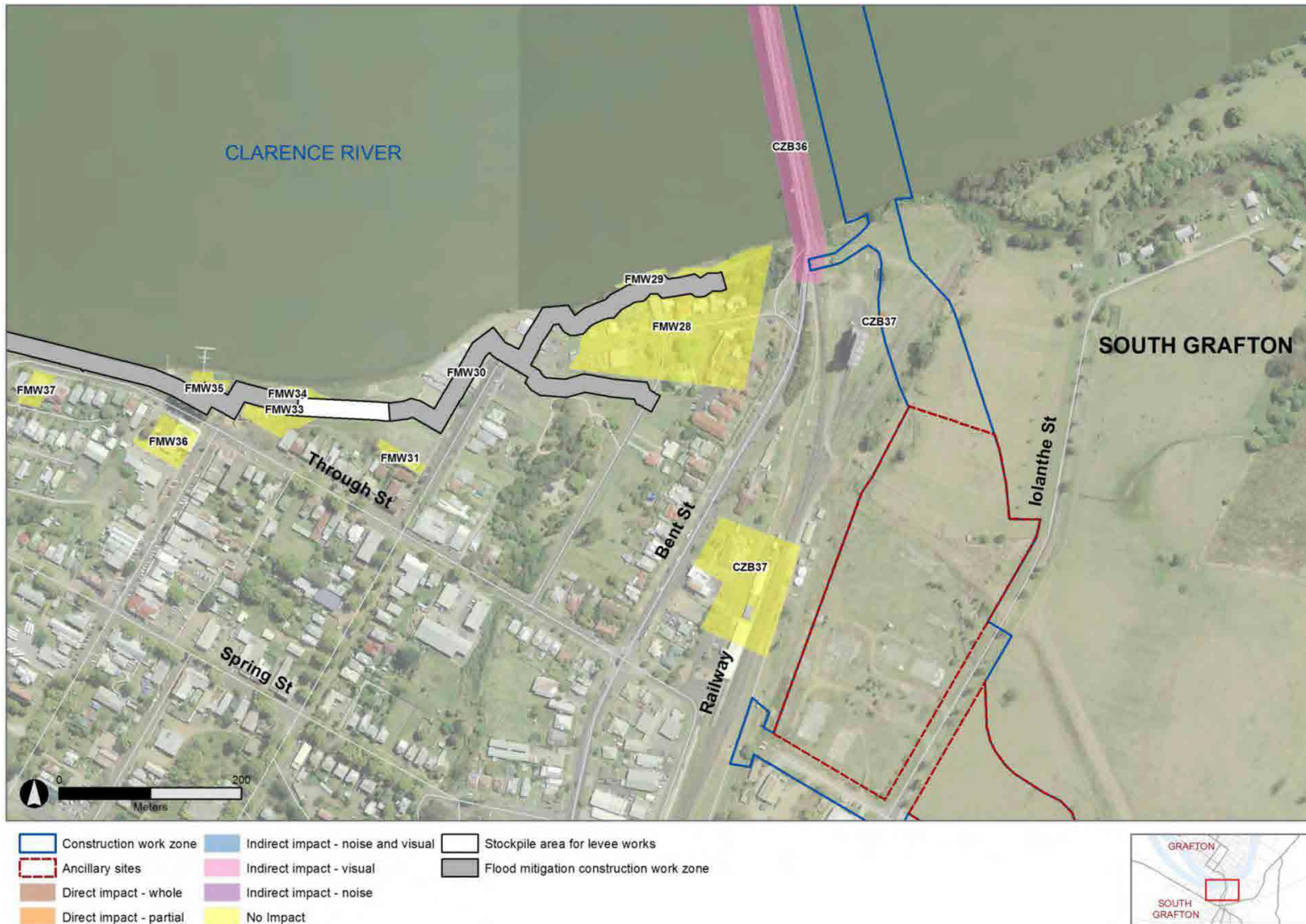
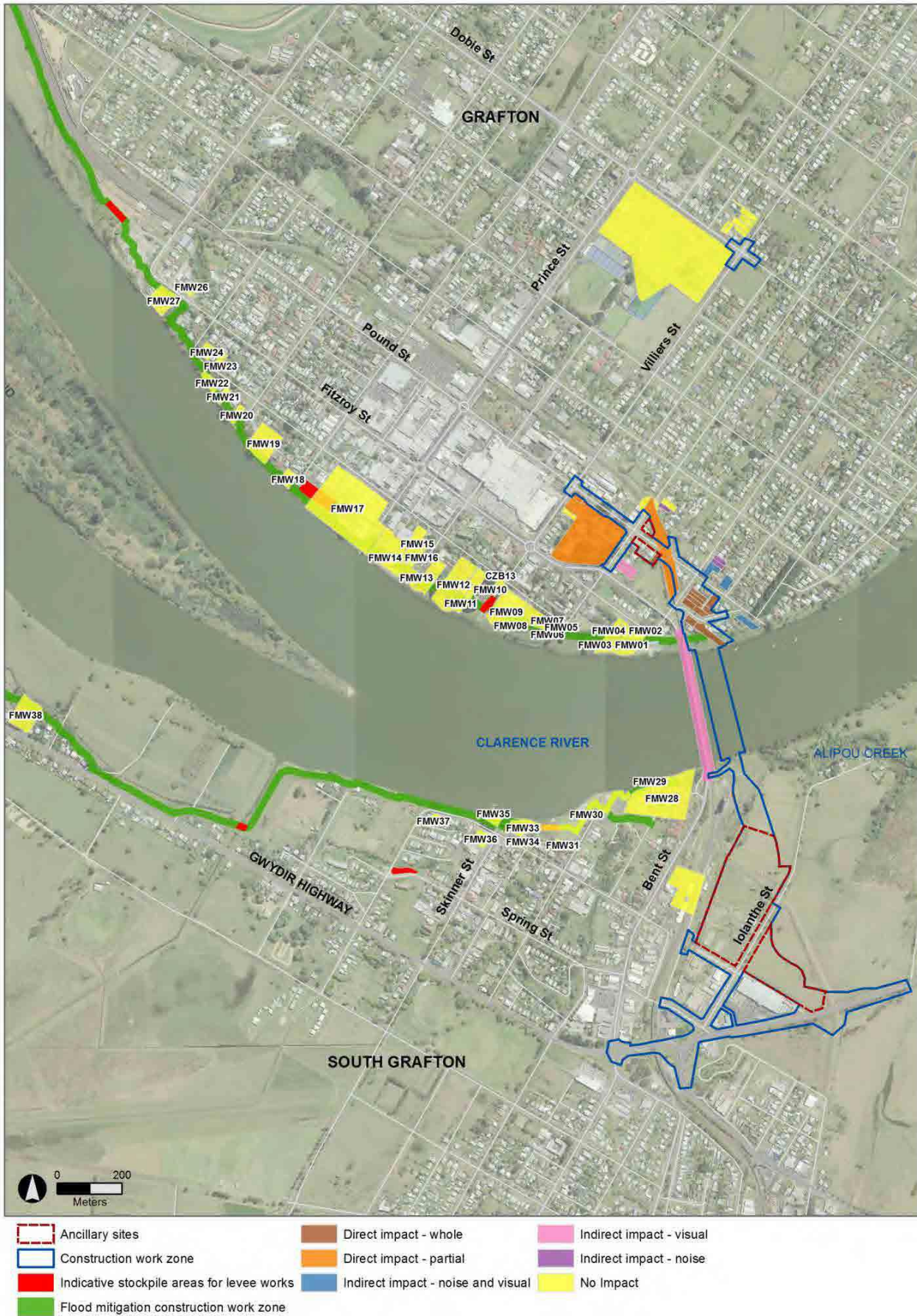


Figure 6-2: Built heritage impacted by the Project within South Grafton

Source: EIS, p219



**Figure 6-3: Built heritage impacted by the Project**

Source: EIS, p220



## **7 Environmental management measures**

### **7.1 Construction related measures**

A range of environmental requirements and control measures are identified in the various environmental documents, including the EIS, supplementary assessments, Conditions of Approval and other RMS documents.

General measures and specific requirements to address impacts on Aboriginal and non-Aboriginal heritage items during construction of the Project are provided in Table 7-1 and Table 7-2, respectively. Where required, further details of the proposed mitigation measures are provided in Section 7.1.3.

#### **7.1.1 Aboriginal environmental management measures**

Measures to manage and address the potential impacts of the project on Aboriginal heritage were developed in consultation with the Grafton Ngerrie LALC. The measures are generally consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005) and comply with the requirements of the *National Parks and Wildlife Act 1974* and the *Environmental Planning and Assessment Act 1979*.

#### **7.1.2 Non-Aboriginal environmental management measures**

The proposed environmental management measures presented in Table 7-2 are based upon the findings of a comprehensive investigation of documentary sources, built fabric, terrestrial and maritime archaeological sites undertaken for the EIS. These investigations have informed the assessment of significance and impacts for all identified heritage items within the vicinity of the Project area.

The environmental management measures respond to the heritage significance of the Project area and are based on the EIS assessments and the principles outlined in the *NSW Heritage Manual* (Heritage Office and Department of Urban Affairs and Planning, 1996) (and subsequent guidelines) and the *Australia ICOMOS Burra Charter*. The measures detail methods to preserve and enhance heritage items where possible. Where impacts are unavoidable, processes for minimising the losses to archaeological knowledge are provided.



**Table 7-1: Environmental management measures for Aboriginal heritage impacts**

<b>ID</b>	<b>Measure / Requirement</b>	<b>Reference</b>	<b>When to implement</b>	<b>Responsibility</b>	<b>Where Addressed/ Further Detail</b>
<b>Golden Eel dreaming site</b>					
AH1	Detailed design and construction stages will avoid further encroachment towards the Golden Eel dreaming site.	EIS Section 8 Submissions Report S4	Detailed design, construction	Contractor	Detailed design Section 6.2.1 Section 6.2.2 This CHMP Table 7-3 mitigation measure ID CHMM4, CHMM15.
<b>Consultation with the Aboriginal community</b>					
AH2	The Aboriginal community will continue to be consulted as an identified group within the overall community consultation strategy for the Project.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	<i>Community Communication Strategy</i> (CoA C1) to be provided separately to this CHMP. Section 4.3 Table 7-3 mitigation measure ID CHMM4
<b>Golden Eel dreaming site</b>					
AH3	An <b>interpretive strategy</b> will be formulated in conjunction with the local Aboriginal community. This will highlight salient sites and features within the landscape in a manner that respectfully enhances and protects these values. The interpretative strategy will be integrated with the non-Aboriginal heritage interpretation plan for the Project.	EIS Section 8 Submissions Report S4	Pre-construction	RMS	Table 7-3 mitigation measure ID CHMM7 <i>Heritage Interpretation Plan</i> (covering both Aboriginal and non-Aboriginal heritage) will be included in the UDLMP and provided separately to the CEMP.
<b>Construction impacts</b>					
AH4	A <b>construction heritage management plan</b> (CHMP) will be prepared as part of the CEMP for the Project. The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	This CHMP

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	<p>will be minimised and managed. The CHMP will include:</p> <ul style="list-style-type: none"> <li>• Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the Project</li> <li>• Details of management measures for the Project</li> <li>• Procedures for dealing with previously unidentified finds</li> </ul>				<p>Sections 5.1 &amp; 5.2</p> <p>Section 7</p> <p>Table 7-3 mitigation measure ID CHMM2</p> <p>Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items</p>
AH4	<ul style="list-style-type: none"> <li>• Heritage training and induction processes for construction personnel</li> <li>• Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.</li> </ul>				<p>Section 8.2</p> <p>Section 4.3</p> <p><i>Community Communication Strategy</i> (CoA C1) to be provided separately to this CHMP.</p> <p>Table 7-3 mitigation measure ID CHMM4</p>
<b>Aboriginal cultural heritage induction</b>					
AH5	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 LALC and provided to relevant staff before commencing work on-site.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	Section 8.2 Section 4.3
<b>Known Aboriginal objects and places</b>					
AH6	Aboriginal sites located in close proximity to the Project construction work zone will be designated 'no-go' areas and will be clearly identified and appropriately fenced to prevent access or damage	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM15-CHMM18

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	during construction.				
<b>Discovery of unexpected Aboriginal cultural material and human remains</b>					
AH7	In the event that unexpected Aboriginal cultural material or skeletal remains are encountered, <i>the Standard Management Procedure for Unexpected Archaeological Finds</i> (Roads and Maritime, 2012) will be implemented.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items

**Table 7-2: Environmental management measures for non-Aboriginal heritage impacts**

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
<b>Prepare an interpretation plan for the project</b>					
NH1	<p>A <b>heritage interpretation plan</b> will be prepared to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with Grafton. In particular, the interpretation plan will identify heritage items that are to be removed and provide opportunities for compensating for these losses. This may include incorporating formalised heritage walks and tree-planting programs into the landscaping and planning of the Project.</p> <p>The heritage interpretation plan will be developed in consultation with Clarence Valley Council and relevant stakeholders.</p>	EIS Section 8 Submissions Report S4	Detailed design	RMS	<p>Table 7-3 mitigation measure ID CHMM7 <i>Heritage Interpretation Plan</i> (covering both Aboriginal and non-Aboriginal heritage) will be included in the UDLMP and provided separately to the CEMP.</p> <p>Section 4.3</p>
<b>Consideration of heritage in urban design principles</b>					
NH2	Heritage considerations will be incorporated into the urban design and landscape objectives developed for the Project. These features will be refined further during detailed design development for the Project.	EIS Section 8 Submissions Report S4	Detailed design	Contractor	<p>Detailed design Urban Design and Landscape Management Plan Table 7-3 mitigation measure ID CHMM5</p>
<b>Noise mitigation treatment on heritage items</b>					
NH3	If required, architectural noise treatments on heritage items will be applied in a sympathetic manner to minimise impact on the significance of the heritage item.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	<p>All architectural noise treatments, as identified in the EIS, will be developed and implemented by RMS. Architectural noise treatments will be applied in a sympathetic manner to minimise impact on the significance of the following heritage properties:</p>

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
					<ul style="list-style-type: none"> <li>• CZB10: Dwelling ("Ravensford"), 36 Villiers St (by RMS; CoA B15 &amp; EMM NH6)</li> <li>• CZB11: Former residence ("Dunvegan"), 47 Pound St (by RMS; CoA B15 &amp; EMM NH6)</li> <li>• CZB24: Dwelling, 22 Kent Street, Grafton (by RMS; EMM NH6)</li> <li>• CZB29: Dwelling, 14 Pound Street, Grafton (by RMS; EMM NH6)</li> <li>• CZB31: Dwelling (new heritage item), 7 Greaves St (by RMS; CoA B14 &amp; EMM NH6)</li> <li>• CZB34: Dwelling, 1 Pound Street, Grafton (by RMS; EMM NH6)</li> </ul> <p>In the unlikely event that additional architectural noise treatments on heritage properties is required, this will be the responsibility of Fulton Hogan. Refer to Table 7-3 mitigation measure ID CHMM24</p>
<b>Construction impacts</b>					

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
NH4	<p>A <b>construction heritage management plan</b> (CHMP) will be prepared as part of the construction environmental management plan for the Project.</p> <p>The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The CHMP will include:</p> <ul style="list-style-type: none"> <li>• Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the Project</li> <li>• Details of management measures for the Project</li> </ul>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor and RMS	<p>This CHMP [Contractor to complete]</p> <p>Sections 5.1 &amp; 5.2</p> <p>Section 7</p>
NH4	<ul style="list-style-type: none"> <li>• Procedures for dealing with previously unidentified finds</li> <li>• Heritage training and induction processes for construction personnel</li> <li>• Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.</li> <li>• The CHMP will be provided to the Heritage Council of NSW for comment prior to finalisation.</li> </ul>				<p>Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items</p> <p>Section 8.2</p> <p>Section 4.3</p> <p>Section 4.2</p>
<b>Heritage values to be considered during flood mitigation works</b>					
NH5	Any construction and vegetation clearance within or near the curtilage of heritage items will be sympathetic to minimise the removal of, or impact on, associated heritage values.	EIS Section 8 Submissions Report S4	Construction	Contractor	<p>CFFMP, mitigation measure ID CFFMM1, CFFMM2</p> <p>Sensitive Area Plan App A3</p>
<b>Prepare an archival record before impact occurs and at the completion of the project</b>					
NH6	<p>Archival recording will be prepared for the following heritage items: CZB10, CZB11, CZB13, CZB16, CZB17, CZB18, CZB19, CZB20 &amp; CZB21, CZB24, CZB25, CZB26, CZB27, CZB28, CZB29, CZB30, CZB31, CZB32, CZB33, CZB34, CZB35, CZB36 and CZB37.</p> <p>Archival recording will also be carried out for portions of Pound</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor and RMS	<p>Table 7-3 mitigation measure ID CHMM20</p> <p><i>Archival Report</i> (CoA B16) to be provided separately to this CHMP.</p>

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	<p>Street within the Grafton Conservation Area (C3).</p> <p>The archival records will record the process of development and alterations to heritage values. A program of archival recording will be completed before impacts occur and at the completion of the Project. All archival recording will be completed in accordance with the Heritage Branch guidelines <i>How to Prepare Archival Records for Heritage Items</i> and <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (Heritage Office 2001, revised 2004, 2006).</p>				
<b>Relocation of King George V Plaque</b>					
NH7	Following archival recording, the King George V Plaque (CZB19) will be relocated to a safe location and later reinstated on the new section of viaduct at Pound Street.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM25
<b>No-go areas and temporary fencing</b>					
NH8	<p>No-go areas will be established around 3 heritage items:</p> <ul style="list-style-type: none"> <li>• CZB07 (Fisher's Drain)</li> <li>• FMW29 (<i>SS Induna</i> shipwreck)</li> <li>• FMW34 (Water Trough, Lane Park).</li> </ul> <p>For CZB07 and FMW34, no-go areas will be established at an appropriate distance to protect the heritage values of the heritage items but allow construction to proceed unhindered.</p> <p>For FMW29, <i>SS Induna</i>, both terrestrial and maritime temporary exclusion areas will be established during construction to exclude the entry of vehicles or equipment associated with construction. The 'no-go' area perimeter will be placed on the existing property boundary to the south of the <i>SS Induna</i>. A maritime exclusion area (to be in accordance with Maritime and navigational requirements) will be placed 15 m from the shipwreck to remind workboats to not enter this area.</p> <p>No-go areas will be marked on all construction plans and pointed out in induction talks with contractors undertaking work in vicinity to the items.</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	Table 7-3 mitigation measure ID CHMM22, CHMM23 Sensitive Area Plan App A3 Section 8.2
<b>Archaeological monitoring (if required)</b>					

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
NH9	<p>The EIS has determined that the proposed flood mitigation works traverse areas of moderate and high potential for the survival of archaeological resources of local significance. Depending on the level of impact and the form of the proposed works, monitoring of these moderate and high archaeologically sensitive areas may be required. No monitoring is required for sites with low archaeological significance.</p> <p>Monitoring is proposed as it is not appropriate to carry out archaeological testing and salvage within or next to the existing flood levee. This is due to the risks associated with compromising the flood protection measures around Grafton. An archaeological excavation program will expose properties within Grafton to an unacceptable level of risk and therefore is not appropriate in this instance.</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	Table 7-3 mitigation measure ID CHMM26 Annexure B - Archaeological Monitoring Program
NH9 ctd	<p>An <b>archaeological monitoring program</b> will be developed as part of the heritage management sub-plan developed for the Project. The monitoring program will provide the following details:</p> <ul style="list-style-type: none"> <li>• Description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work</li> <li>• Details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits</li> <li>• Process to be followed should any heritage items be identified during the monitoring period.</li> </ul>			Contractor	Table 7-3 mitigation measure ID CHMM26 Annexure B - Archaeological Monitoring Program
<b>Discovery of unexpected non-Aboriginal objects and/or human remains</b>					
NH10	If unexpected non-Aboriginal heritage items or skeletal remains are encountered, the Roads and Maritime Services <i>Standard Management Procedure for Unexpected Archaeological Finds (2012)</i> will be implemented.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items
<b>Turntable site in South Grafton</b>					
NH11	Investigate design refinement opportunities to avoid direct impact	EIS Section 8	Detailed design	Contractor	Detailed design



ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	on the turntable site located in railway land in South Grafton.	Submissions Report S4			

### 7.1.3 Additional Heritage Protection Mitigation Measures

Additional mitigation measures to address impacts on heritage are provided in Table 7-3.

**Table 7-3: Additional mitigation measures for heritage impacts**

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
<b>GENERAL</b>				
CHMM1	Manage Aboriginal and non-Aboriginal sites identified to be retained and protected as 'environmentally sensitive areas'. In this regard, erect exclusion fencing and signage to ensure that environmentally sensitive areas are protected in accordance with the RMS <i>Biodiversity guidelines: Guide 2 – Exclusion Zones</i> (RTA, 2011) and map these sites on Sensitive Area Plans. Consider the heritage significance of the site and take care to not draw unwarranted attention to Aboriginal heritage sites.		✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM2	Adopt and follow the RMS <i>standard management procedure – Unexpected heritage items</i> (Roads and Maritime Services, 2013) (refer Annexure A) in the event that unexpected Aboriginal and non-Aboriginal heritage finds are encountered during construction, including human remains.	✓	✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM3	Do not destroy, modify or otherwise physically affect any heritage items outside the approved Project footprint, unless otherwise agreed by the Secretary. Refer to Table 6-1 and Table 6-2.		✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM4	Engage with the local Aboriginal community on a regular basis during construction and in accordance with RMS's Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) (November 2011).		✓	Environmental Manager
CHMM5	Ensure heritage considerations are incorporated into the UDLMP for the Project.		✓	Environmental Manager Design Team
CHMM6	Where additional archaeological investigation is required at ancillary sites that do not meet the criterion set out in CoA D36(k), undertake this work in accordance with a methodology prepared to the satisfaction of the Secretary in consultation with OEH.	✓	✓	Environmental Manager
CHMM7	Prepare a Heritage Interpretation Plan (covering both Aboriginal and non-Aboriginal heritage) in consultation with the local Aboriginal community, Clarence Valley Council and relevant stakeholders.  <i>It is noted that the Heritage Interpretation Plan will be included in the UDLMP and provided separately to the CEMP and during the construction phase.</i>		✓	Environmental Manager
<b>ESTABLISHMENT AND MAINTENANCE OF EXCLUSION ZONES</b>				
CHMM8	Review the Sensitive Area Plans and conduct site visit with surveyor and Environmental Manager (or delegate) to identify and mark exclusion zone boundaries. Temporarily flag exclusion zone fencing locations through spray paint or high visibility tape or wooden markers. If exclusion zone boundaries cannot be identified, seek advice from the Project Archaeologist.	✓		Environmental Manager (or delegate) Surveyor
CHMM9	Where whole or partial impacts to a heritage site have been approved, determine the exclusion zone boundaries by the extent of approved impacts to the heritage site boundary. If exclusion zone boundaries cannot be identified, seek advice from the Project Archaeologist.	✓		Environmental Manager (or delegate)
CHMM10	Ensure exclusion zone boundaries are practical and consider the topography or the intrusion of features of the landscape. Where practicable, a wider perimeter is preferred to a narrower one to	✓		Environmental Manager (or delegate)

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
	ensure harm is avoided to the heritage sites/items identified.			
CHMM11	Where details on Sensitive Area Plans are insufficient or smaller exclusion zones are needed, seek advice from the Project Archaeologist to determine appropriate boundaries.	✓		Environmental Manager (or delegate)
CHMM12	Erect exclusion fencing in a practical manner which facilitates both the protection of the heritage site and ability of construction activities to proceed unhindered.	✓		Environmental Manager (or delegate) Foreman
CHMM13	Monitor effectiveness and condition of exclusion fencing weekly through the Environmental Inspection Checklist for example.		✓	Environmental Officer
CHMM14	Remove exclusion fencing once construction activities have ceased in the vicinity and no further impacts are likely to occur. Seek approval to remove exclusion fencing from Environmental Manager.		✓	Environmental Officer Foreman
<b>ABORIGINAL HERITAGE</b>				
CHMM15	Erect pedestrian-proof exclusion fencing and signage between the construction area and Alipou Creek to avoid encroachment on the Aboriginal dreaming site, Golden Eel (cultural site, AHIMS number 12-6-0326). <i>It is noted that the Golden Eel site is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM16	If construction works are undertaken within 30m of Carr's Creek Campsite (open campsite, AHIMS number 12-3-0338) erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Carr's Creek Campsite is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM17	If construction works are undertaken within 30m of Alipou SCT 2 (modified tree, AHIMS number 12-6-0402), erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Alipou SCT 2 is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM18	If construction works are undertaken within 30m of Alipou Creek AS 1 (grinding stones, AHIMS number 14-10-13), erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Alipou Creek AS 1 is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM19	Implement relevant mitigation measures from further archaeological investigations as required.		✓	Environmental Manager (or delegate)
<b>NON-ABORIGINAL HERITAGE</b>				
CHMM20	Ensure all archival recordings (including photographic recording) have been completed, prior to the commencement of construction in proximity to the following heritage items (refer to CoA B14, CoA B15 & EMM NH6): <ul style="list-style-type: none"> <li>• CZB10: Dwelling ("Ravensford"), 36 Villiers St (CoA B15 &amp; EMM NH6)</li> <li>• CZB11: Former residence ("Dunvegan"), 47 Pound St (CoA B15 &amp; EMM NH6)</li> <li>• CZB13: Street trees (EMM NH6)</li> <li>• CZB16: Dwelling, 12 Clarence Street, Grafton (EMM NH6)</li> <li>• CZB17: Dwelling, 10 Clarence Street, Grafton (EMM NH6)</li> <li>• CZB18: Residential, 31 Pound St (CoA B14 &amp; EMM NH6)</li> <li>• CZB19: King George V Plaque, within the construction works zone boundary on Pound St (CoA B15 &amp; EMM NH6)</li> <li>• CZB20 &amp; CZB21: Grafton Railway Viaduct, Clarence St (CoA B15 &amp; EMM NH6)</li> <li>• CZB24: Dwelling, 22 Kent Street, Grafton (EMM NH6)</li> <li>• CZB25: Dwelling, 18 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB26: Dwelling, 16 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB27: Dwelling, 14 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB28: Dwelling, 12 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB29: Dwelling, 14 Pound Street, Grafton (EMM NH6)</li> <li>• CZB30: Dwelling ("Clarendon"), 13 Pound St (CoA B14 &amp; EMM NH6)</li> </ul>	✓	✓	Environmental Manager (or delegate)

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
	<ul style="list-style-type: none"> <li>CZB31: Dwelling (new heritage item), 7 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB32: Dwelling (new heritage item), 5 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB33: Dwelling (new heritage item), 1 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB34: Dwelling, 1 Pound Street, Grafton (EMM NH6)</li> <li>CZB35: Glydon Private Hospital former, 4 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB36: Grafton Rail and Road Bridge (EMM NH6)</li> <li>CZB37: Grafton City Railway Precinct, 25-31 Bent St South Grafton (CoA B15 &amp; EMM NH6)</li> <li>Portions of Pound Street within the Grafton Conservation Area (C3) (EMM NH6)</li> </ul>			
CHMM21	Erect exclusion fencing (where appropriate) between the zone of construction activity and any adjacent areas containing non-Aboriginal heritage items identified for archival recording. Ensure the exclusion fencing remains in place until the completion of the archival recordings (CoA B16).	✓	✓	Environmental Manager (or delegate) Foreman
CHMM22	Erect exclusion fencing around the following heritage items prior to the commencement of construction in the vicinity (CoAs B18 & B19): <ul style="list-style-type: none"> <li>FMW29: SS <i>Induna</i> shipwreck, positioned at a minimum of 5m from the southern starboard side of the wreck.</li> <li>CZB07: Fisher's Drain on Corner Villiers &amp; Dobie Streets</li> <li>FMW34: Water trough, Lane Park at Through Street.</li> </ul> <p><i>It is noted that no exclusion fencing is proposed around heritage items CZB01-CZB06, CZB09 or CZB14 because these items are privately owned dwellings. No fencing is proposed around CZB08 because this is the showground complex on Corner Villiers &amp; Dobie Streets which is regularly accessed by the public. No fencing is proposed around CZB12 (Coronation plaque) because this is a memorial tablet affixed to the railway viaduct on Clarence Street, outside the project boundary.</i></p>	✓		Environmental Manager (or delegate) Project / Site Engineers
CHMM23	Erect a maritime exclusion area around FMW29 (SS <i>Induna</i> shipwreck) (in accordance with Maritime and navigational requirements) 15 metres from the shipwreck to remind workboats to not enter this area.	✓		Environmental Manager (or delegate) Project / Site Engineers
CHMM24	In the unlikely event that additional architectural noise treatment is required at heritage properties beyond that already identified in the EIS (and thus Fulton Hogan is responsible), apply architectural noise treatments in a sympathetic manner to minimise impact on the significance of the heritage item and in consultation with the property owners.		✓	Environmental Manager Project / Site Engineers
CHMM25	Following archival recording (refer to mitigation measure ID CHMM20), relocate the King George V Plaque (CZB19) to a safe location and later reinstate it on the new section of viaduct at Pound Street.		✓	Environmental Manager Project / Site Engineers
CHMM26	Implement the <i>Archaeological monitoring program</i> (Annexure B) where whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas. <p><i>It is noted that no archaeological monitoring is required for areas of low archaeological significance.</i></p>		✓	Environmental Manager (or delegate) Foreman Project / Site Engineers

<sup>1</sup> PC means pre-construction

<sup>2</sup> C means construction

## 8 Compliance management

### 8.1 Roles and responsibilities

The Fulton Hogan Project Team's organisational structure and overall roles and responsibilities are outlined in Section 4.2 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Chapter 7 of this CHMP.

### 8.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to heritage management issues. The induction training will address elements related to heritage management including:

- existence and requirements of this CHMP;
- relevant legislation;
- roles and responsibilities for heritage management;
- location of identified heritage sites;
- proposed heritage management and protection measures;
- procedure to follow in the event of an unexpected heritage item find during construction works (*RMS Standard Management Procedure – Unexpected Heritage Items* (August 2013) (refer Annexure A)); and
- procedure to follow in the event of discovery of human remains during construction works (*RMS Standard Management Procedure – Unexpected Heritage Items* (August 2013) (refer Annexure A)).
- AH5: 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 LALC and provided to relevant staff before commencing work on-site.
- NH8: No-go areas around 3 heritage items will be marked on all construction plans, including the Sensitive Area Plan in Appendix A of the CEMP, and included in induction talks with contractors undertaking work in the vicinity of the heritage items.

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

### 8.3 Monitoring and inspections

Inspections of sensitive areas and activities with the potential to impact Aboriginal and non-Aboriginal heritage will occur for the duration of the Project. General requirements and responsibilities in relation to monitoring and inspections are documented in Section 8.1 and Section 8.2 of the CEMP.

Environmental management measure NH9 requires the monitoring of the moderate and high archaeologically sensitive areas traversed by flood mitigation works, depending on the level of impact and the form of the proposed works. An archaeological monitoring program is provided in Annexure B of this CHMP and includes:

- description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work
- details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits
- process to be followed should any heritage items be identified during the monitoring period.

CoA B17 requires that a monitoring program be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.

CoA D46(d)(ii)C. requires the CHMP to include details of monitoring and reporting requirements for impacts on heritage items.

## **8.4 Auditing**

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 8.3 of the CEMP.

## **8.5 Reporting**

Reporting requirements and responsibilities are documented in Section 8.5 of the CEMP.

## **9 Review and improvement**

### **9.1 Continuous improvement**

Continuous improvement of this CHMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management and performance;
- determine the cause or causes of non-conformances and deficiencies;
- develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- verify the effectiveness of the corrective and preventative actions;
- document any changes in procedures resulting from process improvement; and
- make comparisons with objectives and targets.

### **9.2 CHMP update and amendment**

The processes described in Chapter 8 and Chapter 9 of the CEMP may result in the need to update or revise this CHMP. This will occur as needed.

Any revisions to the CHMP will be in accordance with the process outlined in Section 1.6 of the CEMP and as required, be provided to RMS, ER and other relevant stakeholders for review and comment and forwarded to the Secretary of DP&E for approval.

A copy of the updated CHMP and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 10.2 of the CEMP.

**Annexure A**  
RMS Standard Management Procedure –  
Unexpected Heritage Items



# Annexure B

## Archaeological Monitoring Program

*(Contractor to prepare if required)*

### **Non-Aboriginal Heritage**

**CoA B17** A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.

**D46(d)(ii)C.** HMP to include details of monitoring and reporting requirements for impacts on heritage items;

### **Non-Aboriginal Heritage**

**NH9** The EIS has determined that the proposed flood mitigation works traverse areas of moderate and high potential for the survival of archaeological resources of local significance. Depending on the level of impact and the form of the proposed works, monitoring of these moderate and high archaeologically sensitive areas may be required. No monitoring is required for sites with low archaeological significance.

Monitoring is proposed as it is not appropriate to carry out archaeological testing and salvage within or next to the existing flood levee. This is due to the risks associated with compromising the flood protection measures around Grafton. An archaeological excavation program will expose properties within Grafton to an unacceptable level of risk and therefore is not appropriate in this instance.

An archaeological monitoring program will be developed as part of the heritage management sub-plan developed for the Project. The monitoring program will provide the following details:

Description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work

Details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits

Process to be followed should any heritage items be identified during the monitoring period.

## **Archaeological monitoring program**

### **Purpose**

This program details the archaeological monitoring to be implemented for non-Aboriginal heritage, where whole sections of the flood levee require removal and replacement. The overall intent is to avoid or minimise impacts to non-Aboriginal archaeological resources during construction.

In regard to the flood levee, a program for archaeological monitoring is not required for Aboriginal heritage. Biosis Pty Ltd (as author of the EIS heritage assessments), did not identify any areas of non-Aboriginal archaeological potential associated with the levee upgrades during the EIS phase. The margin associated with the levee system is located in close proximity to the Clarence River, this landform has been heavily flood affected and has significantly reduced potential to contain Aboriginal objects. Any objects present within these landform are likely to be transient (i.e. have been moved from their original location either by flooding or the construction of the levee). As such, the implementation of the *RMS standard management procedure – Unexpected heritage items* (Roads and Maritime Services, 2013) would be the most efficient means of managing Aboriginal heritage values associated with the levee upgrades (refer to Table 7-3 mitigation measure ID CHMM2). In contrast, the non-Aboriginal assessment identified that much of the initial settlement of Grafton was located on the banks of the Clarence River, which is now occupied by certain alignments of the levee. As such, there is potential for the archaeological remains of these structures to be impacted by the levee upgrade and hence why this archaeological monitoring program for non-Aboriginal heritage is required.

### **Scope**

This program is applicable where whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas for non-Aboriginal heritage, as required by the EIS (Appendix G). In such situations, there is potential for below ground excavation to impact non-Aboriginal archaeological resources, particularly those relating to early settlement in Grafton.

Highly archaeologically sensitive areas are considered to be those areas identified in Figure 5-2 of this CHMP as 'High'. This includes areas of 'High' archaeological potential and/or 'High' archaeological research potential. Moderate archaeologically sensitive areas are identified in the same way; however, include areas of 'Moderate' archaeological potential only. No areas of 'Moderate' archaeological research potential exist in the Project area.

This program does not apply to areas of 'Low' archaeological significance. In accordance with the EIS (Appendix G, p226), no archaeological monitoring of these areas is required.

### **Induction and training**

All site personnel and subcontractors working in the vicinity of the flood levee will be trained in the practices to be implemented to minimise the risk of harm to archaeological resources. Training will occur on site during the Project induction and as required in toolbox talks.

### **Description of the proposed flood levee works**

Minor works are required to both Grafton and South Grafton flood levee systems to maintain the existing level of flood protection.

Existing levees will be raised to target elevations. Typically, lengths of levee will be raised by 50 mm to 200 mm. Approximately 2 km of levees in Grafton and 3.7 km in South Grafton will be adjusted. The project has reduced levee works from 11 km in the EIS to 5.7km in design

development; hence the project has reduced impacts. 101 parcels of land are recommended for flood levee works.

The existing flood levee system comprises a number of levee types, including:

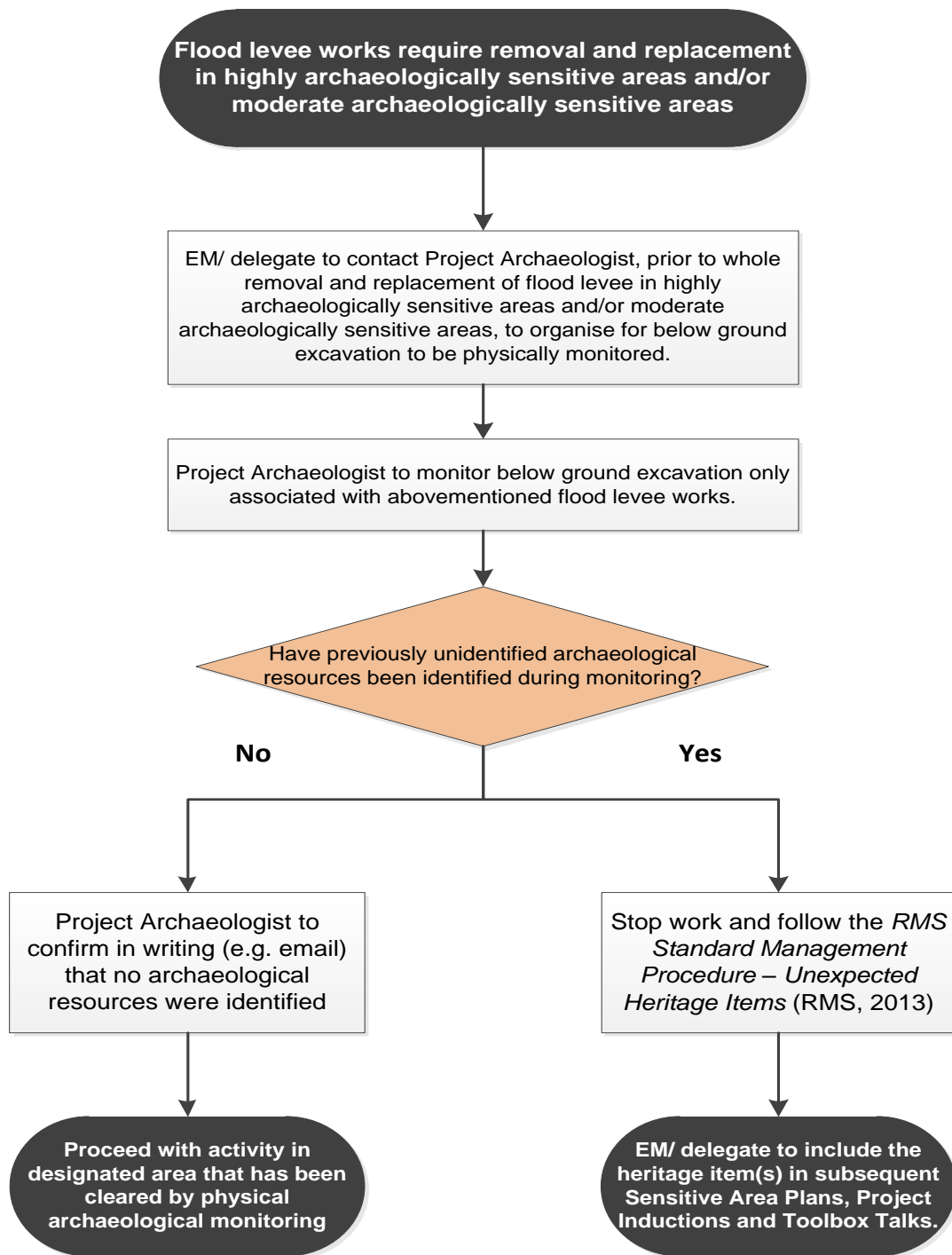
- earth fill embankment (this is the predominant levee type)
- concrete blockwork
- concrete blockwork on top of earth fill embankment
- brick walls
- reinforced concrete walls, and
- buildings forming sections of the levee.

The proposed flood levee works will match the existing type of flood levee and materials where possible. Existing earth fill embankment levees will generally remain earth levees when raised to target elevations. Only in exceptional circumstances will the levee type differ, such as a short section of earth levee in between two blockwork levees or when structural requirements dictate a different construction method.

A final schedule of proposed flood levee works will be prepared after approval of the *Hydrological Mitigation Report* by DP&E, in accordance with CoA D23. The final schedule will be provided to DP&E and Clarence Valley Council prior to the implementation/construction of the proposed flood levee works in accordance with CoA D24.

## **Procedure**

In the unlikely event that whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas, implement the archaeological monitoring program illustrated in the following flow chart. The Environmental Manager (EM) is responsible for implementing this procedure.



**Figure B1 Archaeological monitoring program flow chart**

## Document control

File name	CHMP_Grafton_Rev4 290816
Report name	Additional Crossing of the Clarence River at Grafton Project Construction Heritage Management Plan
Revision number	Rev4

Plan approved by:

*[signed]*

*[signed]*

*[signed]*

*Name*

*Name*

*Name*

Contractor PM

Contractor EM

RMS representative

## Revision history

Revision	Date	Description	Approval
0	14/06/16	Draft for RMS and ER review	
1	12/07/16	Revised in response to comments from RMS and the ER	
2	15/07/16	Revised in response to comment from RMS. Under Section 3.1.2, updated date of Aboriginal Participation Guidelines to 1 May 2015. No further comments from the ER.	
3	01/08/16	Revised in response to remaining comments from RMS received 15/07/16.	
4	29/08/16	Revised in response to comments from OEH (Aboriginal heritage), CVC, DP&E.	

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## Glossary / Abbreviations

AHIMS	Aboriginal Heritage Information Management System
ARTC	The Australian Rail Track Corporation Ltd
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
CHMP	Construction Heritage Management Plan
CVLEP	Clarence Valley Local Environment Plan
DP&E	Department of Planning and Environment (formerly Department of Planning and Infrastructure)
DUAP	The Department of Urban Affairs and Planning (previous agency)
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EWMS	Environmental Work Method Statements
HMM	Heritage Management Measure
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
NCREP	The North Coast Regional Environmental Plan
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NT	The non-statutory <i>National Trust of Australia Plan</i>
OEH	Office of Environment and Heritage
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
Project, the	Additional Crossing of the Clarence River at Grafton
RAPs	Registered Aboriginal parties
RMS	Roads and Maritime Services
RNE	The non-statutory <i>Register of the National Estate</i>
s.170 HCR	Section 170 on the Heritage and Conservation Register
Secretary	Secretary of the NSW Department of Planning and Environment (or delegate) (formerly Director General of the NSW Department of Planning and Infrastructure)
SHR	State Heritage Register
SSI	The state significant infrastructure as generally described in Schedule 1 (SSI-6103) of the Infrastructure Approval.
WHS	World Heritage Site
UDLMP	Urban Design and Landscape Management Plan



# 1 Introduction

## 1.1 Context

This Construction Heritage Management Plan (CHMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Additional Crossing of the Clarence River at Grafton Project (the Project).

This CHMP has been prepared to address the requirements of:

- the Infrastructure Approval;
- the environmental management measures listed in the *Additional Crossing of the Clarence River at Grafton EIS* (ARUP, 2014) and the *Additional Crossing of the Clarence River at Grafton Submissions Report* (ARUP, 2014); and
- all applicable legislation.

## 1.2 Background

The Additional Crossing of the Clarence River at Grafton EIS assessed the impacts of construction of the Project on Aboriginal and non-Aboriginal heritage. As part of EIS development, Aboriginal and non-Aboriginal cultural heritage assessments were prepared to address the Director General's Requirements for the Project, issued by the Department of Planning and Environment. The assessments were included in the EIS as:

- Section 8.5 and Appendix G: Non-Aboriginal Heritage Assessment; and
- Section 8.6 and Appendix H: Aboriginal Heritage Assessment.

## 1.3 Environmental management document system

The Project Environmental Management System is described in the CEMP. The CHMP is part of Fulton Hogan's environmental management framework for the Project. In accordance with the requirements of CoA D46(d), this CHMP has been developed in consultation with the Heritage Council of NSW, the NSW Office of Environment and Heritage (OEH) and Registered Aboriginal Parties (RAPs). Further details of the consultation are provided in Chapter 4 of this CHMP.

Management measures identified in this CHMP will be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMSs will be developed and signed off by environment and management representatives prior to the commencement of the associated works. Construction personnel will be required to undertake works in accordance with the safeguards identified in the EWMSs.

The combination of the CEMP, issue-specific plans, strategies, procedures and EWMS identify the required environmental management actions for implementation by Fulton Hogan's personnel and contractors.

The review and document control processes for this CHMP are described in Chapter 10 of the CEMP.

## **2 Purpose and objectives**

### **2.1 Purpose**

The purpose of this CHMP is to describe how Aboriginal and non-Aboriginal heritage will be protected and managed by Fulton Hogan during construction of the Project.

### **2.2 Objectives**

The key objective of the CHMP is to ensure that impacts to Aboriginal and non-Aboriginal heritage are minimised and within the scope permitted by the Infrastructure Approval.

To achieve this objective, the following will be undertaken:

- ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise potential adverse impacts to Aboriginal and non-Aboriginal heritage along the Project corridor;
- ensure appropriate measures are implemented to address the relevant CoAs outlined in Table 3-1 and the safeguards detailed in the EIS and the Submissions Report; and
- ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 of this CHMP.

### **2.3 Targets**

The following targets have been established for the management of Aboriginal cultural heritage and non-Aboriginal heritage impacts during the Project:

- ensure compliance with the relevant legislative requirements, CoA;
- minimise or avoid impacts on known Aboriginal and non-Aboriginal heritage sites;
- follow correct procedure and ensure notification of any heritage objects / places uncovered during construction; and
- ensure training is provided in the form of inductions to all Project personnel on heritage items, protection measures and unexpected heritage items procedures before they begin work on site.

## 3 Environmental requirements

### 3.1 Relevant legislation and guidelines

#### 3.1.1 Legislation

Legislation relevant to heritage management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *National Parks and Wildlife Act 1974* (NPW Act);
- *Heritage Act 1977* (Heritage Act);
- *Native Title Act 1994* (NSW);
- *Native Title Act 1993* (Commonwealth);
- *Environment Protection Biodiversity Conservation Act, 1999* (EPBC Act) (Commonwealth);
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth); and
- *Historic Shipwrecks Act 1976*.

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

#### 3.1.2 Guidelines

The main guidelines, specifications and policy documents relevant to this CHMP include:

- RMS QA Specification G36 – Environmental Protection (Management System);
- RMS Standard Management Procedure – Unexpected Archaeological Finds (August 2013);
- DEC Interim Community Consultation Requirements for Applicants (December 2004);
- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005);
- Altering Heritage Assets (Heritage Office and DUAP 1996);
- Assessing Significance for Archaeological Heritage Sites and Relics (NSW Heritage Branch Department of Planning);
- RTA Heritage Guidelines (March 2004);
- Archaeological Assessment Guidelines (NSW Heritage Office and NSW Department of Urban Affairs and Planning 1996);
- NSW Government’s Aboriginal Participation in Construction Guidelines (1 May 2015);
- How to Prepare Archival Recording of Heritage Items (Heritage Office, 1998);
- Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Office 2006); and
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013).
- *RMS Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (2011)

## 3.2 Minister's Conditions of Approval

The CoAs relevant to this CHMP are listed in Table 3-1 below. A cross reference is also included to indicate where the condition is addressed in this CHMP or other Project / environmental management documents.

**Table 3-1: Conditions of Approval relevant to the CHMP**

CoA	Condition Requirements	Document Reference
<b>Environmental Performance - Aboriginal Heritage</b>		
B13	Impacts to Aboriginal heritage shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to encroachment on the Aboriginal dreaming site Golden Eel (AHIMS site number 12-6-0326). Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan required under condition D46(d).	Detailed design This Plan
<b>Environmental Performance - Non-Aboriginal Heritage</b>		
B14	Prior to the commencement of construction in proximity to the following heritage items: CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33 and CZB35, the Proponent shall complete all archival recordings, including photographic recording of these heritage items, unless otherwise agreed by the Secretary.	<i>Archival Report</i> (CoA B16) to be provided separately to this CHMP. Table 7-3 mitigation measure ID CHMM20
B15	Prior to construction partially affecting the following heritage items: CZB10, CZB11, CZB19, CZB20, CZB21 and CZB37, the Proponent shall complete archival recordings of existing condition, including photographic recording of these heritage items, unless otherwise agreed by the Secretary. The Proponent shall ensure the Project is conducted in a sympathetic manner that minimises impact to these sites.	As above
B16	Archival recording shall be undertaken by an experienced heritage consultant, in accordance with the Guidelines issued by the Heritage Council of NSW. The areas containing heritage items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the archival recording, the Proponent shall submit a report containing the archival and photographic recordings and the historical research, where required, to the Department, the Heritage Council of NSW, Australian Rail Track Corporation, the local library and the local Historical Society.	Sensitive Area Plan App A3 Table 7-3 mitigation measure ID CHMM21 <i>Archival Report</i> (CoA B16) to be provided separately to this CHMP.
B17	A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.	Table 7-3 mitigation measure ID CHMM2, CHMM26. Annexure B – Archaeological Monitoring Program Annexure A – RMS standard

CoA	Condition Requirements	Document Reference
		management procedure – Unexpected heritage items
B18	Prior to the commencement of construction, the Proponent shall implement ‘no-go’ exclusion zones to prevent access and protect the following heritage item: FMW29.	Sensitive Area Plan App A3 Table 7-3 mitigation measure ID CHMM3, CHMM22.
B19	The Proponent shall not destroy, modify or otherwise physically affect the heritage items listed in Table 8-46 in the <i>Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume</i> (RMS, August 2014).	Table 7-3 mitigation measure ID CHMM3 CEMP App A3 - Sensitive Area Plans
<b>Environmental Performance - Heritage General</b>		
B20	Identified impacts to heritage sites shall be minimised where feasible and reasonable through both detailed design and construction, particularly with regard to retained locally listed historic properties and the existing Grafton Bridge. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition D46(d) and under the guidance of an appropriately qualified heritage specialist.	Detailed design UDLMP Section 7 Annexure B – Archaeological monitoring program
B21	This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the SSI.	Section 7 Table 7-3 mitigation measure ID CHMM2
B22	The Proponent shall not destroy, modify or otherwise physically affect any heritage items outside the SSI footprint, unless otherwise agreed by the Secretary in accordance with condition D41.	Section 7 Table 7-3 mitigation measure ID CHMM3
B23	The measures to protect heritage sites near or adjacent to the SSI during construction shall be detailed in the Construction Heritage Management Plan required under condition D46(d).	Section 7
<b>Construction Environmental Management, Reporting and Auditing – Ancillary Facilities</b>		
D41	The Proponent may undertake archaeological investigations at ancillary sites that do not meet the criterion set out in condition D36, where this is required to assess the potential Aboriginal and non-Aboriginal archaeological impacts of the ancillary facility provided they are undertaken under a methodology prepared to the satisfaction of the Secretary in consultation with OEH.	Table 7-3 mitigation measure ID CHMM6
<b>Construction Environmental Management Reporting and Auditing – CEMP</b>		
D46(d)	a <b>Construction Heritage Management Plan</b> to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall be developed in consultation with the OEH, the NSW Heritage Council (for non-Aboriginal heritage) and Registered Aboriginal Parties (for Aboriginal heritage), and include, but not necessarily be limited to:	This Plan

CoA	Condition Requirements	Document Reference
	(i) In relation to Aboriginal Heritage:	
	A. details of management measures to be carried out in relation to Aboriginal heritage;	Section 7
	B. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and Registered Aboriginal Parties and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register;	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items
	C. procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force, OEH and Registered Aboriginal Parties and not recommencing any works in the area unless authorised by the OEH and/or the NSW Police Force;	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items
	D. heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal cultural heritage; and	Section 8.2 Section 7
	E. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and	Section 4.3
D46(d)	(ii) In relation to non-Aboriginal Heritage:	
	A. identification of heritage items directly and indirectly affected by the SSI;	Section 6.3
	B. details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity);	Section 7
	C. details of monitoring and reporting requirements for impacts on heritage items;	Section 8.3 Table 7-3 mitigation measure ID CHMM26 Annexure B – Archaeological Monitoring Plan
	D. procedures for dealing with previously unidentified heritage objects, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the Department, OEH, NSW Heritage Council, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI; and	Table 7-3 mitigation measure ID CHMM2 Annexure A – RMS Standard Management Procedure – Unexpected Heritage Items

CoA	Condition Requirements	Document Reference
	E. heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under this approval including site identification, protection and conservation of non-Aboriginal cultural heritage; and	Section 8.2 Section 7
D46(d)	(iii) mechanisms for the monitoring, review and amendment of this plan.	Section 9.2

## **4 Consultation**

### **4.1 Consultation during preparation of EIS**

#### **4.1.1 Aboriginal consultation**

The RMS has developed the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) to provide a consistent means of effective consultation with Aboriginal communities regarding activities which may impact on Aboriginal cultural heritage and to provide a consistent assessment process for RMS activities across NSW. In accordance with the PACHCI, the early stages of RMS projects involve consultation with Local Aboriginal Land Councils and registered Native Title Claimants.

The EIS was developed in consultation with the Grafton Ngerrie Local Aboriginal Land Council (LALC). No Native Title Claimants are currently registered for the Project area. The Grafton Ngerrie LALC was contacted at the commencement of the EIS process to discuss the proposed road upgrades and bridge construction. The Grafton Ngerrie LALC was also invited to participate in the archaeological survey and subsurface test excavations of the Project area. Grafton Ngerrie LALC nominated site officers were present when these field investigations were carried out.

The Draft Aboriginal Cultural Heritage Assessment Report was provided to the RAPs (Grafton Ngerrie LALC) on 23 May 2014 for review and comment. Although no formal written response was provided, Grafton Ngerrie LALC have indicated that the Draft Aboriginal Cultural Heritage Assessment Report was satisfactory.

#### **4.1.2 Non- Aboriginal consultation**

Consultation was carried out with the Department of Planning and Environment (DP&E), Office of Environment and Heritage (including Heritage Division) (OEH) and the Heritage Council of NSW during the preparation of the EIS.

### **4.2 Consultation for preparation of the CEMP**

In accordance with CoA D46(d), this CHMP has been developed in consultation with the OEH, the NSW Heritage Council (for non-Aboriginal heritage) and RAPs (for Aboriginal heritage).

Grafton Ngerrie Local Aboriginal Land Council (LALC) is the only registered Aboriginal party for the Project.

A summary of consultation undertaken during the preparation of this CHMP is provided in Appendix A2 of the CEMP.

### **4.3 Ongoing Consultation during Construction**

In accordance with CoA D46(d)(i)(E), ongoing consultation between RMS, the Contractor and Aboriginal stakeholders regarding the management of Aboriginal cultural heritage within the Project area will continue. The process for the consultation will be documented in Fulton Hogan's Community Communication Strategy.

The CHMP includes procedures for dealing with previously unidentified heritage objects, (including identification of when works can re-commence in consultation with the OEH, NSW Heritage Council and DP&E).

**NH1** A heritage interpretation plan will be prepared to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with



Grafton. The heritage interpretation plan will be developed in consultation with Clarence Valley Council and relevant stakeholders.

**NH4/AH4** A construction heritage management plan (CHMP) will be prepared as part of the CEMP for the Project. The CHMP will include Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.

**AH2** The Aboriginal community will continue to be consulted as an identified group within the overall community consultation strategy for the Project.

**AH5** The Project site induction will incorporate Aboriginal culture awareness training for all relevant staff and contractors. This training will be developed in consultation with the Grafton Ngerrie LALC.

## 5 Existing environment

The following sections summarise what is known about Aboriginal and non-Aboriginal heritage within and adjacent to the Project corridor based on information provided in:

- EIS Section 8.5 Non-Aboriginal heritage;
- EIS Section 8.6 Aboriginal cultural heritage;
- EIS Appendix G:Non-Aboriginal Heritage Assessment; and
- EIS Appendix H: Aboriginal Heritage Assessment.

### 5.1 Aboriginal cultural heritage

As part of the EIS, a review of database searches and background information was conducted to characterise the Aboriginal heritage likely to occur within the Project area and surrounds. This was followed by an archaeological field survey carried out on 14 October 2013 and consultation with the RAP (Grafton Ngerrie LALC) as discussed in Section 4.1.1.

#### 5.1.1 Historical background

##### 5.1.1.1 Aboriginal occupation in Grafton and South Grafton

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. 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 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 and were complemented by adaptations of European technologies. Interactions with traditional social groups also continued to be important.

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.

#### 5.1.2 Existing native title

A search on the National Native Title Tribunal *TitleVision* online tool conducted on 18 April 2014 identified no native title claims within the Project area.

#### 5.1.3 Archaeological assessment

The archaeological assessment identified one Aboriginal site within the Project area: the Golden Eel Site (12-6-0326). The Golden Eel site and the formation of the Clarence River are considered to be of high cultural significance to the local Aboriginal people. There is also one Aboriginal site recorded in close proximity to the Project area: Alipou Creek AS 1.

Further details of these sites are provided in Table 5-1 below. The locations of the sites are shown on Figure 5-1.

#### **5.1.4 Aboriginal Heritage Information Management System**

The results of surveys and searches in the Aboriginal Heritage Information Management System (AHIMS) carried out for the EIS found no Aboriginal sites within the Project area. The nearest sites to the Project area are presented in Table 5-1. These sites are more than 200 m from the Project area. There are more known Aboriginal sites in the Grafton and South Grafton area but due to the culturally sensitive and tangible nature of some of these sites, only the nearest sites have been documented.

No potential archaeological deposits were identified within or close to the Project area.

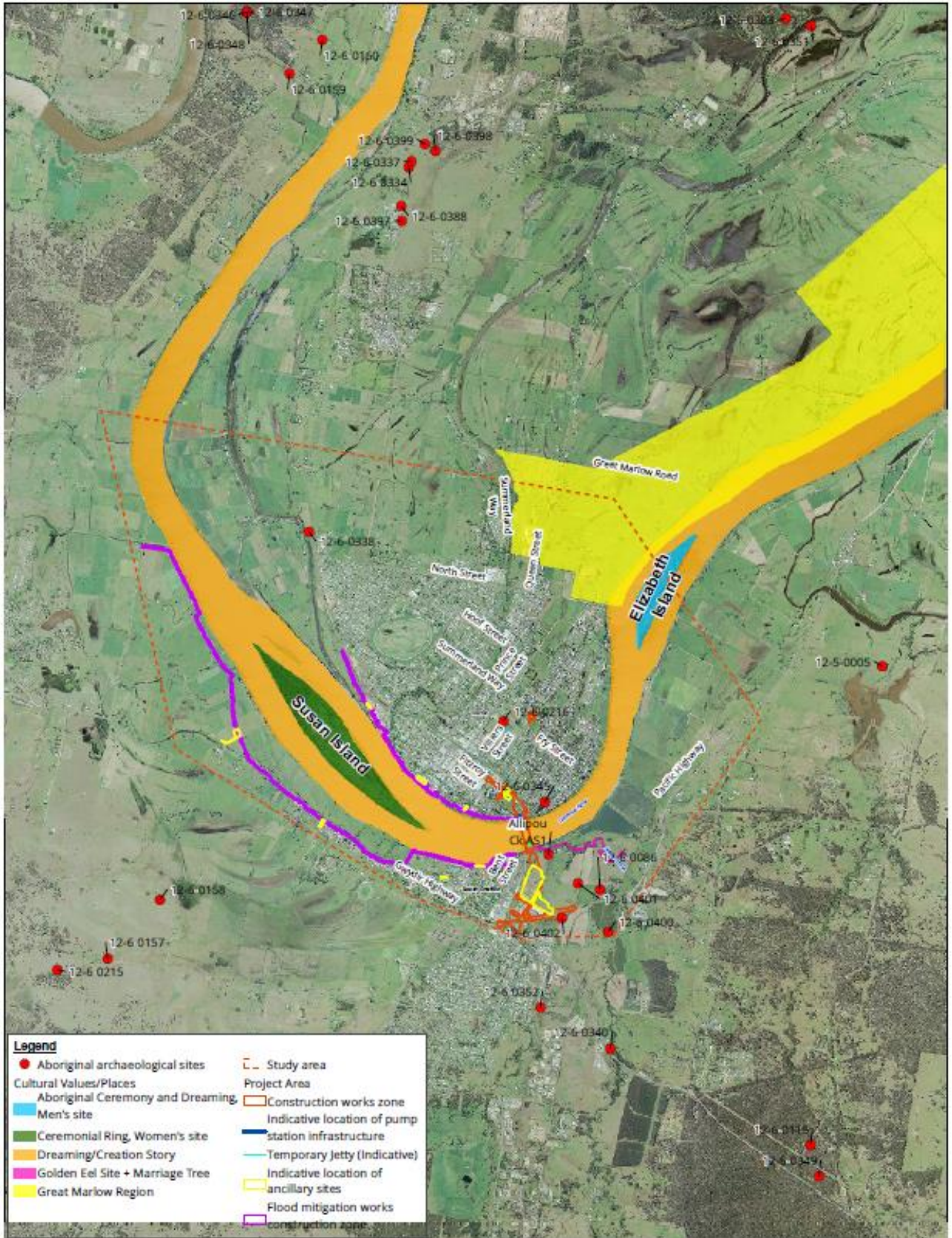
#### **5.1.5 Subsurface test excavations findings**

Excavations carried out between 14 and 16 October 2013 found no subsurface Aboriginal cultural material identified as having moderate to high archaeological potential within the Project area in South Grafton. As such, the Project area in South Grafton is assessed as having low potential.

#### **5.1.6 Aboriginal cultural places and significance**

Representatives of the Grafton Ngerrie LALC identified the Golden Eel site (AHIMS site number 12-6-0326) as a place of important cultural value to the local Aboriginal community. 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 in South Grafton has been identified as a specific landscape feature with an important relationship to the Golden Eel story. This landscape feature is located outside the Project area, but the Grafton Ngerrie LALC has indicated that changing this landscape feature would impact the cultural values of the Golden Eel site.

Overall, Grafton and South Grafton are important cultural landscapes that have high cultural values with important visual components (aesthetic values) to the local Aboriginal community. In terms of Aboriginal heritage, while the Project area contains low historic and scientific values, due to the high cultural values it is of overall high heritage significance.







**Figure 5-1: Aboriginal sites location in the Project area**

Source: EIS Appendix H, p20



**Table 5-1: AHIMS sites within 200 m of the Project area**

AHIMS Number	Site Name	Site Type	Remarks
12-3-0338	Carr's Creek Campsite	Open campsite	 <p>The campsite is about 40 m from the proposed flood mitigation works construction zone boundary in Grafton. It consists of a giant fig tree situated between Carr's Creek to the east and a railway easement to the west. Carr's Creek Camp consisted of small, low-level occupation immediately beneath the fig tree. The site is of high social significance to the Grafton Ngerrie community. It is important in demonstrating the social connections that still exist between present-day communities and former places of habitation.</p>
12-6-0326	Clarence River Golden Eel	Aboriginal Ceremony and Dreamtime	 <p>The site is located about 60 m from the bridge construction zone boundary. The site has a general restriction as it is within railway land. The Grafton Ngerrie LALC considers the Project area to have a high level of cultural significance due to the presence of the Golden Eel dreaming and ceremonial site.</p>

AHIMS Number	Site Name	Site Type	Remarks
12-6-0402	Alipou SCT 2	Modified tree	 <p data-bbox="1090 282 1412 611">This scarred tree is situated on the South Grafton open floodplain, about 900 m south of the Clarence River, and about 50 m away from the bridge construction zone boundary. The tree is dead. It is a Eucalyptus tereticornis (river red gum) with a 3.15 m girth. The tree contains one scar facing east (shown in the picture).</p>
14-10-13	Alipou Creek AS1	Grinding stones	 <p data-bbox="660 1272 1412 1384">The Aboriginal archaeological survey on 14 October 2013 identified a new Aboriginal site named 'Alipou Creek AS 1' in South Grafton, located about 50 m south of Alipou Creek and 150 m east (downstream) of the Project construction work zone.</p> <p data-bbox="660 1393 1412 1579">Alipou Creek AS 1 consists of two Aboriginal sandstone river cobble artefacts. Alipou Creek AS 1 is considered a low-density artefact scatter that contains a limited range of artefact types. It also lacks stratified deposits and is a common site type within the local region. The site has some limited potential to provide new information about the exploitation of raw stone material and plant processing in the region. The archaeological significance of this site is low.</p>

## 5.2 Non-Aboriginal heritage

### 5.2.1 Historical Context

The EIS identified eight local history themes for the Grafton area, as summarised in Table 5-2.

**Table 5-2: Historic themes for the Grafton area**

Dates	Themes
Pre 1835	<b>Aboriginal past</b>
1835–1840	<p><b>The cedar getters:</b></p> <ul style="list-style-type: none"> <li>• Timber-getters, graziers and shipbuilders move into the Grafton area in increasing numbers in the late 1830s.</li> <li>• First surveys conducted of the Grafton area.</li> </ul>
1840–1860	<p><b>Squatters, settlers and the town plan:</b></p> <ul style="list-style-type: none"> <li>• Development of early infrastructure and early commercial endeavours.</li> <li>• Grafton and South Grafton are surveyed into a grid layout town plan (adopted in 1849). Town allotments begin selling in Grafton and South Grafton.</li> <li>• Grafton and South Grafton incorporated as the Municipality of Grafton (1858).</li> </ul>
1860–1890	<p><b>Grafton boom and bust: the golden years:</b></p> <ul style="list-style-type: none"> <li>• Land becomes available for purchase as freehold, encouraging further development of agriculture along the river and attendant commercial and residential purchases in Grafton and South Grafton.</li> <li>• Various listed heritage items of local significance are built during this period including: Fishers Park (corner of Villiers and Dobie streets) (CZB08); 30–32 Villiers Street, Grafton (CZB09), built by the Henson Family; Ravensford (CZB10), built by the Henson family; and Grafton Court House (FMW15).</li> <li>• An official program for the planting and protection of trees in streets and parks begins.</li> </ul>
1890–1910	<p><b>The big river</b></p> <ul style="list-style-type: none"> <li>• A period of residential expansion starts, with construction of many Federation style dwellings. These include Dunvegan (CZB11) at 47 Pound Street, 18 Kent Street (CZB25), 14 Kent Street (CZB27), and Clarendon (CZB30) at 13 Pound Street. These items are listed in the <i>Clarence Valley Local Environmental Plan 2011</i>.</li> <li>• Arcola (State heritage item SHR 1546), at 150 Victoria Street, is built by the Strauss brothers (FMW24).</li> <li>• Fishers Park becomes the Grafton showground, and the complex is opened (CZB08).</li> <li>• Construction and opening of the Grafton to Casino railway.</li> </ul>
1910–1932	<p><b>Bridging the gap</b></p> <ul style="list-style-type: none"> <li>• SS Induna, a modified steamship, starts operation as a rail ferry across the Clarence River.</li> <li>• Interwar period residences are built, including 16 Kent Street (CZB26) and 12 Kent Street (CZB28).</li> <li>• Dwellings currently listed in the Clarence Valley Local Environmental Plan 2011 are built. These included 31 Pound Street (CZB18), 7 Greaves Street (CZB31), 5 Greaves Street (CZB32), 1 Greaves Street (CZB33), and 1 Pound Street (CZB34). Glyndon Private hospital (CZB35) is opened.</li> <li>• The railway from South Grafton south to Glenreagh is completed. This includes part of the Grafton City Railway Station Group (State Heritage item SHR No.1154).</li> <li>• Grafton Rail and Road Bridge over the Clarence River is built (State heritage item SHR No.1036). The bridge opens in 1932.</li> </ul>
1932–1957	<p><b>United city of two towns</b></p> <ul style="list-style-type: none"> <li>• Jacaranda trees are planted on Pound Street between Clarence Street and the river to commemorate the Silver Jubilee of King George V.</li> <li>• An avenue of Cassia trees is planted in Clarence Street between Bacon and Pound Streets to commemorate the coronation of Queen Elizabeth II.</li> <li>• Grafton and South Grafton reincorporated to form the City of Grafton in 1957.</li> </ul>
1957– present	<b>Modernism</b> - No events relevant to the HMP are documented during this period.

## **5.2.2 Terrestrial and maritime archaeological potential**

The assessment methodology adopted in the EIS to assess non-Aboriginal heritage comprised historical research and reviews of previous heritage assessments, preliminary field surveys and terrestrial and maritime archaeology field work and assessment between October 2013 and February 2014. A significance assessment was prepared for all heritage items in the vicinity of the Project.

### **5.2.2.1 Archaeological resources and archaeological research potential**

Properties within and beside the Project area identified as containing archaeological resources or research potential are presented in Figure 5-2.

### **5.2.2.2 Terrestrial archaeological test excavations results**

Archaeologically significant remains from the existing bridge construction workshops are unlikely to be present along the south bank of the Clarence River. The archaeological potential for the Grafton Road and Rail Bridge (CZB36) construction workshops is moderate and its archaeological research potential is low.

### **5.2.2.3 Maritime archaeological survey results**

The maritime surveys and visual inspection found submerged cultural material (wharf remains and early 20<sup>th</sup> century tools and fastenings) next to the southern bank of the Clarence River within the Project construction work zone. These items are not considered relics within the meaning of the *Heritage Act 1977*.

With the exception of the SS Induna (FMW29), none of the features identified through remote sensing and visual inspection are relics or heritage items. The remains of the SS Induna shipwreck are located beside the southern bank of the Clarence River, some 250 m upstream from the proposed bridge construction work zone, and adjacent to the proposed flood mitigation works construction work zone.

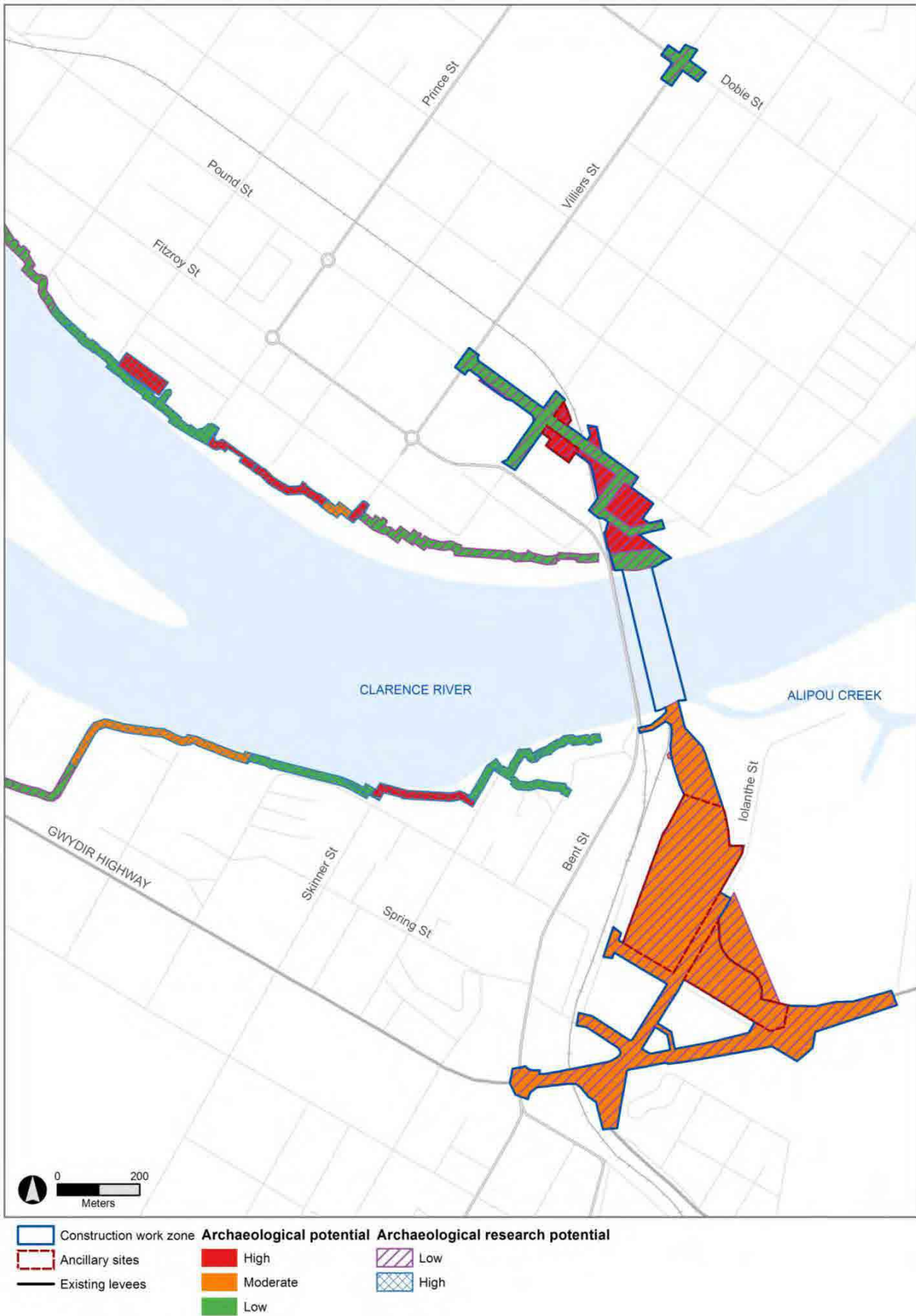
## **5.2.3 Conservation areas and built heritage**

Searches of the relevant heritage databases identified that, in the vicinity of the Project, there are:

- no World Heritage Sites ('WHS');
- no items on the National Heritage List or Commonwealth Heritage List;
- 2 heritage items included on the State Heritage Register (SHR);
- 2 heritage items listed under s170 on the Heritage and Conservation Register (s170 HCR);
- 24 heritage items/places identified in the Clarence Valley Local Environment Plan (CVLEP);
- 3 heritage items/places identified in the North Coast Regional Environmental Plan (NCREP);
- 5 heritage items/places identified in the non-statutory National Trust of Australia Plan (NT); and
- 2 heritage items/places identified in the non-statutory Register of the National Estate (RNE).

Details of significant heritage items are provided in Table 5-3 below. Other heritage items listed within statutory and non-statutory registers are summarised in Table 5-4. Conservation areas and built heritage relevant to the Project are shown in Figure 6-1, Figure 6-2, and Figure 6-3.





**Figure 5-2: Archaeological potential within and adjacent to the Project area**

Source: EIS, p217

**Table 5-3: Items of heritage significance**

Item no	Item	Listing	Statement of Significance	Heritage Significance
C3	Grafton Conservation area	CVLEP NCREP NT RNE	The Grafton and South Grafton conservation areas are examples of a subtropical mid-19th century river port city and pastoral seat. It contains a group of civic and ecclesiastical buildings and many spacious timber houses which display both craftsmanship in detail and the ubiquitous verandah of northern Australia. The magnificent canopies of Ficus (fig), Jacaranda and Camphor laurel trees provide shade and colour while serving to link the natural and man-made features of the city.	Local
C7	South Grafton Conservation area			Local
CZB36	The Grafton Rail and Road Bridge	SHR s170 HCR CVLEP NCREP NT	<p>This bridge is a double-deck road and rail structure, the only one of its type in NSW. There is a lift span to allow river traffic to pass under, however this is no longer in use. Opening of the bridge in 1932 completed the North Coast standard gauge line between Sydney and Brisbane, avoiding the winding route through Tenterfield.</p> <p>The approach viaduct in addition to the wharf remains are important relics of the development of the North Coast railway. The viaduct is representative of similar structures constructed at a range of locations, many of which have been replaced.</p>	State

**Table 5-4: Other heritage listings within the Project area**

Item no	Item	Listing	Statement of heritage	Heritage Significance
<b>Grafton</b>				
CZB07	Fisher's Drain: Corner of Villiers and Dobie streets	CVLEP	Fisher's Drain demonstrates early public works in Grafton and illustrates the need to drain low land near Fisher Park, an area subsequently subdivided into Fisher Park and the Grafton Showground. It is a significant archaeological relic and plans of the drain (GCC No 1 civil/drainage works plan) are also a significant moveable heritage item. It has the ability to be interpreted and to provide information on the development of Fisher Park and public works. This item would not be impacted by the project but an exclusion zone is proposed during construction as a precautionary measure	Local
CZB10	Ravensford, 36 Villiers Street, Grafton	CVLEP NT	This attractive two-storey residence has remarkably intact external details and is set within a garden of mature trees on an important corner site. It is significant historically for its association with Captain Greenway (c 1860) and later the Henson family who owned a cordial factory next door. It is representative of the quality two-storey residences built in the period 1890–1910 and can be compared with Lormont (16 Victoria Street). The site is likely to have archaeological potential.	Local

Item no	Item		Statement of heritage	Heritage Significance
CZB11	Dunvegan, 47 Pound Street, Grafton	CVLEP NT	Dunvegan is an imposing two-storey timber-clad residence, unusually large in scale and in largely original condition, demonstrating the local use of timber. Built for the Powell family in 1905 and extended in 1926 it presents a variety of Victorian and Federation elements including iron lace balustrading and valances and carved bargeboards with fretted work at the apex. It is now in public ownership and forms part of the Grafton TAFE complex. Buildings of this quality and size are becoming increasingly rare in Grafton. It is likely to be significant to the State.	Local
CZB13	Jacaranda, Brachychiton and Ficus trees over 3 metres on road reserve	CVLEP	Tree planting was introduced as early as 1881 to beautify the town and provide much needed shade. Street plantings have also been carried out to commemorate particular historic events. Street trees have become synonymous with Grafton and make a significant contribution in depicting the history and aesthetics of the town. As commemorative monuments they have a specific relationship to people and historic events in Grafton and are important to the Grafton community as a whole.	Local
CZB15	26 Clarence Street, Grafton	CVLEP	This is a modest Federation weatherboard-clad Street, cottage with several original elements, which Grafton contributes to the domestic scale of Clarence Street. It is located within the Grafton urban conservation area and is historically significant as it shows the continuing development of Grafton city.	Local
CZB16	12 Clarence Street, Grafton	CVLEP	This c1900 or earlier weatherboard-clad dwelling Street, has original joinery and contributes to the Clarence Street streetscape. Set back on the block on the same alignment as 10 Clarence Street, it tells of the growth of Grafton. Both dwellings have a pleasing backdrop of mature trees.	Local
CZB17	10 Clarence Street, Grafton	CVLEP	This c1900 single-storey weatherboard-clad Street, bungalow, is set back on a large block with a backdrop of mature trees. It may be a pair with 12 Clarence Street. It is historically significant as it demonstrates growth in Grafton and contributes to the city's social history.	Local
CZB18	31 Pound Street, Grafton	CVLEP	It is rare to find Spanish Mission style cottages in Street, Grafton, particularly those with barley curl columns supporting the front porch. This cottage is representative of its type and contributes to the historic fabric of Grafton. It can be compared with 4 Pound Street.	Local
CZB19	King George V Plaque, Pound Street, Grafton (CVLEP)	CVLEP	This plaque, dating from 1935, and the associated street trees, are historically significant street trees, as they show the warmth of feelings for the English, particularly King George V. The trees also demonstrate the continuing desire of Grafton Council to beautify the town through street plantings, a commitment begun in 1874 when Council adopted a by-law for the planting of street trees.	Local

Item no	Item		Statement of heritage	Heritage Significance
CZB20 & CZB21	Grafton Railway Viaduct, Grafton	CVLEP s.170 HCR	The railway viaducts are architecturally significant as the first use of precast reinforced concrete beams and of concrete Art-Deco arches Grafton over seven roads in Grafton. They have historic significance as part of the final link in the North Coast railway linking Brisbane and Sydney and for their social and commercial benefit to passenger and freight transport by rail.	Local
CZB24	22 Kent Street, Grafton (CVLEP)	CVLEP	While raised above flood levels, this is a representative example of an inter-war bungalow with much decorative timberwork. It is one of a group of three similar residences in Kent Street and complements the streetscape. It is also significant for its association with Mr B. C. Egginis who was Mayor of Grafton from 1932–35.	Local
CZB25	18 Kent, Street, Grafton	CVLEP	This is a typical example of a late Victorian residence (c1890) with vertical weatherboards cladding the exterior. Along with houses at 12–18 Kent Street, it makes a significant contribution to the streetscape and to the historic fabric of Grafton	Local
CZB26	16 Kent Street, Grafton	CVLEP	This is a representative example of a Californian bungalow. Along with houses at 14 and 18 Kent Street, it contributes to the domestic scale of this section of Kent Street.	Local
CZB27	14 Kent Street, Grafton	CVLEP	This cottage is representative of the late Victorian to Federation style with a steeply pitched roof and use of traditional elements and materials. The projecting gable is likely to have been a later addition. Along with cottages at 16 and 18 Kent Street, it contributes to the streetscape.	Local
CZB28	12 Kent Street, Grafton	CVLEP	While modified with the addition of a brick verandah, this Californian bungalow contributes to the form and scale of Kent Street. It is one of a group of dwellings extending from 12–18 Kent Street that demonstrates residential development in Grafton from the 1890s to the 1930s.	Local
CZB29	14 Pound Street, Grafton	CVLEP	This residence is aesthetically pleasing and makes use of its corner location. Built c1950 in liver coloured brick it is an unusual addition to the architecture of Grafton, which at that time saw the construction of mainly weatherboard or fibrocement- clad buildings. It features elements of the Spanish Mission style with its use of triple arches over the porches and a terracotta tiled roof. It is set on a large block with a mature garden.	Local
CZB30	Clarendon, 13 Pound Street, Grafton	CVLEP	This substantial single-storey weatherboard bungalow, with a hipped iron roof extending over deep front and side verandahs and brick chimneys with corbelled tops, contributes to the historic fabric of Grafton. While the bungalow is partially obscured from the street by an attractive garden, the exterior, with its tall chimneys, makes an aesthetic contribution to Pound Street. It is worthy of further historical research	Local
CZB31	7 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local

Item no	Item		Statement of heritage	Heritage Significance
CZB32	5 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local
CZB33	1 Greaves Street (New Heritage Item)	-	This building contributes to the significance of the urban conservation area. On its own, it does not meet the thresholds for local heritage significance.	Local
CZB34	1 Pound Street, Grafton	CVLEP	Located on the riverbank, this substantial interwar Californian bungalow characterises properties in the Dovedale precinct. Its gardens and lawns extend to the road verge and the property boundary is defined only by a low fence. With its red tiled roof, intact chimney, wide verandah and casement windows, it appears to be in almost original condition and is representative of its type.	Local
CZB35	Former Glyndon Private Hospital, 4 Greaves Street, Grafton	CVLEP	This Californian bungalow is of historic importance as a second-generation home on the original Dovedale property. It is associated with Mrs Loxton (daughter of W. A. B. Greaves) and later Matron Blackwell of the Glyndon Private Hospital. The hospital was well known in the Grafton district and is likely to be socially significant to the community who spent time there.	Local
<b>South Grafton</b>				
CZB37	Grafton City Railway Precinct	SHR ARTC s.170 Register CVLEP	Grafton City Railway Precinct is of State historic significance as a former major railway administrative centre for the North Coast. The extant refreshment room is a unique structure on the NSW rail system built for the movement of troops during World War II and remains an important reminder of the site's role in the Australian war effort and the role played by rail in moving troops around the country. The extant barracks building is representative of a series of similar barracks buildings constructed throughout the NSW railway system for train crews to rest between shifts. The office block demonstrates the former administrative role of the site. Overall, the significance of the railway precinct has been compromised by modern buildings, the demolition of the extensive locomotive servicing depot and all other original buildings.	State
FMW34	Water Trough, Lane Park, Through Street, South Grafton	CVLEP	The Bills horse trough in Lane Park is significant as one of only 700 troughs manufactured and distributed by the George Bills Trust in Australia. This item would not be impacted by the project but an exclusion zone is proposed during construction as a precautionary measure.	Local

## 6 Environmental aspects and impacts

### 6.1 Construction activities

Construction activities that could result in adverse impacts to heritage items include:

- waterway activities
- geotechnical investigations
- demolition
- working near houses
- flood levee works;
- early works such as services/utility relocations;
- initial clearing and/or grubbing of vegetation;
- initial removal of topsoil;
- construction of site compounds and spoil / mulch and / or equipment stockpile areas;
- earthworks during construction; and
- temporary access roads during construction.

### 6.2 Aboriginal cultural heritage impacts

#### 6.2.1 Impacts on Aboriginal cultural places

The cultural importance of the Golden Eel site has been highlighted during consultation with the Grafton Ngerrie LALC, who advised that direct impacts on Alipou Creek through landscaping and construction would significantly impact the cultural values of the Golden Eel site and must be avoided. Accordingly, the Project has been designed to avoid direct impacts on this Aboriginal cultural place.

#### 6.2.2 Impact on known Aboriginal sites

There will be no impact on the closest known Aboriginal sites to the Project area, namely Clarence River Golden Eel site, Alipou SCT 2 site, Alipou Creek AS 1 site, and Carr's Creek Campsite. The assessment of impact found that there will be no harm or loss of heritage value on known Aboriginal sites as:

- test excavations on land within the Project area did not reveal any Aboriginal cultural material; and
- there are no identified Aboriginal archaeological values located within the Project area.

These findings are summarised in Table 6-1.

**Table 6-1: Potential archaeological impact**

Site	Cultural significance	Type of harm	Degree of harm	Consequence of harm
Clarence River Golden Eel (AHIMS site number 12-6 0326)	High	None	None	No loss of value
Alipou Creek AS 1 site	Low	None	None	No loss of value

### 6.3 Non-Aboriginal heritage impacts

The following section summarises the potential impacts to non-Aboriginal heritage items and conservation areas as a result of the construction of the Project based on information provided in the EIS.

#### 6.3.1 Summary of impacts on known non-Aboriginal Heritage

Impacts on known non-Aboriginal heritage items in the vicinity of the Project are summarised in Table 6-2. The consolidated total is the total number of known heritage items in the vicinity of the Project. For further details about the potential impacts refer to Table 6-3Table 6-3.

**Table 6-2 Project impacts to known non-Aboriginal heritage items in the vicinity of the Project**

Impact	Heritage item no.	Total
Direct impact – whole	CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33, CZB35 (dwellings)	10
Direct impact – partial	CZB10, CZB11 (Dwellings) CZB19 (King George V Plaque) CZB20 & CZB21 (Grafton Railway Viaduct) CZB37 (Grafton City Railway Precinct) C3 (Grafton Conservation area) C7 (South Grafton Conservation area)	7
Indirect impact – visual	CZB16, CZB17 (Dwellings) CZB13 (Street trees) CZB36 (Grafton rail and road bridge)	4
Indirect impact – noise	CZB15, CZB22, CZB23 (Dwellings)	3
Indirect impact – visual and noise	CZB24, CZB29, CZB34 (Dwellings)	3
Indirect impacts – vibration	Nil	0
No impact	CZB01, CZB02, CZB03, CZB04, CZB05, CZB06, CZB09, CZB14, FMW01, FMW02, FMW03, FMW04, FMW11, FMW12, FMW18, FMW20, FMW21, FMW22, FMW23, FMW24, FMW25, FMW26, FMW31, FMW32, FMW37, FMW38 (Dwellings) CZB07 (Drain) CZB08 (Showground complex) CZB12 (Coronation plaque) FMW05 (Footpath sign) FMW06 (St Mary’s church) FMW07 (Roman Catholic presbytery) FMW08 (Flats) FMW09 (Convent) FMW10 (Offices) FMW13 (The deanery) FMW14 (Memorial Park) FMW15 (Grafton Court House) FMW16 (Policy Inspector’s Residence) FMW17 (Former location of Sharp’s store) FMW19 (Former location of courthouse and lockup) FMW27 (Hewitt’s store) FMW28 (Former site of CM Wilson store) FMW29 (SS Induna) FMW30 (Former site of public wharf)	49

Impact	Heritage item no.	Total
	FMW33 (Lane Park) FMW34 (Water trough) FMW35 (Former South Grafton public wharf/punt) FMW36 (Walker's marina hotel)	
Consolidated total		76

### 6.3.2 Impacts on terrestrial and maritime archaeology

#### 6.3.2.1 Road and bridge construction works

The Project would impact a number of land parcels assessed as having high archaeological potential in Grafton. The majority of these parcels correspond to heritage listed houses of local significance in Grafton that would be demolished as a result of the Project (EIS, p225). In accordance with Table 6-2, the EIS identified that ten (10) heritage listed houses of local significance would be demolished (CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33, CZB35).

In South Grafton, the proposed construction work zone includes land assessed as having moderate archaeological potential (EIS, p225). No land has been assessed as having high or moderate research potential within the Grafton and South Grafton construction work zones (EIS, p225).

#### 6.3.2.2 Flood levee works

Within the flood mitigation construction work zone in Grafton and South Grafton, a number of land parcels have been assessed as having moderate and high archaeological potential and moderate and high research potential associated with early settlement. Work along these areas would involve raising the levee up to 20 cm. It is unlikely that this work would require extensive below ground disturbance. If significant below-ground disturbance is required within areas of moderate to high archaeological potential, a program of archaeological monitoring will be implemented (refer to Annexure B – *Archaeological monitoring program*).

### 6.3.3 Impacts on maritime archaeology

The only maritime archaeological feature identified during investigations for the EIS is the shipwreck remains associated with the *SS Induna* (FMW29), however these remains are outside the Project construction work zone. As a precautionary measure, a 'no go' area will be implemented around the *SS Induna* during construction to protect the heritage values associated with the shipwreck remains (refer to Section 7).

### 6.3.4 Impacts on Grafton and South Grafton urban conservation areas

#### 6.3.4.1 Impacts on Grafton conservation area (C3)

The Project will have the following direct partial impacts on the Grafton conservation area C3:

- removal of 6 heritage items, 11 contributory items and the Ficus and Jacaranda trees on Pound Street between Villiers and Kent Street;
- impact on the visual aspects and relationship between Ravensford (CZB10) and Dunvegan (CZB12);
- alteration of street alignments from the grid established in the mid-19<sup>th</sup> century; and
- impact on 27 heritage items within the vicinity of the flood levee works construction zone including:
  - removal of gardens and cultural plantings associated with heritage items;



- moderate to minor visual impacts on existing views to and from the setting of the heritage item; and

While the project would result in significant impacts on the aesthetic values of some parts of Grafton, it would have the potential, through the implementation of an interpretation plan, to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with Grafton.

The flood levee construction work zone traverses 27 heritage items of local significance in the Grafton conservation area. Impacts are likely to consist of removal of gardens and cultural plantings associated with heritage items and moderate to minor visual impacts on existing views to and from the setting of the heritage items. There is potential for excavation to impact archaeological resources beneath the levee, specifically those relating to early settlement in Grafton.

#### **6.3.4.2 Impacts on South Grafton conservation area (C7)**

The flood levee construction work zone traverses 11 heritage items in the South Grafton conservation area and is expected to result in direct partial impacts on the coastal elements of the South Grafton conservation area (C7). If sections of the levee located in areas of high archaeological potential are required to be completely replaced, there is potential for below ground excavation to impact archaeological resources, specifically those relating to early settlement in Grafton.

The levee raising works within the Grafton and South Grafton conservation areas will be designed and constructed in a sympathetic manner that, as far as practical, will not diminish the aesthetic values of the conservation areas.

#### **6.3.5 Impacts on the Grafton Rail and Road Bridge**

The Grafton Rail and Road Bridge (CZB36) State heritage listed item will not be directly altered or impacted by the Project. The Project will have a positive effect on the heritage value of the existing bridge through reducing wear and tear on the bridge's fabric by reducing traffic volumes. The design of the new bridge will respect and respond to the presence and form of the Grafton Rail and Road Bridge in a complementary manner.

Archival recording will be prepared before commencement of the construction of the proposed bridge to document the visual relationships between the Grafton Rail and Road Bridge heritage item and its surrounds (refer to Table 7-3 mitigation measure ID CHMM20).

#### **6.3.6 Impacts on other built heritage**

The Project would have the following impacts on other heritage items:

- **Total direct impact:** Demolition of 10 heritage items of local significance. No items of State significance would be demolished.
- **Partial direct impact:** Acquisition of a small portion of lots occupied by one item of State significance and four items of local significance.
- **Indirect impact:** Impacts from architectural noise treatments at some properties and visual impacts from vegetation removal or when existing views to and from a heritage item are affected. Five items of local significance and one item of State significance would be impacted in this way.
- **Impact on listed trees:** impacts on trees listed under the *Clarence Valley Local Environmental Plan 2011*, namely *Brachychiton*, *Ficus* or *Jacaranda* trees over 3 m high, located in road reserves.

Table 6-3 provides further details of the impacts of the Project on these heritage items, the locations of which are shown in Figure 6-1, Figure 6-2 and Figure 6-3.

**Table 6-3: Potential impacts on non-Aboriginal heritage items and conservation areas**

No.	Name and listing	Heritage significance	Impact
<b>Grafton</b>			
CZB10	Ravensford, 36 Villiers Street, Grafton (CVLEP, NT)	Local	<p><b>Direct impact – partial</b></p> <p>Minor property acquisition, which would have an impact on its heritage value by reducing its setting. Note the road design on Pound Street, Grafton, was refined by Roads and Maritime to avoid demolition of this heritage item.</p> <p><b>Indirect impact – trees</b></p> <p>Removal of mature trees on the road reserve fronting this property, which would have an impact on views towards it. The property may require architectural noise treatment.</p> <p>The heritage values of the property would be diminished by the Project, but this is unlikely to affect its significance.</p>
CZB11	Dunvegan, 47 Pound Street, Grafton (CVLEP, NT)	Local	<p><b>Direct impact – partial</b></p> <p>The project would require a minor property acquisition, which would have an impact on its heritage value by reducing its setting.</p> <p><b>Indirect impact – trees</b></p> <p>The project would remove mature fig trees on the road reserve fronting this property, which would have an impact on views towards it.</p> <p>The property may require architectural noise treatment.</p> <p>The heritage values of the property would be diminished by the project, but this is unlikely to affect its significance.</p>
CZB13	Jacaranda, Brachychiton and Ficus trees over 3 m on road reserve (CVLEP)	Local	<p><b>Impact on listed trees</b></p> <p>Removal of 34 Jacaranda and 4 Ficus heritage listed trees within Grafton conservation area, which would affect the aesthetic setting of heritage items in this area. The removal of large, mature fig trees at the junction of Pound and Villiers streets would have the greatest impact as they occupy a prominent position within Grafton and provide an aesthetic backdrop to the Ravenswood (CZB10) and Dunvegan (CZB11) heritage items.</p> <p>Cultural plantings along Victoria Street, Grafton may be affected by the proposed flood mitigation work. The levee raising within this area would be carefully managed to mitigate, where feasible and reasonable, any potential impact on these cultural plantings.</p>
CZB15	26 Clarence Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – noise</b></p> <p>Property may require architectural noise treatment. The impact is not expected to be significant as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.</p>
CZB16	12 Clarence Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – visual</b></p> <p>The construction zone boundary would be beside this heritage item and street trees at the front of this property would be removed. This would result in a minor visual impact through alterations to the street alignment which may affect views to and from the item in a south-westerly direction.</p>

No.	Name and listing	Heritage significance	Impact
CZB17	10 Clarence Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual</b> The construction zone boundary would be beside this heritage item and street trees at the front of this property would be removed. This would result in a minor visual impact through alterations to the street alignment, which may affect views to and from the item in a south-westerly direction.
CZB18	31 Pound Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Pound Street and a cumulative impact on the Grafton conservation area (C3).
CZB19	King George V Plaque, Pound Street, Grafton (CVLEP)	Local	<b>Direct impact – partial</b> The plaque is located on the section of viaduct to be replaced (It would not be viable to retain the viaduct). The removal of the plaque would have an impact on the historical appreciation of Pound Street. It is proposed the plaque be reinstated on the new section of viaduct after construction finishes.
CZB20 & CZB21	Grafton Railway Viaduct, Grafton (CVLEP, S.170)	Local	<b>Direct impact – partial</b> The section of the viaduct above Pound Street would be removed and replaced with a truss steel bridge. It would not be viable to retain the viaduct. The removal of this portion of the viaduct would have a significant impact on the aesthetic appreciation of Pound Street within the Grafton urban conservation area.
CZB22	26 Kent Street, Grafton (Kent Street Residential Group 2 CVLEP I627)	Local	<b>Indirect impact- noise</b> May require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item
CZB23	24 Kent Street, Grafton (Kent Street Residential Group 2; CVLEP I626)	Local	<b>Local Indirect impact- noise</b> May require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB24	22 Kent Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual and noise</b> The demolition of heritage items in Pound Street and alterations to the street alignment would change the views to and from the item. The property may also require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB25	18 Kent, Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).

No.	Name and listing	Heritage significance	Impact
CZB26	16 Kent Street, Grafton (CVLEP)	Local	<p><b>Local Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB27	14 Kent Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB28	12 Kent Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Kent Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB29	14 Pound Street, Grafton (CVLEP)	Local	<p><b>Indirect impact – visual and noise</b></p> <p>The Construction works zone boundary is located adjacent to the heritage item. This will result in visual impacts through the removal of heritage items in Pound Street and alterations to the street alignment which will affect view to and from the item. The property has been identified as being subject to noise exceedances as a result of the project that could potentially require architectural noise treatment at the property (EIS Appendix G, p211). The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.</p>
CZB30	Clarendon, 13 Pound Street, Grafton (CVLEP)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Pound Street and a cumulative impact on the Grafton conservation area (C3).</p>
CZB31	7 Greaves Street (New Heritage Item)	Local	<p><b>Direct impact – total</b></p> <p>Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).</p>

No.	Name and listing	Heritage significance	Impact
CZB32	5 Greaves Street (New Heritage Item)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
CZB33	1 Greaves Street (New Heritage Item)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
CZB34	1 Pound Street, Grafton (CVLEP)	Local	<b>Indirect impact – visual and noise</b> The project would change the views between this heritage item and the Road and Rail Bridge State heritage item (CZB36). The property may require architectural noise treatment. The impact is not expected to be significant, as the noise treatment would be applied in a way that is sympathetic to the heritage values of the item.
CZB35	Former Glyndon Private Hospital, 4 Greaves Street, Grafton (CVLEP)	Local	<b>Direct impact – total</b> Demolition of this heritage item. There is a high potential for archaeological remains to be encountered, but the research potential is low given the date of these remains. The removal of the property would have an impact on the aesthetic appreciation of Greaves Street and a cumulative impact on the Grafton conservation area (C3).
<b>South Grafton</b>			
CZB37	Grafton City Railway Precinct (SHR, ARTC s.170 Register, CVLEP)	State	<b>Direct impact – partial</b> <b>Indirect impact – visual</b> This item is located outside the Project's construction zone boundary and its built heritage aspects would not be impacted by the Project. However, there would be a direct impact on the disused rail turntable, which would be removed by the Project. There are archaeological remains associated with the locomotive depot, south of the sugar silo, which would be impacted by the project; these remains have a moderate archaeological potential but low research potential. Views from the railway station platform towards the east would change as a result of the proposed South Grafton approach embankment, pedestrian and cycle path, landscape planting and the vehicles travelling on the proposed approach road which are likely to be visible from the platform.

<sup>1</sup> SHR: State Heritage Register under the Heritage Act 1977

<sup>2</sup> S. 170: Section 170 Heritage Act 1977 Heritage and Conservation Registers

<sup>3</sup> CVLEP: Clarence Valley Local Environmental Plan 2011

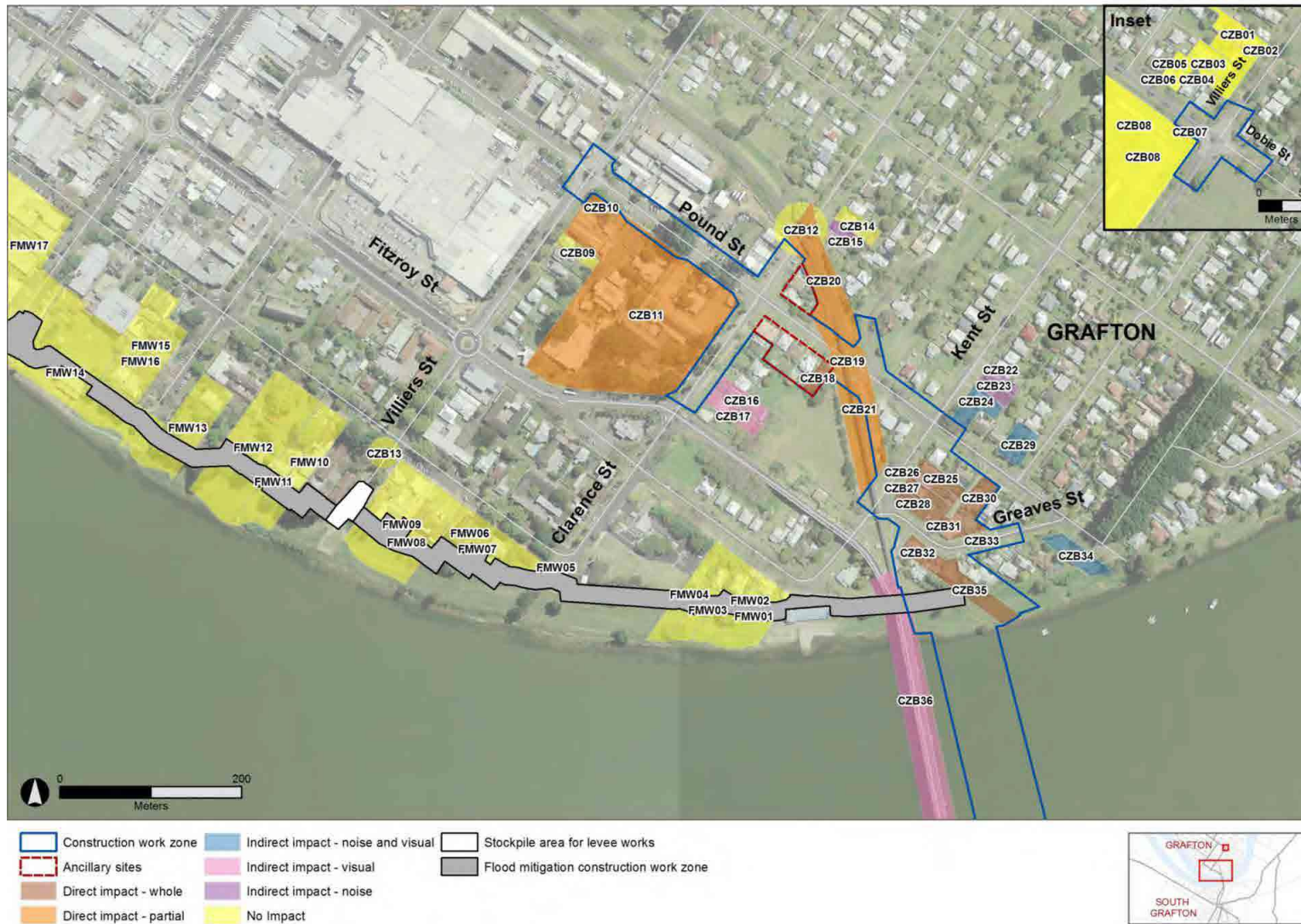
The assessment carried out in the EIS indicated that no impacts are predicted on the items identified in Table 6-4 below and shown on Figure 6-1, Figure 6-2 and Figure 6-3. In

accordance with CoA B19, Fulton Hogan will not destroy, modify or otherwise physically affect the heritage items listed in Table 6-4. These items will be included on the Sensitive Area Plans contained in Appendix A3 of the CEMP.

**Table 6-4: Assessment of heritage items - no impact**

No.	Name and listing	Heritage significance	Impact
<b>Grafton</b>			
CZB01	129 Villiers Street, Grafton (Villiers Street Residential Group 2; CVLEP I848)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB02	127 Villiers Street, Grafton (Villiers Street Residential Group 2; I847)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB03	125 Villiers Street, Grafton (Villiers Street Residential Group 2; I846)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB04	123 Villiers Street, Grafton (Villiers Street Residential Group 2; CVLEP: I845).	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB05	106 Dobie Street, Grafton (CVLEP I537)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB06	108 Dobie Street, Grafton (CVLEP I538)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB07	Fisher's Drain: Corner of Villiers and Dobie Streets (CVLEP I535)	Local	<b>No impact</b> Fisher's Drain is located within the construction works zone boundary but outside of the areas of proposed impact. Any archaeological potential associated with Fisher's Drain is unlikely to be impacted by the proposed works. The heritage significance of this item is unlikely to be affected.  A no-go area is proposed to be established around this item during construction as a precautionary measure.

No.	Name and listing	Heritage significance	Impact
CZB08	Showground Complex: Corner of Villiers and Dobie Streets, Grafton (CVLEP; I116 & I533)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. This may result in a minor visual impact through alterations to the street alignment. This is unlikely to affect the significance of the item.
CZB09	30-32 Villiers Street, Grafton (Villiers Street Residential Group 1; CVLEP I132; NT R2624)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
CZB12	Coronation Plaque, Clarence Street, Grafton (CVLEP I516)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
CZB14	28 Clarence Street (Clarence Street Residential Group 1; CVLEP I522)	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item.
FMW34	Water trough, Lane Park	Local	<b>No impact</b> The construction works zone boundary is located adjacent to the heritage item. The property is located sufficiently far outside the construction works zone boundary as to not be affected. There are no measurable impacts to this heritage item. A no-go area is proposed to be established around this item during construction as a precautionary measure.



**Figure 6-1: Built heritage impacted by the Project in Grafton**

Source: EIS, p218



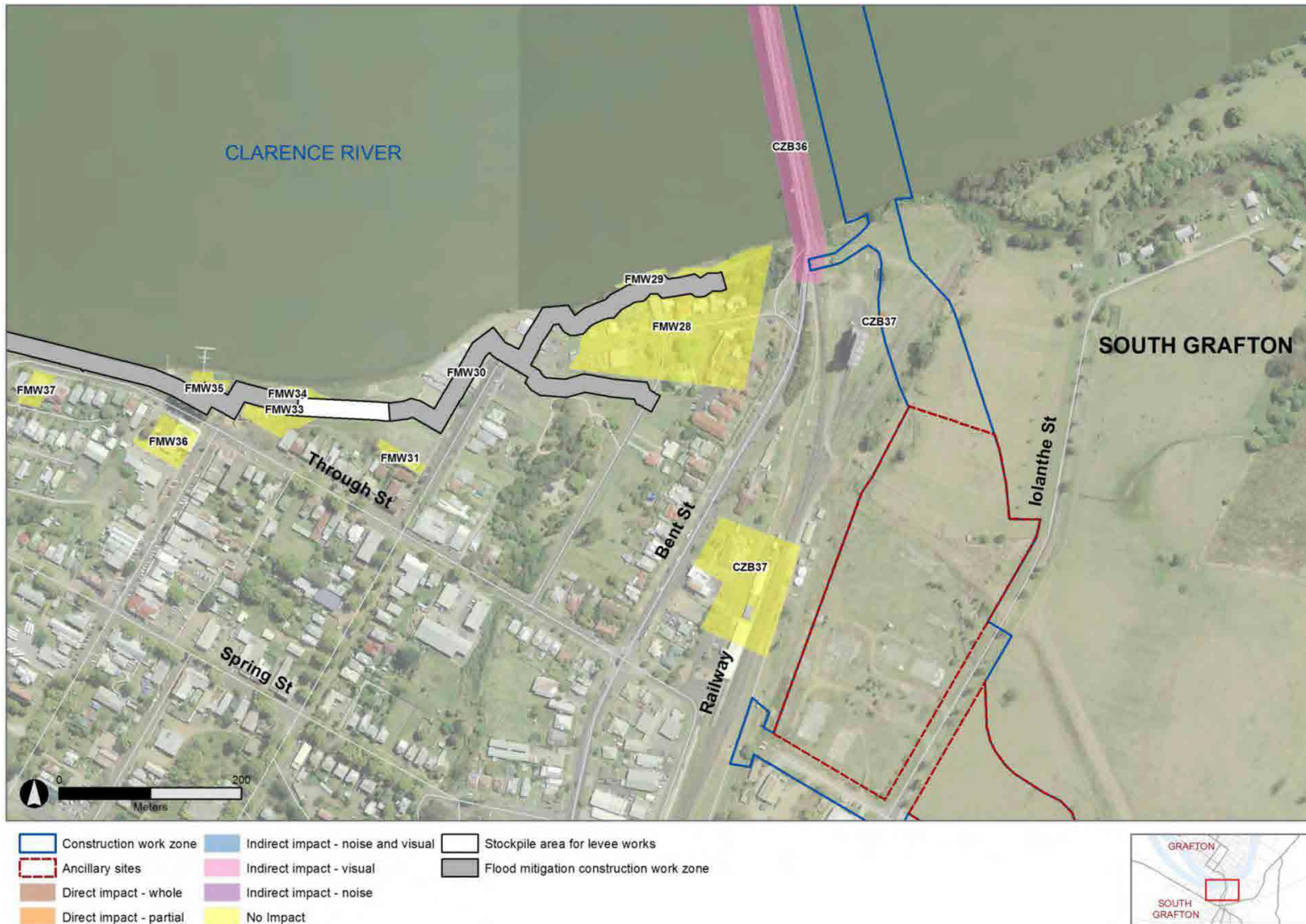
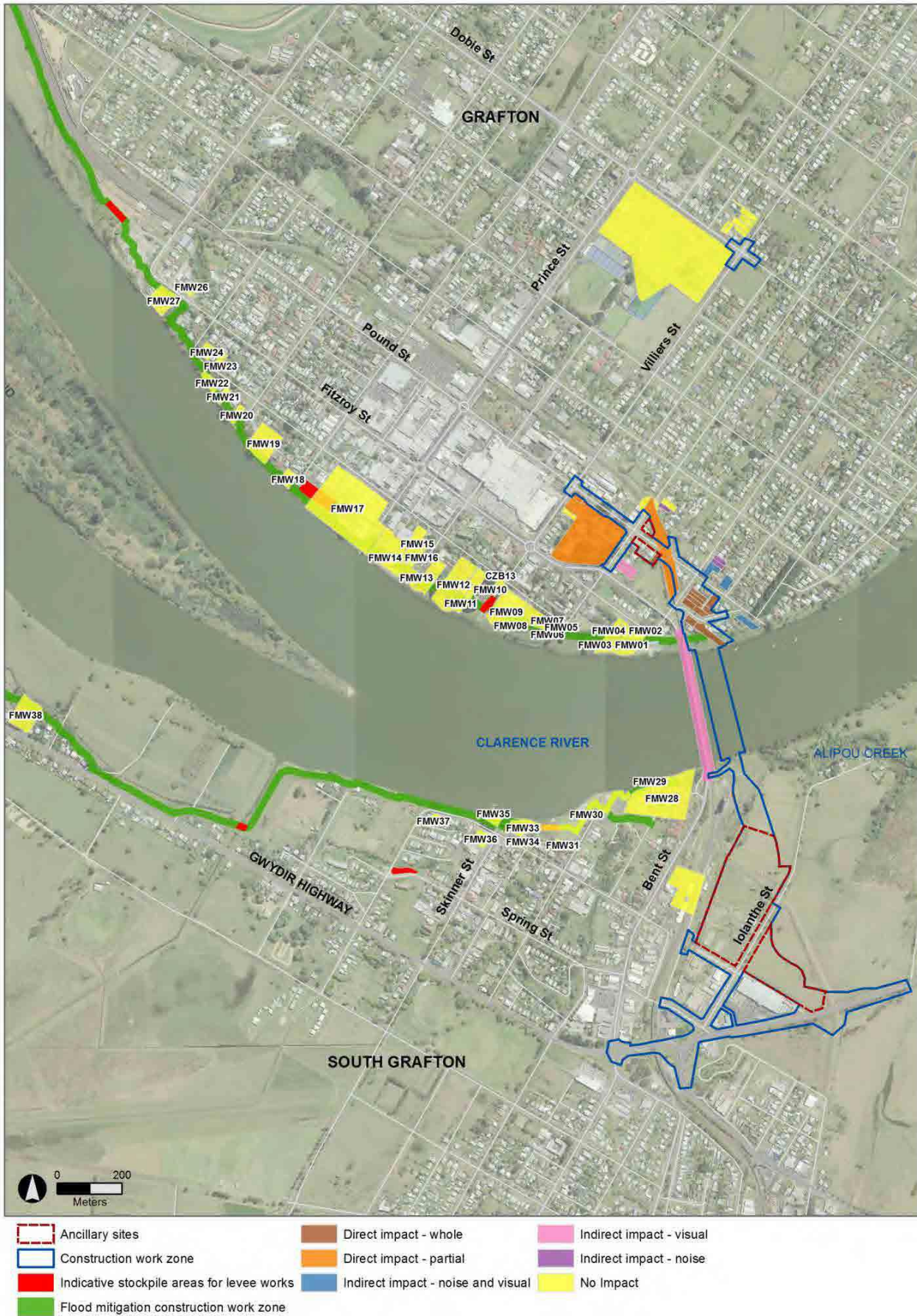


Figure 6-2: Built heritage impacted by the Project within South Grafton

Source: EIS, p219



**Figure 6-3: Built heritage impacted by the Project**

Source: EIS, p220



## **7 Environmental management measures**

### **7.1 Construction related measures**

A range of environmental requirements and control measures are identified in the various environmental documents, including the EIS, supplementary assessments, Conditions of Approval and other RMS documents.

General measures and specific requirements to address impacts on Aboriginal and non-Aboriginal heritage items during construction of the Project are provided in Table 7-1 and Table 7-2, respectively. Where required, further details of the proposed mitigation measures are provided in Section 7.1.3.

#### **7.1.1 Aboriginal environmental management measures**

Measures to manage and address the potential impacts of the project on Aboriginal heritage were developed in consultation with the Grafton Ngerrie LALC. The measures are generally consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005) and comply with the requirements of the *National Parks and Wildlife Act 1974* and the *Environmental Planning and Assessment Act 1979*.

#### **7.1.2 Non-Aboriginal environmental management measures**

The proposed environmental management measures presented in Table 7-2 are based upon the findings of a comprehensive investigation of documentary sources, built fabric, terrestrial and maritime archaeological sites undertaken for the EIS. These investigations have informed the assessment of significance and impacts for all identified heritage items within the vicinity of the Project area.

The environmental management measures respond to the heritage significance of the Project area and are based on the EIS assessments and the principles outlined in the *NSW Heritage Manual* (Heritage Office and Department of Urban Affairs and Planning, 1996) (and subsequent guidelines) and the *Australia ICOMOS Burra Charter*. The measures detail methods to preserve and enhance heritage items where possible. Where impacts are unavoidable, processes for minimising the losses to archaeological knowledge are provided.

**Table 7-1: Environmental management measures for Aboriginal heritage impacts**

<b>ID</b>	<b>Measure / Requirement</b>	<b>Reference</b>	<b>When to implement</b>	<b>Responsibility</b>	<b>Where Addressed/ Further Detail</b>
<b>Golden Eel dreaming site</b>					
AH1	Detailed design and construction stages will avoid further encroachment towards the Golden Eel dreaming site.	EIS Section 8 Submissions Report S4	Detailed design, construction	Contractor	Detailed design Section 6.2.1 Section 6.2.2 This CHMP Table 7-3 mitigation measure ID CHMM4, CHMM15.
<b>Consultation with the Aboriginal community</b>					
AH2	The Aboriginal community will continue to be consulted as an identified group within the overall community consultation strategy for the Project.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	<i>Community Communication Strategy</i> (CoA C1) to be provided separately to this CHMP. Section 4.3 Table 7-3 mitigation measure ID CHMM4
<b>Golden Eel dreaming site</b>					
AH3	An <b>interpretive strategy</b> will be formulated in conjunction with the local Aboriginal community. This will highlight salient sites and features within the landscape in a manner that respectfully enhances and protects these values. The interpretative strategy will be integrated with the non-Aboriginal heritage interpretation plan for the Project.	EIS Section 8 Submissions Report S4	Pre-construction	RMS	Table 7-3 mitigation measure ID CHMM7 <i>Heritage Interpretation Plan</i> (covering both Aboriginal and non-Aboriginal heritage) will be included in the UDLMP and provided separately to the CEMP.
<b>Construction impacts</b>					
AH4	A <b>construction heritage management plan</b> (CHMP) will be prepared as part of the CEMP for the Project. The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	This CHMP

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	<p>will be minimised and managed. The CHMP will include:</p> <ul style="list-style-type: none"> <li>• Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the Project</li> <li>• Details of management measures for the Project</li> <li>• Procedures for dealing with previously unidentified finds</li> </ul>				<p>Sections 5.1 &amp; 5.2</p> <p>Section 7</p> <p>Table 7-3 mitigation measure ID CHMM2</p> <p>Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items</p>
AH4	<ul style="list-style-type: none"> <li>• Heritage training and induction processes for construction personnel</li> <li>• Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.</li> </ul>				<p>Section 8.2</p> <p>Section 4.3</p> <p><i>Community Communication Strategy</i> (CoA C1) to be provided separately to this CHMP.</p> <p>Table 7-3 mitigation measure ID CHMM4</p>
<b>Aboriginal cultural heritage induction</b>					
AH5	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 LALC and provided to relevant staff before commencing work on-site.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	Section 8.2 Section 4.3
<b>Known Aboriginal objects and places</b>					
AH6	Aboriginal sites located in close proximity to the Project construction work zone will be designated 'no-go' areas and will be clearly identified and appropriately fenced to prevent access or damage	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM15-CHMM18

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	during construction.				
<b>Discovery of unexpected Aboriginal cultural material and human remains</b>					
AH7	In the event that unexpected Aboriginal cultural material or skeletal remains are encountered, <i>the Standard Management Procedure for Unexpected Archaeological Finds</i> (Roads and Maritime, 2012) will be implemented.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items

**Table 7-2: Environmental management measures for non-Aboriginal heritage impacts**

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
<b>Prepare an interpretation plan for the project</b>					
NH1	<p>A <b>heritage interpretation plan</b> will be prepared to provide opportunities to enhance understanding and appreciation of the heritage items, values and themes associated with Grafton. In particular, the interpretation plan will identify heritage items that are to be removed and provide opportunities for compensating for these losses. This may include incorporating formalised heritage walks and tree-planting programs into the landscaping and planning of the Project.</p> <p>The heritage interpretation plan will be developed in consultation with Clarence Valley Council and relevant stakeholders.</p>	EIS Section 8 Submissions Report S4	Detailed design	RMS	<p>Table 7-3 mitigation measure ID CHMM7 <i>Heritage Interpretation Plan</i> (covering both Aboriginal and non-Aboriginal heritage) will be included in the UDLMP and provided separately to the CEMP.</p> <p>Section 4.3</p>
<b>Consideration of heritage in urban design principles</b>					
NH2	Heritage considerations will be incorporated into the urban design and landscape objectives developed for the Project. These features will be refined further during detailed design development for the Project.	EIS Section 8 Submissions Report S4	Detailed design	Contractor	<p>Detailed design Urban Design and Landscape Management Plan Table 7-3 mitigation measure ID CHMM5</p>
<b>Noise mitigation treatment on heritage items</b>					
NH3	If required, architectural noise treatments on heritage items will be applied in a sympathetic manner to minimise impact on the significance of the heritage item.	EIS Section 8 Submissions Report S4	Pre-construction, Construction	Contractor	<p>All architectural noise treatments, as identified in the EIS, will be developed and implemented by RMS. Architectural noise treatments will be applied in a sympathetic manner to minimise impact on the significance of the following heritage properties:</p>

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
					<ul style="list-style-type: none"> <li>• CZB10: Dwelling ("Ravensford"), 36 Villiers St (by RMS; CoA B15 &amp; EMM NH6)</li> <li>• CZB11: Former residence ("Dunvegan"), 47 Pound St (by RMS; CoA B15 &amp; EMM NH6)</li> <li>• CZB24: Dwelling, 22 Kent Street, Grafton (by RMS; EMM NH6)</li> <li>• CZB29: Dwelling, 14 Pound Street, Grafton (by RMS; EMM NH6)</li> <li>• CZB31: Dwelling (new heritage item), 7 Greaves St (by RMS; CoA B14 &amp; EMM NH6)</li> <li>• CZB34: Dwelling, 1 Pound Street, Grafton (by RMS; EMM NH6)</li> </ul> <p>In the unlikely event that additional architectural noise treatments on heritage properties is required, this will be the responsibility of Fulton Hogan. Refer to Table 7-3 mitigation measure ID CHMM24</p>
<b>Construction impacts</b>					



ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
NH4	<p>A <b>construction heritage management plan</b> (CHMP) will be prepared as part of the construction environmental management plan for the Project.</p> <p>The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The CHMP will include:</p> <ul style="list-style-type: none"> <li>• Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the Project</li> <li>• Details of management measures for the Project</li> </ul>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor and RMS	<p>This CHMP [Contractor to complete]</p> <p>Sections 5.1 &amp; 5.2</p> <p>Section 7</p>
NH4	<ul style="list-style-type: none"> <li>• Procedures for dealing with previously unidentified finds</li> <li>• Heritage training and induction processes for construction personnel</li> <li>• Procedures for ongoing Aboriginal consultation and involvement for the duration of the Project.</li> <li>• The CHMP will be provided to the Heritage Council of NSW for comment prior to finalisation.</li> </ul>				<p>Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items</p> <p>Section 8.2</p> <p>Section 4.3</p> <p>Section 4.2</p>
<b>Heritage values to be considered during flood mitigation works</b>					
NH5	Any construction and vegetation clearance within or near the curtilage of heritage items will be sympathetic to minimise the removal of, or impact on, associated heritage values.	EIS Section 8 Submissions Report S4	Construction	Contractor	<p>CFFMP, mitigation measure ID CFFMM1, CFFMM2</p> <p>Sensitive Area Plan App A3</p>
<b>Prepare an archival record before impact occurs and at the completion of the project</b>					
NH6	<p>Archival recording will be prepared for the following heritage items: CZB10, CZB11, CZB13, CZB16, CZB17, CZB18, CZB19, CZB20 &amp; CZB21, CZB24, CZB25, CZB26, CZB27, CZB28, CZB29, CZB30, CZB31, CZB32, CZB33, CZB34, CZB35, CZB36 and CZB37.</p> <p>Archival recording will also be carried out for portions of Pound</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor and RMS	<p>Table 7-3 mitigation measure ID CHMM20</p> <p><i>Archival Report</i> (CoA B16) to be provided separately to this CHMP.</p>

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	<p>Street within the Grafton Conservation Area (C3).</p> <p>The archival records will record the process of development and alterations to heritage values. A program of archival recording will be completed before impacts occur and at the completion of the Project. All archival recording will be completed in accordance with the Heritage Branch guidelines <i>How to Prepare Archival Records for Heritage Items</i> and <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (Heritage Office 2001, revised 2004, 2006).</p>				
<b>Relocation of King George V Plaque</b>					
NH7	Following archival recording, the King George V Plaque (CZB19) will be relocated to a safe location and later reinstated on the new section of viaduct at Pound Street.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM25
<b>No-go areas and temporary fencing</b>					
NH8	<p>No-go areas will be established around 3 heritage items:</p> <ul style="list-style-type: none"> <li>• CZB07 (Fisher's Drain)</li> <li>• FMW29 (<i>SS Induna</i> shipwreck)</li> <li>• FMW34 (Water Trough, Lane Park).</li> </ul> <p>For CZB07 and FMW34, no-go areas will be established at an appropriate distance to protect the heritage values of the heritage items but allow construction to proceed unhindered.</p> <p>For FMW29, <i>SS Induna</i>, both terrestrial and maritime temporary exclusion areas will be established during construction to exclude the entry of vehicles or equipment associated with construction. The 'no-go' area perimeter will be placed on the existing property boundary to the south of the <i>SS Induna</i>. A maritime exclusion area (to be in accordance with Maritime and navigational requirements) will be placed 15 m from the shipwreck to remind workboats to not enter this area.</p> <p>No-go areas will be marked on all construction plans and pointed out in induction talks with contractors undertaking work in vicinity to the items.</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	Table 7-3 mitigation measure ID CHMM22, CHMM23 Sensitive Area Plan App A3 Section 8.2
<b>Archaeological monitoring (if required)</b>					

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
NH9	<p>The EIS has determined that the proposed flood mitigation works traverse areas of moderate and high potential for the survival of archaeological resources of local significance. Depending on the level of impact and the form of the proposed works, monitoring of these moderate and high archaeologically sensitive areas may be required. No monitoring is required for sites with low archaeological significance.</p> <p>Monitoring is proposed as it is not appropriate to carry out archaeological testing and salvage within or next to the existing flood levee. This is due to the risks associated with compromising the flood protection measures around Grafton. An archaeological excavation program will expose properties within Grafton to an unacceptable level of risk and therefore is not appropriate in this instance.</p>	EIS Section 8 Submissions Report S4	Pre-construction	Contractor	Table 7-3 mitigation measure ID CHMM26 Annexure B - Archaeological Monitoring Program
NH9 ctd	<p>An <b>archaeological monitoring program</b> will be developed as part of the heritage management sub-plan developed for the Project. The monitoring program will provide the following details:</p> <ul style="list-style-type: none"> <li>• Description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work</li> <li>• Details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits</li> <li>• Process to be followed should any heritage items be identified during the monitoring period.</li> </ul>			Contractor	Table 7-3 mitigation measure ID CHMM26 Annexure B - Archaeological Monitoring Program
<b>Discovery of unexpected non-Aboriginal objects and/or human remains</b>					
NH10	If unexpected non-Aboriginal heritage items or skeletal remains are encountered, the Roads and Maritime Services <i>Standard Management Procedure for Unexpected Archaeological Finds (2012)</i> will be implemented.	EIS Section 8 Submissions Report S4	Construction	Contractor	Table 7-3 mitigation measure ID CHMM2 Annexure A - RMS Standard Management Procedure – Unexpected Heritage Items
<b>Turntable site in South Grafton</b>					
NH11	Investigate design refinement opportunities to avoid direct impact	EIS Section 8	Detailed design	Contractor	Detailed design

ID	Measure / Requirement	Reference	When to implement	Responsibility	Where Addressed/ Further Detail
	on the turntable site located in railway land in South Grafton.	Submissions Report S4			

### 7.1.3 Additional Heritage Protection Mitigation Measures

Additional mitigation measures to address impacts on heritage are provided in Table 7-3.

**Table 7-3: Additional mitigation measures for heritage impacts**

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
<b>GENERAL</b>				
CHMM1	Manage Aboriginal and non-Aboriginal sites identified to be retained and protected as 'environmentally sensitive areas'. In this regard, erect exclusion fencing and signage to ensure that environmentally sensitive areas are protected in accordance with the RMS <i>Biodiversity guidelines: Guide 2 – Exclusion Zones</i> (RTA, 2011) and map these sites on Sensitive Area Plans. Consider the heritage significance of the site and take care to not draw unwarranted attention to Aboriginal heritage sites.		✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM2	Adopt and follow the RMS <i>standard management procedure – Unexpected heritage items</i> (Roads and Maritime Services, 2013) (refer Annexure A) in the event that unexpected Aboriginal and non-Aboriginal heritage finds are encountered during construction, including human remains.	✓	✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM3	Do not destroy, modify or otherwise physically affect any heritage items outside the approved Project footprint, unless otherwise agreed by the Secretary. Refer to Table 6-1 and Table 6-2.		✓	Project / Site Engineers Foreman Environmental Manager Environmental Officer
CHMM4	Engage with the local Aboriginal community on a regular basis during construction and in accordance with RMS's Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) (November 2011).		✓	Environmental Manager
CHMM5	Ensure heritage considerations are incorporated into the UDLMP for the Project.		✓	Environmental Manager Design Team
CHMM6	Where additional archaeological investigation is required at ancillary sites that do not meet the criterion set out in CoA D36(k), undertake this work in accordance with a methodology prepared to the satisfaction of the Secretary in consultation with OEH.	✓	✓	Environmental Manager
CHMM7	Prepare a Heritage Interpretation Plan (covering both Aboriginal and non-Aboriginal heritage) in consultation with the local Aboriginal community, Clarence Valley Council and relevant stakeholders.  <i>It is noted that the Heritage Interpretation Plan will be included in the UDLMP and provided separately to the CEMP and during the construction phase.</i>		✓	Environmental Manager
<b>ESTABLISHMENT AND MAINTENANCE OF EXCLUSION ZONES</b>				
CHMM8	Review the Sensitive Area Plans and conduct site visit with surveyor and Environmental Manager (or delegate) to identify and mark exclusion zone boundaries. Temporarily flag exclusion zone fencing locations through spray paint or high visibility tape or wooden markers. If exclusion zone boundaries cannot be identified, seek advice from the Project Archaeologist.	✓		Environmental Manager (or delegate) Surveyor
CHMM9	Where whole or partial impacts to a heritage site have been approved, determine the exclusion zone boundaries by the extent of approved impacts to the heritage site boundary. If exclusion zone boundaries cannot be identified, seek advice from the Project Archaeologist.	✓		Environmental Manager (or delegate)
CHMM10	Ensure exclusion zone boundaries are practical and consider the topography or the intrusion of features of the landscape. Where practicable, a wider perimeter is preferred to a narrower one to	✓		Environmental Manager (or delegate)

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
	ensure harm is avoided to the heritage sites/items identified.			
CHMM11	Where details on Sensitive Area Plans are insufficient or smaller exclusion zones are needed, seek advice from the Project Archaeologist to determine appropriate boundaries.	✓		Environmental Manager (or delegate)
CHMM12	Erect exclusion fencing in a practical manner which facilitates both the protection of the heritage site and ability of construction activities to proceed unhindered.	✓		Environmental Manager (or delegate) Foreman
CHMM13	Monitor effectiveness and condition of exclusion fencing weekly through the Environmental Inspection Checklist for example.		✓	Environmental Officer
CHMM14	Remove exclusion fencing once construction activities have ceased in the vicinity and no further impacts are likely to occur. Seek approval to remove exclusion fencing from Environmental Manager.		✓	Environmental Officer Foreman
<b>ABORIGINAL HERITAGE</b>				
CHMM15	Erect pedestrian-proof exclusion fencing and signage between the construction area and Alipou Creek to avoid encroachment on the Aboriginal dreaming site, Golden Eel (cultural site, AHIMS number 12-6-0326). <i>It is noted that the Golden Eel site is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM16	If construction works are undertaken within 30m of Carr's Creek Campsite (open campsite, AHIMS number 12-3-0338) erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Carr's Creek Campsite is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM17	If construction works are undertaken within 30m of Alipou SCT 2 (modified tree, AHIMS number 12-6-0402), erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Alipou SCT 2 is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM18	If construction works are undertaken within 30m of Alipou Creek AS 1 (grinding stones, AHIMS number 14-10-13), erect exclusion fencing around the site and signage, to avoid accidental harm. <i>It is noted that Alipou Creek AS 1 is located outside the project boundary.</i>	✓	✓	Environmental Manager (or delegate) Foreman
CHMM19	Implement relevant mitigation measures from further archaeological investigations as required.		✓	Environmental Manager (or delegate)
<b>NON-ABORIGINAL HERITAGE</b>				
CHMM20	Ensure all archival recordings (including photographic recording) have been completed, prior to the commencement of construction in proximity to the following heritage items (refer to CoA B14, CoA B15 & EMM NH6): <ul style="list-style-type: none"> <li>• CZB10: Dwelling ("Ravensford"), 36 Villiers St (CoA B15 &amp; EMM NH6)</li> <li>• CZB11: Former residence ("Dunvegan"), 47 Pound St (CoA B15 &amp; EMM NH6)</li> <li>• CZB13: Street trees (EMM NH6)</li> <li>• CZB16: Dwelling, 12 Clarence Street, Grafton (EMM NH6)</li> <li>• CZB17: Dwelling, 10 Clarence Street, Grafton (EMM NH6)</li> <li>• CZB18: Residential, 31 Pound St (CoA B14 &amp; EMM NH6)</li> <li>• CZB19: King George V Plaque, within the construction works zone boundary on Pound St (CoA B15 &amp; EMM NH6)</li> <li>• CZB20 &amp; CZB21: Grafton Railway Viaduct, Clarence St (CoA B15 &amp; EMM NH6)</li> <li>• CZB24: Dwelling, 22 Kent Street, Grafton (EMM NH6)</li> <li>• CZB25: Dwelling, 18 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB26: Dwelling, 16 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB27: Dwelling, 14 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB28: Dwelling, 12 Kent St (CoA B14 &amp; EMM NH6)</li> <li>• CZB29: Dwelling, 14 Pound Street, Grafton (EMM NH6)</li> <li>• CZB30: Dwelling ("Clarendon"), 13 Pound St (CoA B14 &amp; EMM NH6)</li> </ul>	✓	✓	Environmental Manager (or delegate)

ID	Mitigation Measure	Timing		Responsibility
		PC	C	
	<ul style="list-style-type: none"> <li>CZB31: Dwelling (new heritage item), 7 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB32: Dwelling (new heritage item), 5 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB33: Dwelling (new heritage item), 1 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB34: Dwelling, 1 Pound Street, Grafton (EMM NH6)</li> <li>CZB35: Glydon Private Hospital former, 4 Greaves St (CoA B14 &amp; EMM NH6)</li> <li>CZB36: Grafton Rail and Road Bridge (EMM NH6)</li> <li>CZB37: Grafton City Railway Precinct, 25-31 Bent St South Grafton (CoA B15 &amp; EMM NH6)</li> <li>Portions of Pound Street within the Grafton Conservation Area (C3) (EMM NH6)</li> </ul>			
CHMM21	Erect exclusion fencing (where appropriate) between the zone of construction activity and any adjacent areas containing non-Aboriginal heritage items identified for archival recording. Ensure the exclusion fencing remains in place until the completion of the archival recordings (CoA B16).	✓	✓	Environmental Manager (or delegate) Foreman
CHMM22	Erect exclusion fencing around the following heritage items prior to the commencement of construction in the vicinity (CoAs B18 & B19): <ul style="list-style-type: none"> <li>FMW29: SS <i>Induna</i> shipwreck, positioned at a minimum of 5m from the southern starboard side of the wreck.</li> <li>CZB07: Fisher's Drain on Corner Villiers &amp; Dobie Streets</li> <li>FMW34: Water trough, Lane Park at Through Street.</li> </ul> <p><i>It is noted that no exclusion fencing is proposed around heritage items CZB01-CZB06, CZB09 or CZB14 because these items are privately owned dwellings. No fencing is proposed around CZB08 because this is the showground complex on Corner Villiers &amp; Dobie Streets which is regularly accessed by the public. No fencing is proposed around CZB12 (Coronation plaque) because this is a memorial tablet affixed to the railway viaduct on Clarence Street, outside the project boundary.</i></p>	✓		Environmental Manager (or delegate) Project / Site Engineers
CHMM23	Erect a maritime exclusion area around FMW29 (SS <i>Induna</i> shipwreck) (in accordance with Maritime and navigational requirements) 15 metres from the shipwreck to remind workboats to not enter this area.	✓		Environmental Manager (or delegate) Project / Site Engineers
CHMM24	In the unlikely event that additional architectural noise treatment is required at heritage properties beyond that already identified in the EIS (and thus Fulton Hogan is responsible), apply architectural noise treatments in a sympathetic manner to minimise impact on the significance of the heritage item and in consultation with the property owners.		✓	Environmental Manager Project / Site Engineers
CHMM25	Following archival recording (refer to mitigation measure ID CHMM20), relocate the King George V Plaque (CZB19) to a safe location and later reinstate it on the new section of viaduct at Pound Street.		✓	Environmental Manager Project / Site Engineers
CHMM26	Implement the <i>Archaeological monitoring program</i> (Annexure B) where whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas. <p><i>It is noted that no archaeological monitoring is required for areas of low archaeological significance.</i></p>		✓	Environmental Manager (or delegate) Foreman Project / Site Engineers

<sup>1</sup> PC means pre-construction

<sup>2</sup> C means construction

## 8 Compliance management

### 8.1 Roles and responsibilities

The Fulton Hogan Project Team's organisational structure and overall roles and responsibilities are outlined in Section 4.2 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Chapter 7 of this CHMP.

### 8.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to heritage management issues. The induction training will address elements related to heritage management including:

- existence and requirements of this CHMP;
- relevant legislation;
- roles and responsibilities for heritage management;
- location of identified heritage sites;
- proposed heritage management and protection measures;
- procedure to follow in the event of an unexpected heritage item find during construction works (*RMS Standard Management Procedure – Unexpected Heritage Items* (August 2013) (refer Annexure A)); and
- procedure to follow in the event of discovery of human remains during construction works (*RMS Standard Management Procedure – Unexpected Heritage Items* (August 2013) (refer Annexure A)).
- AH5: 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 LALC and provided to relevant staff before commencing work on-site.
- NH8: No-go areas around 3 heritage items will be marked on all construction plans, including the Sensitive Area Plan in Appendix A of the CEMP, and included in induction talks with contractors undertaking work in the vicinity of the heritage items.

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

### 8.3 Monitoring and inspections

Inspections of sensitive areas and activities with the potential to impact Aboriginal and non-Aboriginal heritage will occur for the duration of the Project. General requirements and responsibilities in relation to monitoring and inspections are documented in Section 8.1 and Section 8.2 of the CEMP.

Environmental management measure NH9 requires the monitoring of the moderate and high archaeologically sensitive areas traversed by flood mitigation works, depending on the level of impact and the form of the proposed works. An archaeological monitoring program is provided in Annexure B of this CHMP and includes:

- description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work
- details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits
- process to be followed should any heritage items be identified during the monitoring period.



CoA B17 requires that a monitoring program be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.

CoA D46(d)(ii)C. requires the CHMP to include details of monitoring and reporting requirements for impacts on heritage items.

## **8.4 Auditing**

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 8.3 of the CEMP.

## **8.5 Reporting**

Reporting requirements and responsibilities are documented in Section 8.5 of the CEMP.

## **9 Review and improvement**

### **9.1 Continuous improvement**

Continuous improvement of this CHMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management and performance;
- determine the cause or causes of non-conformances and deficiencies;
- develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- verify the effectiveness of the corrective and preventative actions;
- document any changes in procedures resulting from process improvement; and
- make comparisons with objectives and targets.

### **9.2 CHMP update and amendment**

The processes described in Chapter 8 and Chapter 9 of the CEMP may result in the need to update or revise this CHMP. This will occur as needed.

Any revisions to the CHMP will be in accordance with the process outlined in Section 1.6 of the CEMP and as required, be provided to RMS, ER and other relevant stakeholders for review and comment and forwarded to the Secretary of DP&E for approval.

A copy of the updated CHMP and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 10.2 of the CEMP.

**Annexure A**  
RMS Standard Management Procedure –  
Unexpected Heritage Items

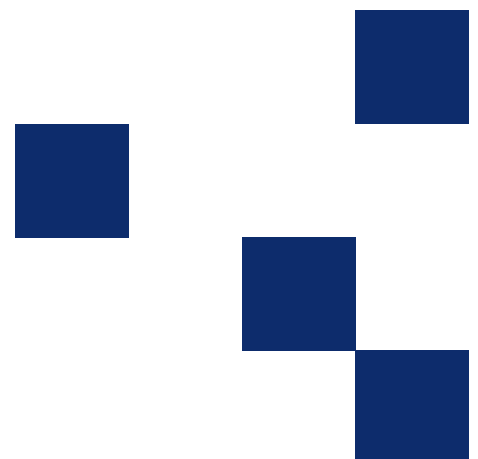


**Transport**  
Roads & Maritime  
Services

# STANDARD MANAGEMENT PROCEDURE

## Unexpected Heritage Items

October 2013



# About this release

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Version	Date	Revision Description
Final	1 November 2011	First Draft
Revised	23 July 2012	Amended to reflect that (a) unexpected finds do not include items covered by a relevant approval; (b) Aboriginal people must be consulted where an unexpected find is likely to be an Aboriginal object; (c) the Department of Planning and Infrastructure must be notified in accordance with Step 5 of this procedure for Part 3A and Part 5.1 projects.
Revised	09 October 2013	Amended to clarify that the procedure applies to all types of unexpected heritage items, not just archaeological items. The procedure introduces the term 'Historic Items' to cover both 'archaeological relics' and 'other historic items' such as works, structures, buildings and movable objects. The title of the document has been amended to better reflect this clarification.

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**Please note**

This procedure applies to all development and activities concerning roads, road infrastructure and road related assets undertaken by Roads and Maritime.

For advice on how to manage unexpected heritage items as a result of activities related to maritime infrastructure projects, please contact the Senior Environmental Specialist (Heritage).

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# Unexpected heritage items procedure

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## 1. Purpose

This procedure has been developed to provide a consistent method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) during Roads and Maritime activities. This procedure includes Roads and Maritime's heritage notification obligations under the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

This document provides relevant background information in Section 3, followed by the technical procedure in Sections 6 and 7. Associated guidance referred to in the procedure can be found in Appendices A-H.

## 2. Scope

This procedure assumes that an appropriate level of Aboriginal and non-Aboriginal heritage assessment has been undertaken prior to project approval or determination. Such assessment would have identified all heritage items, including areas of archaeological potential, likely to be present within the project area.

In some cases, despite appropriate and adequate investigation, unexpected heritage items may be encountered during the project construction phase. When this happens, this procedure must be followed. This procedure provides direction on when to stop work, where to seek technical advice and how to notify the regulator, if required.

**This procedure applies to all Road and Maritime construction and maintenance activities**

This procedure **applies to**:

- The discovery of any unexpected heritage item (usually during construction), where Roads and Maritime does not have approval to disturb that item.
- All Roads and Maritime projects that are approved or determined under Part 3A (including Transitional Part 3A Projects), Part 4, Part 5 or Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), or any development that is exempt under the Act.

This procedure must be followed by Roads and Maritime staff, alliance partners (including local council staff working under Road Maintenance Council Contracts, [RMCC]), developers under works authorisation deeds or any person undertaking Part 5 assessment for Roads and Maritime.

This procedure **does not apply** to:

- The legal discovery and disturbance of heritage items as a result of investigations being undertaken in accordance with OEH's *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (2010); an Aboriginal Heritage Impact Permit (AHIP) issued under the *National Parks and Wildlife Act 1974*; or an approval issued under the *Heritage Act 1977*<sup>1</sup>.

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<sup>1</sup> RMS' heritage obligations are incorporated into the conditions of heritage approvals.



- The legal discovery and disturbance of heritage items as a result of investigations (or other activities) that are required to be carried out for the purpose of complying with any environmental assessment requirements under Part 3A (including Transitional Part 3A Projects) or Part 5.1 of the EP&A Act.
- The legal discovery and disturbance of heritage items as a result of construction related activities, where the disturbance is permissible in accordance with an AHIP<sup>2</sup>; an approval issued under the *Heritage Act 1977*; or the Minister for Planning's conditions of project approval.

All Construction Environment Management Plans (CEMPs) must make reference to and/or include this procedure (often included as a heritage sub-plan). Where approved CEMPs exist they must be followed in the first instance. Where there is a difference between approved CEMPs and this procedure, the approved CEMP must be followed. Where an approved CEMP does not provide sufficient detail on particular issues, this procedure should be used as additional guidance. When in doubt always seek environment and legal advice on varying approved CEMPs.

### 3. Types of unexpected heritage items and their legal protection

The roles of project, field and environmental staff are critical to the early identification and protection of unexpected heritage items. Appendix A illustrates the wide range of heritage discoveries found on Roads and Maritime projects and provides a useful photographic guide to this early identification. Subsequent confirmation of heritage discoveries must then be identified and assessed by technical specialists (usually an archaeologist).

An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which Roads and Maritime does not have approval to disturb<sup>3</sup>.

These discoveries are categorised as either:

- (a) Aboriginal objects
- (b) Historic (non-Aboriginal) heritage items
- (c) Human skeletal remains.

The relevant legislation that applies to each of these categories is described below.

#### 3.1 Aboriginal objects

The *National Park and Wildlife Act 1974* protects *Aboriginal objects* which are defined as:

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

<sup>2</sup> RMS *Procedure for Aboriginal cultural heritage consultation and investigation* (2011) recommends that Part 4 and Part 5 projects that are likely to impact Aboriginal objects during construction seek a whole-of-project AHIP. This type of AHIP generally allows a project to impact known and potential Aboriginal objects within the entire project area, without the need to stop works. It should be noted that an AHIP may exclude impact to certain objects and areas, such as burials or ceremonial sites. In such cases, the project must follow this procedure.

<sup>3</sup> Disturbance is considered to be any physical interference with the item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).

*occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains”<sup>4</sup>.*

Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

### **IMPORTANT!**

#### **All Aboriginal objects, regardless of significance, are protected under law.**

If any impact is expected to an Aboriginal object, an Aboriginal Heritage Impact Permit (AHIP) is usually required from the Office of Environment and Heritage (OEH)<sup>5</sup>. Also, when a person becomes aware of an Aboriginal object they must notify the Director-General of OEH about its location<sup>6</sup>. Assistance on how to do this is provided in Section 7 (Step 5).

## 3.2 Historic heritage items

Historic (non-Aboriginal) heritage items may include:

- Archaeological ‘relics’
- Other historic items (i.e. works, structures, buildings or movable objects).

### 3.2.1 Archaeological relics

The *Heritage Act 1977* protects *relics* which are defined as:

*“any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance”<sup>7</sup>.*

Relics are archaeological items of local or state significance which may relate to past domestic, industrial or agricultural activities in NSW, and can include bottles, remnants of clothing, pottery, building materials and general refuse.

### **IMPORTANT!**

#### **All relics are subject to statutory controls and protections.**

If any impact is expected to a relic, a heritage approval is usually required from the NSW Heritage Council<sup>8</sup>. Also, when a person discovers a relic they must notify the NSW Heritage Council of its location<sup>9</sup>. Advice on how to do this is provided in Section 7 (Step 5).

<sup>4</sup> Section 5(1) *National Park and Wildlife Act 1974*.

<sup>5</sup> Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.

<sup>6</sup> This is required under s89(A) of the *National Park and Wildlife Act 1974* and applies to **all projects** assessed under Part 3A, Part 4, Part 5 and Part 5.1 of the *EP&A Act*, including exempt development.

<sup>7</sup> Section 4(1) *Heritage Act 1977*.

<sup>8</sup> Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.

<sup>9</sup> This is required under s146 of the *Heritage Act 1977* and applies to **all projects** assessed under Part 3A, Part 4, Part 5 and Part 5.1 of the *EP&A Act*, including exempt development.

### 3.2.2 Other historic items

Some historic heritage items are not considered to be 'relics'; but are instead referred to as works, buildings, structures or movable objects. Examples of these items that Roads and Maritime may encounter include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits. Although an approval under the *Heritage Act 1977* may not be required to disturb these items, their discovery must be managed in accordance with this procedure.

As a general rule, an archaeological relic requires discovery or examination through the act of excavation. An archaeological excavation permit under Section 140 of the *Heritage Act 1977* is required to do this. In contrast, 'other historic items' either exist above the ground's surface (e.g. a shed), or they are designed to operate and exist beneath the ground's surface (e.g. a culvert).

Despite this difference, it should be remembered that relics can often be associated with 'other heritage items', such as archaeological deposits within cisterns and underfloor deposits under buildings.

### 3.3 Human skeletal remains

Human skeletal remains can be identified as either an Aboriginal object or non-Aboriginal relic depending on ancestry of the individual (Aboriginal or non-Aboriginal) and burial context (archaeological or non-archaeological). Remains are considered to be archaeological when the time elapsed since death is suspected of being 100 years or more. Depending on ancestry and context, different legislation applies.

As a simple example, a pre-contact archaeological Aboriginal burial would be protected under the *National Park and Wildlife Act 1974*, while a historic (non-Aboriginal) archaeological burial within a cemetery would be protected under the *Heritage Act 1977*. For these cases, the relevant heritage approval and notification requirements described in the above sections 3.1 and 3.2 would apply. In addition to the *National Park and Wildlife Act 1974*, finding Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities (SEWPC) under s20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

#### IMPORTANT!

**All human skeletal remains are subject to statutory controls and protections.**

All bones must be treated as potential human skeletal remains and work around them must stop while they are protected and investigated urgently.

However, where it is suspected that less than 100 years has elapsed since death, the human skeletal remains come under the jurisdiction of the State Coroner and the *Coroners Act 2009* (NSW). Such a case would be considered a 'reportable death' and under legal notification obligations set out in s35(2); a person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to

all human remains less than 100 years old<sup>10</sup> regardless of ancestry (ie both Aboriginal and non-Aboriginal remains). Public health controls may also apply.

Guidance on what to do when suspected human remains are found is provided in Appendix F.

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<sup>10</sup> Under s19 of the *Coroners Act 2009*, the coroner has no jurisdiction to conduct an inquest into reportable death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.

## 4. Responsibilities

The following roles and responsibilities are relevant to this procedure.

<b>Role</b>	<b>Definition/responsibility</b>
Aboriginal Cultural Heritage Advisor (ACHA)	Provides Aboriginal cultural heritage advice to project teams. Acts as Aboriginal community liaison for projects on cultural heritage matters. Engages and consults with the Aboriginal community as per the Roads and Maritime <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i> .
Aboriginal Sites Officer	Is an appropriately trained and skilled Aboriginal person whose role is to identify and assess Aboriginal objects and cultural values. For details on engaging Aboriginal Sites Officers, refer to Roads and Maritime <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation</i> .
Archaeologist (A)	Professional consultant, contracted on a case-by-case basis to provide heritage and archaeological advice and technical services (such as reports, heritage approval documentation etc).
Environment Manager Regional Maintenance Delivery (EM-RMD)	Ensures Regional Maintenance Delivery staff are aware of the Unexpected Heritage Items Protocol for Maintenance Staff and the Unexpected Heritage Item Recording Form 418. Supports the Regional Maintenance Delivery Section Manager during the implementation of this procedure and ensures reporting of unexpected heritage items through environment management systems.
Project (on-call) Archaeologist	Professional consultant contracted for the implementation phase of a construction project to provide heritage and archaeological advice and technical services when required. Major projects with complex heritage issues often have a Project archaeologist.
Project Manager (PM)	Ensures all aspects of this procedure are implemented. The PM can delegate specific tasks to a construction environment manager, Roads and Maritime site representatives or regional environment staff, where appropriate.
Regional Environment Staff (RES)	Provides advice on this procedure to project teams. Ensuring this procedure is implemented consistently by supporting the PM. Supporting project teams during the uncovering of unexpected finds. Reviewing archaeological management plans and liaising with heritage staff and archaeological consultants as needed.
Registered Aboriginal Parties (RAPs)	RAPs are Aboriginal people who have registered with Roads and Maritime to be consulted about a proposed Roads and Maritime project or activity in accordance with OEH's Aboriginal cultural heritage consultation

	requirements for proponents (2010).
Section Manager - Regional Maintenance Delivery (SM-RMD)	Liaises with RES, EM-RMD and heritage staff during the discovery of unexpected heritage items and the implementation of this procedure.
Senior Environmental Specialist (Heritage) (SES(H))	Provides technical assistance on this procedure and archaeological technical matters, as required. Reviewing the archaeological management plans and facilitating heritage approval applications, where required. Assists with regulator engagement, where required.
Team Leader - Regional Maintenance Delivery (TL-RMD)	Ensures Regional Maintenance Delivery staff stop work in the vicinity of an unexpected heritage item. Completes Unexpected Heritage Item Recording Form 418 and notifies SM-RMD.
Technical Specialist	Professional consultant contracted to provide specific technical advice that relates to the specific type of unexpected heritage find (eg a forensic or physical anthropologist who can identify and analyse human skeletal remains).

## 5. Acronyms

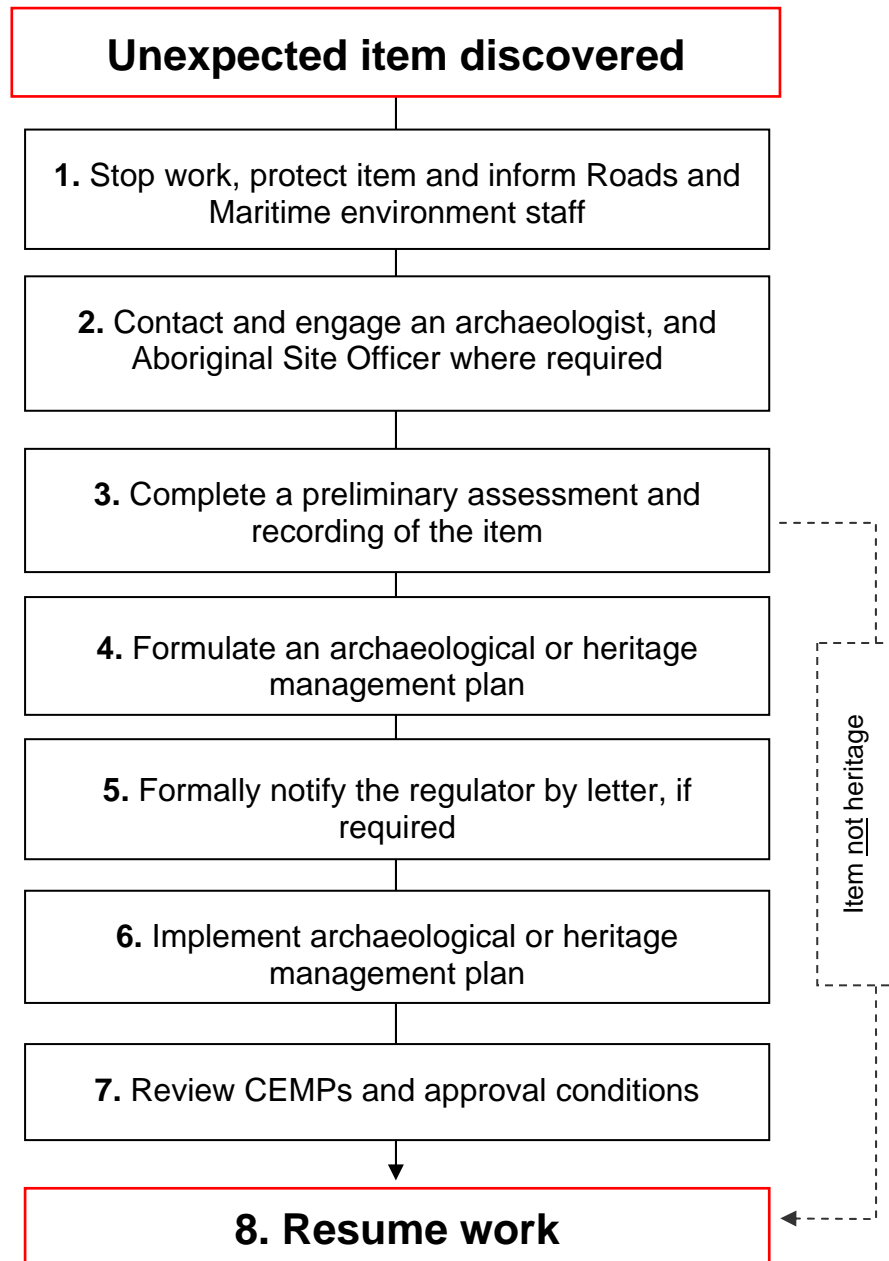
The following acronyms are relevant to this procedure.

<b>Acronym</b>	<b>Meaning</b>
AHIP	Aboriginal Heritage Impact Permit
ASO	Aboriginal Site Officer
CEMP	Construction Environment Management Plan
DSEWPC	Commonwealth Department of Sustainability, Environment, Water, Populations and Communities
EPRG	Environmental Planning and Regulatory Group. <i>Please note at the time of finalisation EPRG became part of Environment Protection Authority</i>
OEH	Office of Environment and Heritage
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
RAP	Registered Aboriginal Party/ies
RMD	Regional Maintenance Delivery
RMCC	Road Maintenance Council Contracts
RMS	Roads and Maritime

## 6. Overview of the procedure

On discovering something that could be an unexpected heritage item ('the item'), the Project Manager must implement the following procedure with the assistance of the regional environment staff and Roads and Maritime heritage staff, where required.

There are eight steps in the procedure. These steps are shown briefly in Figure 1 below and explained in detail in Section 7.



**Figure 1:** Overview of steps to be undertaken on the discovery of an unexpected heritage item.

## 7. Unexpected heritage items procedure

**Table 1:** Specific tasks to be implemented following the discovery of an unexpected heritage item.

*Aboriginal Cultural Heritage Advisor (ACHA); Aboriginal Sites Officer (ASO); Archaeologist (A); Project Manager (PM); Regional Environment Staff (RES); Registered Aboriginal Parties (RAPs); Senior Environmental Specialist (Heritage) (SES(H)).*

Step	Task	Responsibility	Guidance & Tools
<b>1</b>	<b>Stop work, protect item and inform Roads and Maritime environment staff</b>		
1.1	Stop all work in the immediate area of the item and notify the PM.	All	<b>Appendix A</b> (Identifying Unexpected Heritage items)
1.2	Maintenance crews are required to follow the <i>Unexpected Heritage Items Protocol for Maintenance Staff</i> outlined in Appendix B and return to this procedure when directed by that protocol.	TL-RMD	<b>Appendix B</b> (Unexpected Heritage Items Protocol for Maintenance Staff) <b>Appendix C</b> (Unexpected Heritage Item Recording Form 418)
1.3	Take a number of photographs that captures the general context and specific detail of the item.	PM	<b>Appendix D</b> (Photographing Unexpected Heritage items)
1.4	Inform relevant Roads and Maritime regional environment staff, Senior Environmental Specialist (Heritage) and Regional Aboriginal Cultural Heritage Advisor (where the item is thought to be an Aboriginal object).	PM	<b>Appendix E</b> (Key Environmental Contacts)
1.5	Delineate and protect the item with appropriate (high visibility) fencing, where practical.	PM	



Step	Task	Responsibility	Guidance & Tools
1.6	No further interference, including works, ground disturbance, touching or moving the item must occur to the item or within the protected area.	PM	
1.7	Inform all site personnel of the protected area (a new environmentally sensitive zone).	PM	
1.8	Where, at this stage, the item is reasonably suspected to be human remains proceed directly to notifying the local police who may take command of all or part of the site. Where the item does not involve human remains, continue progressing through this procedure.	PM	<b>Appendix F</b> (Uncovering Bones)
1.9	Report the item as a 'Notifiable Event' in accordance with the Roads and Maritime <i>Incident Classification and Reporting Procedure</i> . Also implement any additional reporting requirements related to the project's approval and CEMP.	PM/RES	RMS Incident Classification and Reporting Procedure
<b>2</b>	<b>Contact and engage an archaeologist, and Aboriginal site officer where required</b>		
2.1	Contact the Project (on-call) Archaeologist to discuss the location and extent of the item and to arrange a site inspection, if required. The project CEMP contains contact details of the Project Archaeologist.	PM/RES	Also see <b>Appendix E</b> (Key Environmental Contacts)
2.2	Where there is no project archaeologist engaged for the project, engage a suitably qualified and experienced archaeological consultant to undertake a site inspection, conduct a preliminary assessment and prepare an archaeological or heritage management plan. Lists of consultants are available from online sources, including the yellow pages. Regional environment staff and Roads and Maritime heritage staff can also advise on appropriate consultants.	PM/RES	Online lists of heritage consultants: <ul style="list-style-type: none"> <li>• <a href="#">OEH List</a></li> <li>• <a href="#">AACAI List</a></li> </ul>
2.3	Where the item is likely to be an Aboriginal object, arrange for an Aboriginal Sites Officer to inspect the find. Generally, this person would be a Sites Officer from the relevant local Aboriginal land council. If an alternative contact person (ie a RAP) has been nominated as a result of previous consultation, then that person is to be contacted.	PM/ACHA	
2.4	If requested, provide photographs of the item taken at Step 1.3 to the archaeologist, and Aboriginal Sites Officer if relevant.	PM/RES	<b>Appendix D</b> (Photographing)

Step	Task	Responsibility	Guidance & Tools
			Unexpected Heritage items)
<b>3</b>	<b>Preliminary assessment and recording of the find</b>		
3.1	In a minority of cases, the archaeologist (and Aboriginal Sites Officer, if relevant) may determine from the photographs that no site inspection is required because no archaeological constraint exists for the project (eg <i>the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'</i> ). Any such advice should be provided in writing by the archaeologist (eg via email) and confirmed by the Project Manager.	A/PM/ASO	Proceed to Step 8
3.2	Arrange site access for the archaeologist (and Aboriginal Sites Officer, if relevant) to inspect the item as soon as practicable. In the majority of cases a site inspection is required to conduct a preliminary assessment.	PM	
3.3	Subject to the archaeologist's assessment (and the Aboriginal Sites Officer's assessment, if relevant), work may recommence at a set distance from the item. This is to protect any other archaeological material that may exist in the vicinity, which has not yet been uncovered. Existing protective fencing established in Step 1.5 may need to be adjusted to reflect the extent of the newly assessed protective area. No works are to take place within this area once established.	A/PM/ASO	
3.4	The archaeologist (and Aboriginal Sites Officer, if relevant) may provide advice after the site inspection and preliminary assessment that no archaeological constraint exists for the project (eg <i>the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'</i> ). Any such advice should be provided in writing by the archaeologist, (and Aboriginal Sites Officer if relevant) (eg via email) and confirmed by the Project Manager.	A/PM/ASO	Proceed to Step 8
3.5	Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains). Regional environment staff and/or Roads and Maritime heritage staff can provide contacts for such specialist consultants.	PM/RES	<b>Appendix E</b> (Key Environmental Contacts)
3.6	Where the item has been identified as a 'relic', 'heritage item' or an 'Aboriginal object' the archaeologist should record the item on a proforma recording form.	A	<ul style="list-style-type: none"> <li>• <u>Aboriginal site recording form</u></li> <li>• <u>Non-Aboriginal site</u></li> </ul>

Step	Task	Responsibility	Guidance & Tools
			<u>recording form</u>
3.7	The regulator can be notified informally by telephone at this stage by the archaeologist or Project Manager (or delegate). Any verbal conversations with regulators must be noted on the project file for future reference.	PM/A	
<b>4</b>	<b>Prepare an archaeological or heritage management plan</b>		
4.1	The archaeologist must prepare an archaeological or heritage management plan (with input from the Aboriginal Sites Officer, where relevant) shortly after the site inspection. This plan is a brief overview of the following: (a) description of the feature, (b) historic context, if data is easily accessible, (c) likely significance, (d) heritage approval and regulatory notification requirements, (e) heritage reporting requirements, (f) stakeholder consultation requirements, (g) relevance to other project approvals and management plans etc.	A/ASO	<b>Appendix G</b> (Archaeological/ Heritage Advice Checklist)
4.2	In preparing the plan, the archaeologist with the assistance of regional environment staff must review the CEMP, any heritage sub-plans, any conditions of heritage approvals, any conditions of project approval (and or Minister's Conditions of Approval) and heritage assessment documentation (eg Aboriginal Cultural Heritage Assessment Report). This will outline if the unexpected item is consistent with previous heritage/project approval(s) and/or previously agreed management strategies. The Project Manager and regional environment staff must provide all relevant documents to the archaeologist to assist with this. Discussions should occur with design engineers to consider if re-design options exist and are appropriate.	A/RES/PM	<b>Appendix G</b> (Archaeological/ Heritage Advice Checklist)
4.3	The archaeologist must submit this plan as a letter, brief report or email to the Project Manager outlining all relevant archaeological or heritage issues. This plan should be submitted to the Project Manager as soon as practicable. Given that the archaeological management plan is an overview of all the necessary requirements (and the urgency of the situation), it should take no longer than two working days to submit to the Project Manager.	A	

Step	Task	Responsibility	Guidance & Tools
4.4	The Project Manager must review the archaeological or heritage management plan to ensure all requirements can reasonably be implemented. Seek additional advice from regional environment staff and Roads and Maritime heritage staff, if required.	PM/RES/SES (H)	
<b>5</b>	<b>Notify the regulator, if required.</b>		
5.1	Review the archaeological or heritage management plan to confirm if regulator notification is required. It may state notification is not required.	PM/RES/SES (H)	Proceed to Step 6
5.2	If notification is required, complete the template notification letter.	PM	<b>Appendix H</b> (Template Notification Letter)
5.3	Forward the draft notification letter, archaeological or heritage management plan and the site recording form to regional environment staff and Senior Environmental Specialist (Heritage) for review, and consider any suggested amendments.	PM/RES/SES (H)	
5.4	Forward the signed notification letter to the relevant regulator (ie notification of relics must be given to the Heritage Branch of OEH, while notification for Aboriginal objects must be given to the Environmental Protection and Regulation Group of OEH). Informal notification (via a phone call or email) to the regulator prior to sending the letter is appropriate. The archaeological management plan and the completed site recording form must be submitted with the notification letter. For Part 3A and Part 5.1 projects, the Department of Planning and Infrastructure must also be notified.	PM	<b>Appendix E</b> (Key Environmental Contacts)
5.5	A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form should be kept on file by the Project Manager and a copy sent to the Senior Environmental Specialist (Heritage).	PM	
5.6	If requested by the regulator, arrange a site inspection of the item for them.	PM	
<b>6</b>	<b>Implement archaeological or heritage management plan</b>		
6.1	Modify the archaeological or heritage management plan to take into account any additional advice resulting from notification and discussions with the regulator.	A/PM	

Step	Task	Responsibility	Guidance & Tools
6.2	Implement the archaeological or heritage management plan. Where impact is expected, this would include such things as a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with registered Aboriginal parties, obtaining heritage approvals etc, if required.	PM/RAPs	PACHCI Stage 3
6.3	Where heritage approval is required contact regional environment staff for further advice and support material. Please note time constraints associated with heritage approval preparation and processing. Project scheduling may need to be revised where extensive delays are expected.	PM/RES	
6.4	For Part 3A/Part 5.1 projects, assess whether heritage impact is consistent with the project approval or if project approval modification is required from the Department of Planning and Infrastructure. Seek advice from regional environment staff and Environment Branch specialist staff if unsure.	PM/RES	
6.5	Where statutory approvals (or project approval modification) are required, impact upon relics and/or Aboriginal objects must not occur until heritage approvals are issued by the appropriate regulator.	PM	
6.6	Where statutory approval (or Part 3A/Part 5.1 project modification) is not required and where recording is recommended by the archaeologist, sufficient time must be allowed for this to occur.	PM	
6.7	Ensure short term and permanent storage locations are identified for archaeological material or other heritage material is removed from site, where required. Interested third parties (eg museums or local councils) should be consulted on this issue. Contact regional environment staff and Senior Environmental Specialist (Heritage) for advice on this matter, if required.	PM	
6.8	Ensure all archaeological excavation and/or heritage recording are completed prior to Roads and Maritime project work resuming.	PM	
<b>7</b>	<b>Review CEMPs and approval conditions</b>		
7.1	Clarify regulator expectations around written authorisation to commence project work.	PM	

Step	Task	Responsibility	Guidance & Tools
	This may relate to situations where human remains are found or when they request to review preliminary archaeological excavation reports or heritage assessments prior to the resumption of Roads and Maritime project work. Where this is not explicit in heritage approval conditions, expectations should be clarified directly with the regulator.		
7.2	Update the CEMP, site mapping and project delivery program as appropriate with any project changes resulting from final heritage management (eg retention of heritage item, salvage of item). Updated CEMPs must incorporate additional conditions arising from any heritage approvals, and Aboriginal community consultation if relevant. Include any changes to CEMP in site induction material and update site workers during toolbox talks.	PM	
<b>8</b>	<b>Resume work</b>		
8.1	Seek written clearance to resume project work from regional environment staff and the archaeologist (and regulator, if required). Clearance would only be given once all archaeological excavation and/or heritage recommendations (where required) are complete. Resumption of project work must be in accordance with the all relevant project/heritage approvals/determinations.	RES/A/PM	
8.2	If required, ensure archaeological excavation/heritage reporting and other heritage approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.	PM/A	
8.3	Forward all heritage/archaeological assessments, heritage location data and its ownership status to the Senior Environmental Specialist (Heritage). They will ensure all heritage items in Roads and Maritime ownership and/or control are considered for the Roads and Maritime S170 Heritage and Conservation Register.	PM/SES(H)	
8.4	If additional unexpected items are discovered this procedure must begin again from Step 1.	PM	

## 8. Seeking advice

Advice on this procedure should be sought from regional environment staff in the first instance, and then Roads and Maritime heritage policy officers, where required. Roads and Maritime staff can contact Roads and Maritime regional environment staff for advice on this procedure at any time. Contractors and alliance partners should ensure their own project environment managers are aware of and understand this procedure. Regional environment staff can assist non-Roads and Maritime project environment managers with enquires concerning this procedure.

### **IMPORTANT!**

**RMS staff and contractors are not to seek advice on this procedure directly from OEH without first seeking advice from regional environment staff and heritage policy staff.**

Technical archaeological or heritage advice regarding the unexpected item should be sought from the contracted archaeologist. Technical specialist advice can also be sought from heritage policy staff within Environment Branch to assist with the preliminary archaeological identification and technical reviews of heritage/archaeological reports.

## 9. Related information

**Contact details:** Manager, Environmental Policy, Environment Branch, 02 8588 5740

**Effective date:** 1 November 2011

**Review date:** Final + 12 months

This procedure should be read in conjunction with:

- RTA *Incident Classification and Reporting Procedure*.
- Roads and Maritime's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.
- RTA *Heritage Guidelines 2004*.
- RTA *Environmental Impact Assessment Guidelines*.

This procedure replaces:

- Procedure 5.5 ("*unexpected discovery of an archaeological relic or Aboriginal object*") outlined in the RTA's *Heritage Guidelines 2004*.

Other relevant reading material:

- NSW Heritage Office (1998), *Skeletal remains: guidelines for the management of human skeletal remains*.
- Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal remains*.
- Department of Health (April 2008), *Policy Directive: Burials - exhumation of human remains*<sup>11</sup>.

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<sup>11</sup> [http://www.health.nsw.gov.au/policies/pd/2008/pdf/PD2008\\_022.pdf](http://www.health.nsw.gov.au/policies/pd/2008/pdf/PD2008_022.pdf)

## 10. List of appendices

The following appendices are included to support this procedure.

Appendix A	Identifying Unexpected Heritage items
Appendix B	Unexpected Heritage Items Protocol for Maintenance Staff
Appendix C	Unexpected Heritage Item Recording Form 418
Appendix D	Photographing Unexpected Heritage Items
Appendix E	Key Environment Contacts
Appendix F	Uncovering Bones
Appendix G	Archaeological Advice Checklist
Appendix H	Template Notification Letter



# Appendix A

## Identifying unexpected heritage items

The following images can be used to assist in the preliminary identification of a potential unexpected items (both Aboriginal and non-Aboriginal) during construction and maintenance works. Please note this is not a comprehensive typology.



**Top left hand picture continuing clockwise:** Stock camp remnants (Hume Highway Bypass at Tarcutta); Linear archaeological feature with post holes (Hume Highway Duplication), Animal bones (Hume Highway Bypass at Woomargama); Cut wooden stake; Glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area).





**Wood stave water pipe**



**Tram tracks**



**Retaining wall**



**Cistern**

**Top left hand picture continuing clockwise:** Woodstave water pipe with tar and wire sealing (Horsley Drive); Tram tracks (Sydney); Brick lined cistern (Clyde); Retaining wall (Great Western Highway, Leura).





**Top left hand picture continuing clockwise:** Road pavement (Great Western Highway, Lawson); Sandstone kerbing and guttering (Parramatta Road, Mays Hill); Telford road (sandstone road base, Great Western Highway, Leura); Ceramic conduit and sandstone culvert headwall (Blue Mountains, NSW); Corduroy road (timber road base, Entrance Road, Wamberai).





Alignment pin



Survey tree



Alignment stone



Survey tree



Milestone



**Top left hand corner continuing clockwise:** Alignment Pin (Great Western Highway, Wentworth Falls); Survey tree (MR7, Albury); Survey tree (Kidman Way, Darlington Point, Murrumbidgee); Survey tree (Cobb Highway, Deniliquin); Milestone (Great Western Highway, Kingswood, Penrith); Alignment Stone (near Guntawong Road, Riverstone). Please note survey marks may have additional statutory protection under the *Surveying and Spatial Information Act 2002*.

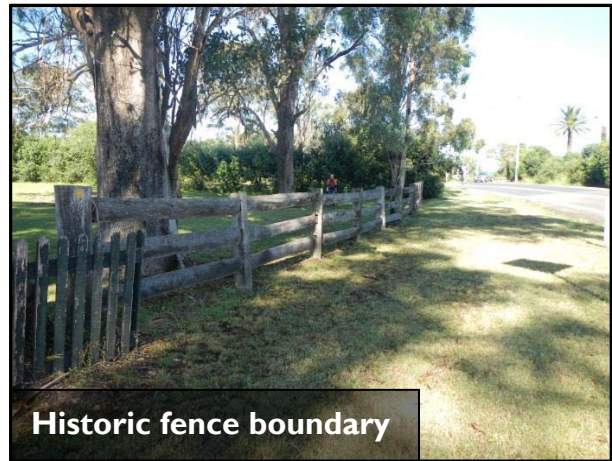




Remnant Bridge Piers



Mine Shaft



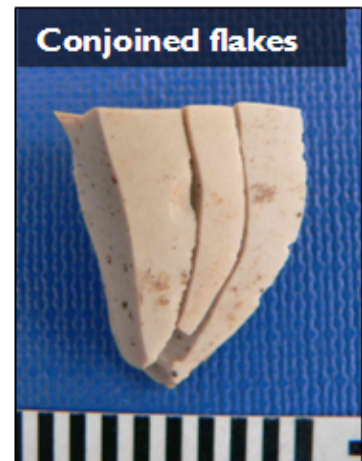
Historic fence boundary



Dairy shed

**Top left hand corner continuing clockwise:** Remnant bridge piers (Putty Road, Bulga); Wooden boundary fence (Campbelltown Road, Denham Court); Dairy shed (Ballina); Golden Arrow Mine Shaft.



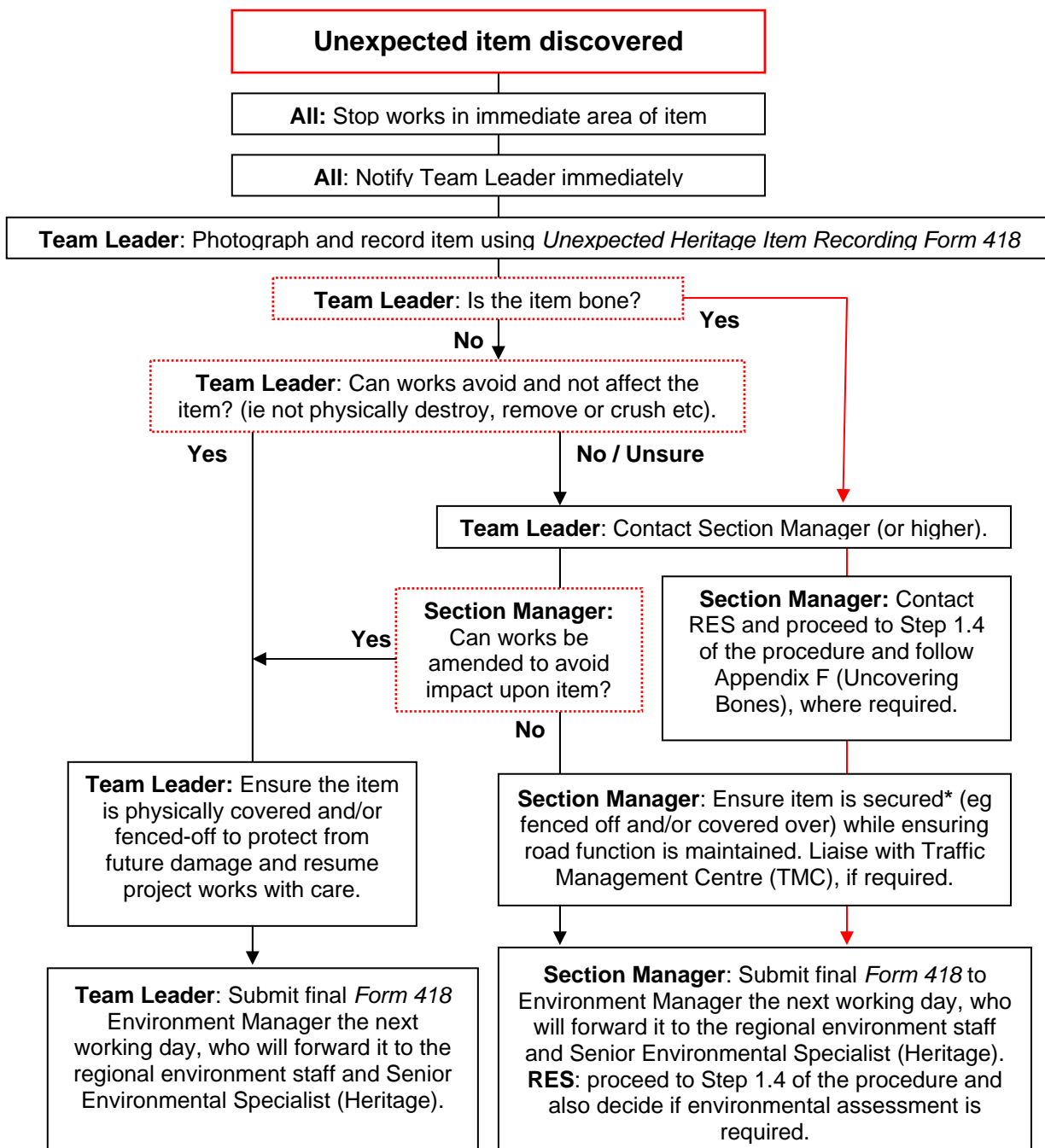


**Top left hand corner:** Culturally modified stone discovered on Main Road 92, about two kilometres west of Sassafras. The remaining images show a selection of stone artefacts retrieved from test and salvage archaeological excavations during the Hume Highway Duplication and Bypass projects from 2006-2010.

## Appendix B

### Unexpected Heritage Items Protocol for Maintenance Staff

Regional Maintenance Delivery staff undertake routine maintenance works such as patching, cleaning, line marking and milling within the road reserve. In addition, these works are often undertaken at night on urban thoroughfares. This protocol has been developed to ensure that disruption to traffic is minimised if an unexpected item is encountered when carrying out such maintenance works.



\*In the case of an archaeological item, appropriate temporary covering of the find is something that may protect it from further damage and that can be removed quickly the next day without

damage from re-excavation. For example geofabric and loose, dry asphalt, or a metal plate. Certain unexpected finds (such as human remains) should not be covered with loose material as the re-excavation process is likely to cause further damage to the find. Fencing and immediate action is appropriate in these rare cases.



## **Appendix C**

### Unexpected Heritage Item Recording Form 418

<b>Date:</b>		<b>Recorded by</b>	
<b>Project Name:</b>			
<b>Description of works being undertaken</b> (eg Removal of failed pavement by excavation and pouring concrete slabs in 1m x 1m replacement sections).			
<b>Description of exact location of item</b> (eg Within the road formation on Parramatta Road, east bound lane, at the corner of Johnston Street, Annandale, Sydney).			
<b>Description of item found</b> (eg Metal tram tracks running parallel to road alignment. Good condition. Tracks set in concrete, approximately 10cms (100 mm) below the current ground surface).			
<b>Sketch</b> (Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken).			
<b>Action Taken</b> (Tick either A or B)			
<b>A.</b>	Unexpected item <b>will not</b> be affected by maintenance works	<input type="checkbox"/>	<b>B.</b> Unexpected item <b>will be</b> affected by maintenance works <input type="checkbox"/>
<b>A. Describe if and how works were amended to avoid impact to the item and the action taken to cover the item.</b>			
<b>B. Describe how works will affect the item.</b> (eg Milling is required to be continued to 200 mm depth to ensure road pavement requirements are met. Milling to required depth would affect the top 50 mm of potential heritage pavement).			

**Attach photographs.** (Take a number of close up and general photographs so anyone off site can understand the location of the item, the material it is made from and any distinguishing features).

<b>Team Leader Signature</b>	
------------------------------	--

**Action:** Refer issue to Section Manager (or higher) immediately where 'B' has been ticked.

---

*To be completed by Section Manager*

<b>Describe any further considerations to amend project works to avoid unexpected item and if impact is still anticipated.</b>	
<b>Describe action taken to secure site temporarily</b>	
<b>Section Manager signature</b>	

**Action:** Escalate to environment and heritage policy staff where impact to item cannot be avoided.

## Appendix D

### Photographing unexpected heritage items

👉 Removal of the item from its context (eg excavating from the ground) for photographic purposes is not permitted.

Photographs of unexpected items in their current context (*in situ*) may assist heritage staff and archaeologists to better identify the heritage values of the item. Emailing good quality photographs to specialists can allow for better quality and faster heritage advice. The key elements that must be captured in photographs of the item include its position, the item itself and any distinguishing features. All photographs must have a scale (ruler, scale bar, mobile phone, coin) and a note describing the direction of the photograph.

#### Context and detailed photographs

It is important to take a general photograph (Figure 1) to convey the location and setting of the item. This will add much value to the subsequent detailed photographs also required (Figure 2).



**Figure 2:** Close up detail of the sandstone surface showing material type, formation and construction detail. This is essential for establishing date of the feature.

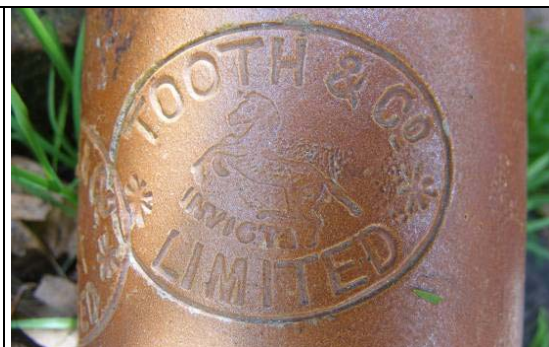
**Figure 1:** Telford road uncovered on the Great Western Highway (Leura) in 2008.

#### Photographing distinguishing features

Where unexpected items have a distinguishing feature, close up detailed photographs must be taken of this, where practicable. In the case of a building or bridge, this may include diagnostic details architectural or technical features. See Figures 3 and 4 for examples.



**Figure 3:** Ceramic bottle artefact with stamp.



**Figure 4:** Detail of the stamp allows 'Tooth & Co Limited' to be made out. This is helpful to a specialist in gauging the artefact's origin, manufacturing date and likely significance.



## Photographing bones

The majority of bones found on site will those of be recently deceased animal bones often requiring no further assessment (unless they are in archaeological context). However, if bones are human, Roads and Maritime must contact the police immediately (see Appendix F for detailed guidance). Taking quality photographs of the bones can often resolve this issue quickly. Heritage staff in Environment Branch can confirm if bones are human or non-human if provided with appropriate photographs. Ensure that photographs of bones are not concealed by foliage (Figure 5) as this makes it difficult to identify. Minor hand removal of foliage can be undertaken as long as disturbance of the bone does not occur. Excavation of the ground to remove bone(s) should not occur, nor should they be pulled out of the ground if partially exposed. Where sediment (adhering to a bone found on the ground surface) conceals portions of a bone (Figure 6) ensure the photograph is taken of the bone (if any) that is not concealed by sediment.



**Figure 5:** Bone concealed by foliage.



**Figure 6:** Bone covered in sediment

Ensure that all close up photographs include the whole bone and then specific details of the bone (especially the ends of long bones, the *epiphysis*, which is critical for species identification). Figures 7 and 8 are examples of good photographs of bones that can easily be identified from the photograph alone. They show sufficient detail of the complete bone and the epiphysis.



**Figure 7:** Photograph showing complete bone.



**Figure 8:** Close up of a long bone's epiphysis.

## Appendix E

### Key environmental contacts

Hunter region	Environmental Manager (Hunter)	4924 0281
	Aboriginal Cultural Heritage Advisor	4924 0383
Northern region	Environment Manager (North)	6640 1072
	Aboriginal Cultural Heritage Advisor	6604 9305
Southern region	Environmental Manager (South)	6492 9515
	Aboriginal Cultural Heritage Advisor	4221 2767
South West region	Environment Manager (South West)	6937 1634
	Aboriginal Cultural Heritage Advisor	6937 1647
Sydney region	Environment Manager (Sydney)	8849 2516
	Aboriginal Cultural Heritage Advisor	8849 2006
Western region	Environment Manager (West)	6861 1628
	Aboriginal Cultural Heritage Advisor	6861 1658
Pacific Highway Office	Environment Manager	6640 1375
Hume Highway Office	Senior Environment Manager	6923 3419
Regional Maintenance Delivery	Environment Manager	9598 7721
Environment Branch	Senior Environmental Specialist (Heritage)	8588 5754

### Heritage Regulators

Heritage Branch Office of Environment and Heritage Locked Bag 5020 Parramatta NSW 2124 Phone: (02) 9873 8500	Minister for Sustainability, Environment, Water, Populations and Communities GPO Box 787 Canberra ACT 2601 Phone: (02) 6274 1111
Office of Environment and Heritage (Sydney Metropolitan) Planning and Aboriginal Heritage Section PO Box 668 Parramatta NSW 2124 Phone: (02) 9995 5000	Office of Environment and Heritage (North Eastern NSW) Planning and Aboriginal Heritage Section Locked Bag 914 Coffs Harbour NSW 2450 Phone: (02) 6651 5946
Office of Environment and Heritage (North Western NSW) Environment and Conservation Programs PO Box 2111 Dubbo NSW 2830 Phone: (02) 6883 5330	Office of Environment and Heritage (Southern NSW) Aboriginal Heritage Protection Section PO Box 733 Queanbeyan NSW 2620 Phone: (02) 6229 7000

### Project-Specific Contacts

Position	Name	Phone Number
Project Manager		
Site/Alliance Environment Manager		
Regional Environmental Officer		
Aboriginal Cultural Heritage Advisor		
Consultant Archaeologist		
Local Police Station		
OEH: Environment Line		131 555

# Appendix F

## Uncovering bones

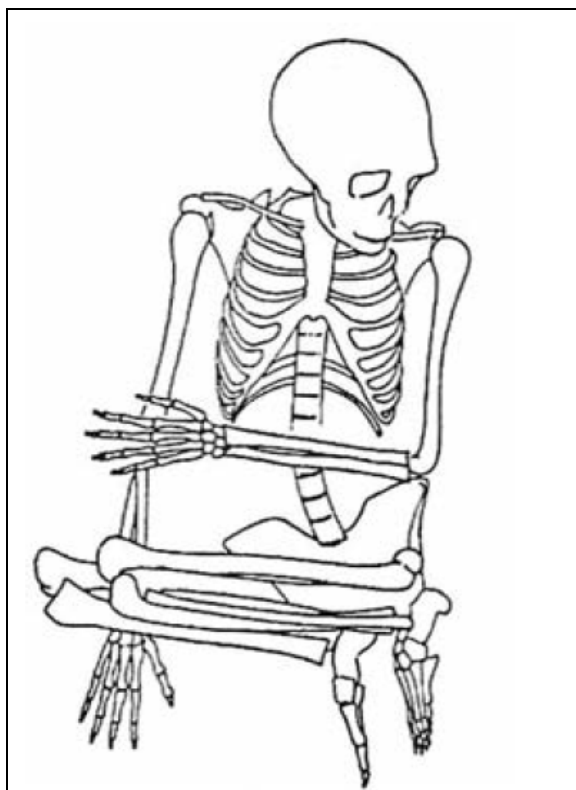
👉 All matters relating to uncovering bones and RMS' human remains notification obligations should involve RMS regional environment and heritage staff. They will guide Project Managers through occurrences of uncovering bones.

This appendix provides Project Managers with advice (1) on what to do on first uncovering bones (2) the range of human skeletal notification pathways and (3) additional considerations and requirements when managing the discovery of human remains.

### 1. First uncovering bones

Stop all work in the vicinity of the find. All bones uncovered during project works should be **treated with care and urgency** as they have the potential to be human remains. Therefore they must be identified as either human or non-human as soon as possible by a qualified forensic or physical anthropologist. These specialist consultants can be sought by contacting regional environment staff and/or heritage staff at Environment Branch.

On the very rare occasion where it is *instantly obvious* from the remains that they are human, the Project Manager (or a delegate) should **inform the police by telephone** prior to seeking specialist advice. It will be obvious that it is human skeletal remains where there is no doubt, as demonstrated by the example in Figure 1. Often skeletal elements in isolation (such as a skull) can also clearly be identified as human. Note it may also be obvious that human remains have been uncovered when soft tissue and clothing are present.



**Figure 1:** Schematic of a complete skeleton that is 'obviously' human<sup>12</sup>.



**Figure 2:** Disarticulated bones that require assessment to determine species.

<sup>12</sup> After Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal Remains*: 17.



This preliminary phone call is to let the police know that Roads and Maritime is undertaking a specialist skeletal assessment to determine the approximate date of death which will inform legal jurisdiction. The police may wish to take control of the site at this stage. If not, a forensic or physical anthropologist must be requested to make an on-site assessment of the skeletal remains.

Where it is not 'obvious' that the bones are human (in the majority of cases, illustrated by Figure 2), specialist assessment is required to establish the species of the bones. Photographs of the bones can assist this assessment if they are clear and taken in accordance with guidance provided in Appendix D. Good photographs often result in the bones being identified by a specialist without requiring a site visit; noting they are nearly always non-human. In these cases, non-human skeletal remains must be treated like any other unexpected archaeological find.

If the bones are identified as human (either by photographs or an on-site inspection) a technical specialist must determine the likely ancestry (Aboriginal or non-Aboriginal) and burial context (archaeological or forensic). This assessment is required to identify the legal regulator of the human remains so **urgent notification** (as below) can occur. Preliminary telephone or verbal notification by the Project Manager or regional environment staff is considered appropriate. This must be followed up later by Roads and Maritime's formal letter notification as per Appendix H when a management plan has been developed and agreed to by the relevant parties.

## 2. Range of human skeletal notification pathways

The following is a summary of the different notification pathways required for human skeletal remains depending on the preliminary skeletal assessment of ancestry and burial context.

### A. Human bones are from a recently deceased person (*less than 100 years old*).

#### Action

A police officer must be notified immediately as per the obligations to report a death or suspected death under s35 of the *Coroners Act 2009* (NSW). It should be assumed the police will then take command of the site until otherwise directed.

### B. Human bones are archaeological in nature (*more than 100 years old*) and are likely to be Aboriginal remains.

#### Action

The OEH (*EPRG*) and the RMS Aboriginal Cultural Heritage Advisor (ACHA) must be notified immediately. The ACHA must contact and inform the relevant Aboriginal community stakeholders who may request to be present on site. Relevant stakeholders are determined by the RTA's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.

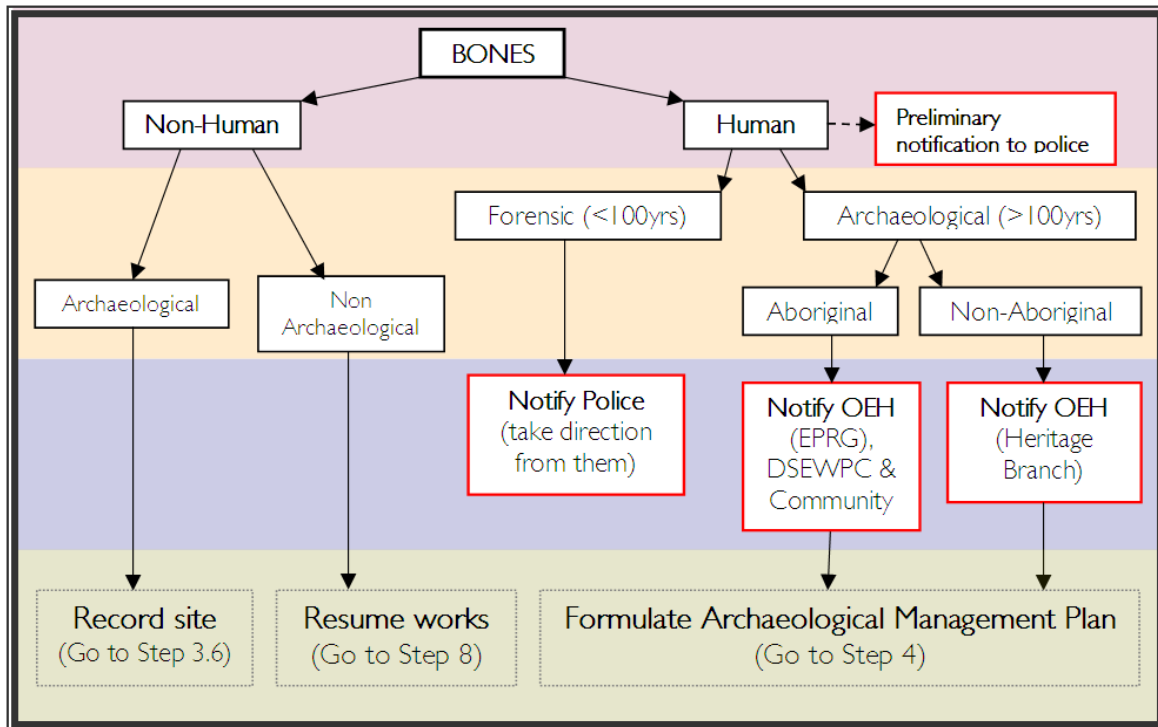
### C. Human bones are archaeological in nature (*more than 100 years old*) and likely to be non-Aboriginal remains.

#### Action

The OEH (Heritage Branch, Conservation Team) must be notified immediately.



The simple diagram below summarises the notification pathways on finding bones.



After the appropriate verbal notifications (as described in B and C), the Project Manager must proceed through the *Unexpected Heritage Items Procedure* to formulate an archaeological management plan (Step 4). Note no archaeological management plan is required for forensic cases (A), as all future management is a police matter. Non-human skeletal remains must be treated like any other unexpected archaeological find and so must proceed to recording the find as per Step 3.6.

### 3. Additional considerations and requirements

Uncovering archaeological human remains must be managed intensively and needs to consider a number of additional specific issues. These issues might include facilitating culturally appropriate processes when dealing with Aboriginal remains (such as repatriation and cultural ceremonies). Roads and Maritime’s ACHA can provide advice on this and how to engage with the relevant Aboriginal community. Project Managers, more generally, may also need to consider overnight site security of any exposed remains and may need to manage the onsite attendance of a number of different external stakeholders during assessment and/or investigation of remains. Project Managers may also be advised to liaise with local church/religious groups and the media to manage community issues arising from the find. Additional investigations may be required to identify living descendants, particularly if the remains are to be removed and relocated.

If exhumation of the remains (from a formal burial or a vault) is required, Project Managers should also be aware of additional approval requirements under the *Public Health Act 1991* (NSW). Specifically, Roads and Maritime is required to apply to the Director General of NSW Department of Health for approval to exhume human remains as per Clause 26 of the *Public Health (Disposal of Bodies) Regulation 2002* (NSW)<sup>13</sup>. Further, the exhumation of such remains needs to consider health risks such as infectious disease control, exhumation procedures and reburial approval and registration. Further guidance on this matter can be found at the NSW Department of Health [website](#).

In addition, due to the potential significant statutory and common law controls and prohibitions associated with interfering with a public cemetery, project teams are

<sup>13</sup> This requirement is in addition to heritage approvals under the *Heritage Act 1977*.

advised, when works uncover human remains adjacent to cemeteries, to confirm the cemetery's exact boundaries.

## Appendix G

### Archaeological/Heritage advice checklist

The archaeologist must advise the Project Manager of an appropriate archaeological or heritage management plan as soon as possible after site inspection (see Step 4). An archaeological or heritage management plan can include a range of activities and processes, which differ depending on the find and its significance. In discussions with the archaeologist the following checklist can be used by the Project Manager and the archaeologist as a prompt to ensure all relevant archaeological issues are considered when developing this plan. This will allow the project team to receive clear and full advice to move forward quickly and in the right direction. Archaeological and/or heritage advice on how to proceed can be received in a letter or email outlining all relevant archaeological and/or heritage issues.

	Required	Outcome/notes
<b>Assessment and investigation</b>		
• Assessment of significance	Yes/No	
• Assessment of heritage impact	Yes/No	
• Archaeological excavation	Yes/No	
• Archival photographic recording	Yes/No	
<b>Heritage approvals and notifications</b>		
• AHIPs, Section 140, S139 exceptions etc	Yes/No	
• Regulator relics/objects notification	Yes/No	
• Roads and Maritime's S170 Heritage and Conservation Register listing requirements	Yes/No	
• Compliance with CEMP or other project heritage approvals	Yes/No	
<b>Stakeholder consultation</b>		
• Aboriginal stakeholder consultation requirements and how it relates to RTA <i>Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI)</i> .	Yes/No	
• Advice from regional environmental staff, Aboriginal Cultural Heritage Advisor, Roads and Maritime heritage team.	Yes/No	
<b>Artefact/ heritage item management</b>		
• Retention or conservation strategy (eg items may be subject to long conservation and interpretation)	Yes/No	
• Disposal strategy (eg former road pavement)		
• Short term and permanent storage locations (interested third parties should be consulted on this issue).		
• Control Agreement for Aboriginal objects.	Yes/No	

<b>Program and budget</b>	
<ul style="list-style-type: none"> <li>• Time estimate associated with archaeological or heritage conservation work.</li> </ul>	
<ul style="list-style-type: none"> <li>• Total cost of archaeological/heritage work.</li> </ul>	

## **Appendix H**

Template notification letter

[Select and type date]

[Select and type reference number]

[Select and type file number]

[Insert recipient's name and address, see **Appendix E**]

[Select and type salutation and name].

**Re: Unexpected heritage item discovered during Roads and Maritime Services project works.**

I write to inform you of an unexpected [select: relic, heritage item or Aboriginal object] found during Roads and Maritime Services construction works at [insert location] on [insert date]. [Where the regulator has been informally notified at an earlier date by telephone, this should be referred to here].

This letter is in accordance with the notification requirement under [select: Section 146 of the *Heritage Act 1977* (NSW) or Section 89(A) of the *National Parks and Wildlife Act 1974* (NSW)] **NB:** There may be not be statutory requirement to notify of the discovery of a 'heritage Item that is not a relic or Aboriginal object].

**NB:** On finding Aboriginal human skeletal remains this letter must also be sent to the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities (SEWPC) in accordance with notification requirements under Section 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

[Provide a brief overview of the project background and project area. Provide a summary of the description and location of the item, including a map and image where possible. Also include how the project was assessed under the *Environmental Planning and Assessment Act 1979* (NSW) (eg Part 5). Also include any project approval number, if available].

Roads and Maritime Services [or contractor] has sought professional archaeological advice regarding the item. A preliminary assessment indicates [provide a summary description and likely significance of the item]. Please find additional information on the site recording form attached.

Resulting from these preliminary findings, Roads and Maritime Services [or contractor] is proposing [provide a summary of the proposed archaeological/heritage approach (eg develop archaeological research design (where relevant), seek heritage approvals, undertake archaeological investigation or conservation/interpretation strategy). Also include preliminary justification of such heritage impact with regard to project design constraints and delivery program].

The proposed approach will be further developed in consultation with a nominated Office of Environment and Heritage [select either EPRG/Heritage Branch, Conservation Team] staff member.

Please contact me if you have any input on this approach or if you require any further information.

Yours sincerely

[Sender name and position]

[Attach the archaeological/heritage management plan and site recording form].

## **Annexure B**

### **Archaeological Monitoring Program**

*(Contractor to prepare if required)*

#### **Non-Aboriginal Heritage**

**CoA B17** A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval.

**D46(d)(ii)C.** HMP to include details of monitoring and reporting requirements for impacts on heritage items;

#### **Non-Aboriginal Heritage**

**NH9** The EIS has determined that the proposed flood mitigation works traverse areas of moderate and high potential for the survival of archaeological resources of local significance. Depending on the level of impact and the form of the proposed works, monitoring of these moderate and high archaeologically sensitive areas may be required. No monitoring is required for sites with low archaeological significance.

Monitoring is proposed as it is not appropriate to carry out archaeological testing and salvage within or next to the existing flood levee. This is due to the risks associated with compromising the flood protection measures around Grafton. An archaeological excavation program will expose properties within Grafton to an unacceptable level of risk and therefore is not appropriate in this instance.

An archaeological monitoring program will be developed as part of the heritage management sub-plan developed for the Project. The monitoring program will provide the following details:

Description of the proposed works, including level of disturbance and consideration of previous levee construction activities and how this relates to the impacts from the work

Details of involvement of a suitably qualified archaeologist for all initial ground disturbance works which may impact upon archaeological deposits

Process to be followed should any heritage items be identified during the monitoring period.

## **Archaeological monitoring program**

### **Purpose**

This program details the archaeological monitoring to be implemented for non-Aboriginal heritage, where whole sections of the flood levee require removal and replacement. The overall intent is to avoid or minimise impacts to non-Aboriginal archaeological resources during construction.

In regard to the flood levee, a program for archaeological monitoring is not required for Aboriginal heritage. Biosis Pty Ltd (as author of the EIS heritage assessments), did not identify any areas of non-Aboriginal archaeological potential associated with the levee upgrades during the EIS phase. The margin associated with the levee system is located in close proximity to the Clarence River, this landform has been heavily flood affected and has significantly reduced potential to contain Aboriginal objects. Any objects present within these landform are likely to be transient (i.e. have been moved from their original location either by flooding or the construction of the levee). As such, the implementation of the *RMS standard management procedure – Unexpected heritage items* (Roads and Maritime Services, 2013) would be the most efficient means of managing Aboriginal heritage values associated with the levee upgrades (refer to Table 7-3 mitigation measure ID CHMM2). In contrast, the non-Aboriginal assessment identified that much of the initial settlement of Grafton was located on the banks of the Clarence River, which is now occupied by certain alignments of the levee. As such, there is potential for the archaeological remains of these structures to be impacted by the levee upgrade and hence why this archaeological monitoring program for non-Aboriginal heritage is required.

### **Scope**

This program is applicable where whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas for non-Aboriginal heritage, as required by the EIS (Appendix G). In such situations, there is potential for below ground excavation to impact non-Aboriginal archaeological resources, particularly those relating to early settlement in Grafton.

Highly archaeologically sensitive areas are considered to be those areas identified in Figure 5-2 of this CHMP as 'High'. This includes areas of 'High' archaeological potential and/or 'High' archaeological research potential. Moderate archaeologically sensitive areas are identified in the same way; however, include areas of 'Moderate' archaeological potential only. No areas of 'Moderate' archaeological research potential exist in the Project area.

This program does not apply to areas of 'Low' archaeological significance. In accordance with the EIS (Appendix G, p226), no archaeological monitoring of these areas is required.

### **Induction and training**

All site personnel and subcontractors working in the vicinity of the flood levee will be trained in the practices to be implemented to minimise the risk of harm to archaeological resources. Training will occur on site during the Project induction and as required in toolbox talks.

### **Description of the proposed flood levee works**

Minor works are required to both Grafton and South Grafton flood levee systems to maintain the existing level of flood protection.

Existing levees will be raised to target elevations. Typically, lengths of levee will be raised by 50 mm to 200 mm. Approximately 2 km of levees in Grafton and 3.7 km in South Grafton will be adjusted. The project has reduced levee works from 11 km in the EIS to 5.7km in design



development; hence the project has reduced impacts. 101 parcels of land are recommended for flood levee works.

The existing flood levee system comprises a number of levee types, including:

- earth fill embankment (this is the predominant levee type)
- concrete blockwork
- concrete blockwork on top of earth fill embankment
- brick walls
- reinforced concrete walls, and
- buildings forming sections of the levee.

The proposed flood levee works will match the existing type of flood levee and materials where possible. Existing earth fill embankment levees will generally remain earth levees when raised to target elevations. Only in exceptional circumstances will the levee type differ, such as a short section of earth levee in between two blockwork levees or when structural requirements dictate a different construction method.

A final schedule of proposed flood levee works will be prepared after approval of the *Hydrological Mitigation Report* by DP&E, in accordance with CoA D23. The final schedule will be provided to DP&E and Clarence Valley Council prior to the implementation/construction of the proposed flood levee works in accordance with CoA D24.

## **Procedure**

In the unlikely event that whole sections of the flood levee require removal and replacement in highly archaeologically sensitive areas and/or moderate archaeologically sensitive areas, implement the archaeological monitoring program illustrated in the following flow chart. The Environmental Manager (EM) is responsible for implementing this procedure.

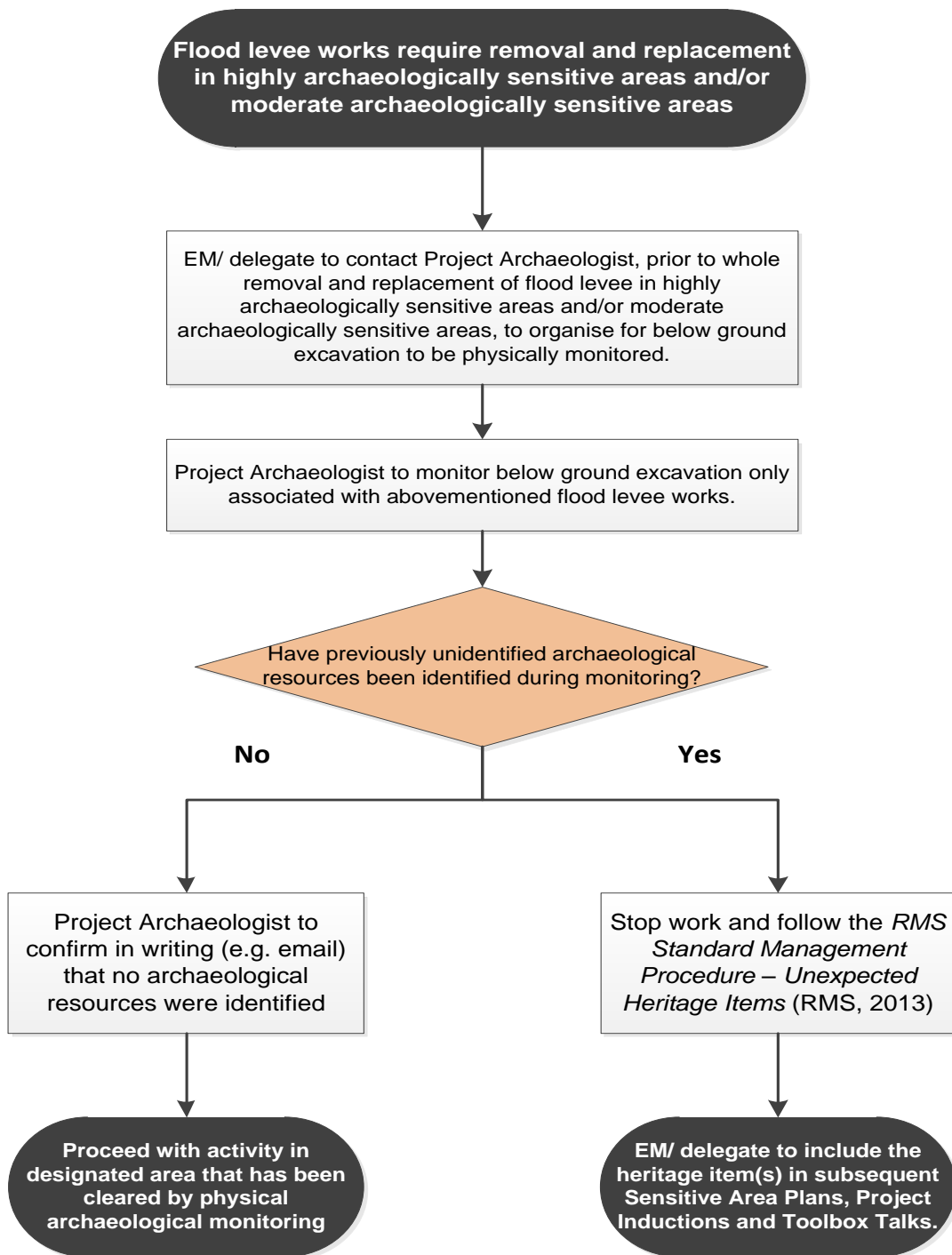


Figure B1 Archaeological monitoring program flow chart