Clarence River Crossing

Construction Compliance Report

Report 1
18 October 2016 - 17 April 2017

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Appendices

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The most current version of this report will be available on the Fulton Hogan database for all project personnel. The document will be publicly available at http://www.rms.nsw.gov.au/projects/northern-nsw/grafton-clarence-river-crossing/.

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Copy Number	Issued to	Date	Name
1	Project Director	22 May 17	Mark Stevenson
2	Environmental Manager	22 May 17	Sam Leigh
3	NSW Environmental Manager	22 May 17	Irina Kliger
4	RMS Environmental Representative	22 May 17	John O'Donnell
5	DP&E endorsed Environmental Representative (ER)	22 May 17	Simon Williams

Revision History

Each new revision to the report will be distributed to all registered copyholders with an instruction that the superseded copy be destroyed or marker as superseded.

The revision number is included at the end of the document number, which is noted on each page. When amendments occur, the document or relevant section will be reissued with the revision number updated accordingly.

The Project Manager or Environmental Manager will approve amendments by initial in the Approval column below.

The following provides a record of amendments made to this document:

Revision	Date	Description	Page	Prepared By	Approved
0	17 May 2017	Draft for internal review	All	R. Hannah	S. Leigh
1	19 May 2017	RMS and ER review	All	R. Hannah	S. Leigh
2	24 May 2017	Reviewed in response to RMS and ER comments	All	R. Hannah	S. Leigh
3	26 May 2017	Final	All	R. Hannah	M. Stevenson

Abbreviations

CEMP	Construction Environmental Management Plan
CPESC	Certified professional in erosion and sediment control
DP&E	Department of Planning & Environment
DPIW	Department of Primary Industries - Water
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environmental Protection Authority
EP&A Act	Environmental Planning & Assessment Act 1979
EPL	Environmental Protection Licence
ER	Environmental Representative
MCoA	Minister's Conditions of Approval
NCR	Non-conformance report
NML	Noise Management Level (RBL+5)
NSW	New South Wales
OOHW	Out of Hours Work
POEO Act	Protection of the Environmental Operations Act 1997
PPR	Preferred Project Report
RBL	Rating Background Level
RMS	Roads and Maritime Services
ROL	Road Occupancy Licence
SEPP	State Environmental Planning policy
SSI	State Significant Infrastructure
TMP	Traffic Management Plan
VENM	Virgin Excavated Natural Material

1.0Introduction

The Clarence River Crossing entails a new 526-metre long road bridge crossing of the Clarence River, Grafton. The Bridge will comprise two traffic lanes (one in each direction), road shoulders and a pedestrian/cycle path and be located approximately 70-metres downstream of the existing Grafton Bridge, which will be retained. The Project will also replace a rail viaduct section in Pound Street, approach works and upgrades to sections of the local road network in both Grafton and South Grafton.

The Project is required to alleviate existing traffic congestion and safety issues that arise from increasing traffic demand and inherent design issues with the existing bridge. The Project is consistent with key strategic and transport planning policies including the State Infrastructure Strategy and the Mid North Coast Regional Strategy.

Key features of the project include:

- Construction of a new road bridge over the Clarence River, located approximately 70 meters downstream of the existing Grafton Bridge
- Upgrades to parts of the local road network in both Grafton and South Grafton including:
  - Realigning the existing Pacific Highway to join Iolanthe Street near Through Street
  - Providing a new roundabout at the intersection of Through Street and Iolanthe Street
  - Widening pound street to four lanes and approach to the new bridge
  - Providing traffic signals at the intersection at Pound street and Clarence Street
- Works to the existing rail viaduct section across Pound Street to provide sufficient vertical clearance from the Pound Street upgrade
- Construction of a new shared pathway for cyclists and pedestrians for access to and across the new bridge crossing
- Flood mitigation works including the uplift of sections of the existing levee system upstream of the current Grafton Bridge.

Benefits of the project include:

- Improve traffic efficiency between and within Grafton and South Grafton
- Reducing travel time and delays for local people and businesses in peak periods
- Support regional and local economic development
- New shared pathway to provide safe facilities for pedestrians and cyclists
- Flood mitigation works

The Clarence River Crossing is being delivered through a ‘design and construct’ process. Fulton Hogan was appointed by RMS on 13 September 2016 to deliver the project.

1.1 Background

Roads and Maritime Services (RMS) completed an environmental assessment of the Additional Crossing of the Clarence River at Grafton (the Project EIS) in August 2014. The Project EIS identified a range of environmental, social and planning issues associated with the construction and operation of the Additional Crossing of the Clarence River at Grafton and proposed measures to mitigate or manage those potential impacts.

The Project EIS was publicly exhibited in August 2014 for a period of 30 days. Following public exhibition, submissions from stakeholders were received and addressed by Roads and Maritime in the Submissions Report which was lodged with the Secretary of the Department of Planning and Environment in October 2014.

After consideration of the Project EIS and Submissions Report, the Minister for Planning approved the Additional Crossing of the Clarence River at Grafton Project under Section 115ZB of the Environmental Planning and Assessment Act 1979 (EP&A Act) on 19 December 2014 subject to the Minister's Conditions of Approval (CoA) being met (hereafter referred to as the Project Approval). The project is State Significant Infrastructure (SSI) approved under Part 5.1 of the EP&A Act.

For the purposes of this environmental assessment, the concept design described and assessed in the Project EIS and consequently approved by the Minister, is referred to as the Approved Project.

The CEMP and associated Management Plans were approved by DPE on 15 September, 2016.

1.2 Purpose of this report

The purpose of this compliance tracking report is to assess and provide a summary of the procedures and processes implemented to track compliance in regards to the conditions of approval on the Clarence River Crossing Project.

This is a requirement under the Minister's Condition of Approval (MCoA) A12 which specifies:
A12 – Compliance Tracking
"The proponent shall prepare and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The program shall be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report referred to in condition E5. The operation of the program may be extended if the Secretary determines that there has been unsatisfactory compliance. The program shall include but not necessarily be limited to:
(a) provisions for the notification of the Secretary prior to the commencement of works prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);
(b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval;
(c) provisions for periodic reporting of compliance status to the Secretary, including but not limited to:
i. a Pre-Construction Compliance Report, prior to the commencement of constructions;
ii. 6-monthly Construction Compliance reports, for the duration of construction; and
iii. a Pre-Operation Compliance Report prior to the commencement of operation;
(d) a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems;
(e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;
(f) provisions for reporting environmental incidents to the Department and relevant public authorities during construction;
(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management;

(h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities; and
(i) Provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval.

The compliance tracking program was issued to DPE by RMS and approved by DPE on 10 October 2016.

Detail in regards to each requirement above is tabulated below.

A 12 section	A 12 requirement	Compliance detail
(a)	provisions for the notification of the Secretary prior to the commencement of works prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);	Notification letter provided prior to commencement of construction
(b)	provisions for periodic review of the compliance status of the SSI against the requirements of this approval;	Tracking is regular, by many officers and recorded in the front sheet of the compliance tracking program.
(c)	provisions for periodic reporting of compliance status to the Secretary, including but not limited to:	Meeting requirements.
i.	a Pre-Construction Compliance Report, prior to the commencement of constructions;	Report prepared and submitted to DPE
ii.	6-monthly Construction Compliance reports, for the duration of construction; and	First report issued to DPE.
iii.	a Pre-Operation Compliance Report prior to the commencement of operation;	Not applicable at this time
(d)	a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems;	First integrated audit completed in March 2017. Refer detail in the six monthly report and Environmental Representative Reports.
(e)	mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;	Incident register used for managing all incidents.
(f)	provisions for reporting environmental incidents to the Department and relevant public authorities during construction;	Reported required incidents to DPE. All pollution incidents reported to EPA.
(g)	procedures for rectifying any non-compliance identified during environmental auditing, review of	RMS and FH have systems and compliance updating in place for addressing audit issues, incidents.

	compliance or incident management;	Refer detail in the six monthly report and Environmental Representative Reports. Refer Section 8.1 of this report.
(h)	provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities; and	This is provided in inductions, Work Pack and toolboxes and through sub contract management.
(i)	Provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval	This is addressed in Section 9 of this report and the Community Consultation Strategy.

During this reporting period, the Clarence River Crossing has been generally compliant to the conditions of approval (Appendix A). A review of compliance for the six month period from 18 October 2016 to 17 April 2017 is provided in this report.

1.3 Relevant Documentation

Documentation relevant to this report includes:

- Additional crossing of the Clarence River at Grafton Instrument of Approval
- Environmental Impact Statement
- Submissions Report
- Hydrological Mitigation Report
- Construction Environmental Management Plan and associated management plans

2.0 Project Update

Project works are proceeding in accordance with the construction program with no major delays. During the reporting period there was a total of 65 rain days, 5 of which exceeded the 5 day 85th percentile rainfall depth value of 37.2mm. Total rainfall was 674.8mm for the reporting period.

The project continued to operate at full capacity as weather and site conditions allowed during the reporting period.

2.1 Levees

The levee works considered existing flood conditions and the works required to mitigate the flood impacts resulting from the project. The Hydrological Mitigation Report predicted the effects of the project and outlined improvements through design on the minor increases of flood levels that would be required to ensure that landowners upstream and downstream would have no flood impact from the project. This report was approved by DPE 29 July 2016.

The assessment addressed impacts on a property-by-property basis. The mitigation measures that were considered and implemented were:

- Minor raising/moving of existing levees
- Construction of new short sections of levees around buildings
- Floor raising
- Compensation

The projects innovative pier skirt design has significantly reduced the potential flood impacts of the new bridge in comparison to the concept design in the EIS. This has resulted in reducing the extent of levee raising works from 11 km to 5.5 km. Other environmental benefits of the reduced levee works footprint include:

- Reduced earthworks and decreased work footprint
- Reduced clearing
- Less habitat disturbance on native flora and fauna
- Shorter construction program
- Improved community outcomes with overall less affected residents and stakeholders

2.1.1 Work planning and preparation

A risk assessment process was implemented for each new work lot providing the work crews with the information required to meet environmental compliance under the CEMP and the EIS. The crews were able to see key requirements for the site such as what controls needed to be implemented, if clearing was required, if an ecologist was required for TTSTS habitat and pre-clearing inspections and if there was any heritage risk that needed to be considered prior to works commencing.

The levee team engaged Strategic Environmental and Engineering Consulting (SEEC) to provide expert advice on the management of the sediment and erosion controls across the levee works in January 2017. The report noted that the works being undertaken were being managed well. Some recommendations for up and coming works were provided as well as some low impact alternatives for environmental controls.

Figure 1 Levee works highlighting the focus on narrow works corridors and the range of alternative erosion and sediment controls used for these works

2.1.2 Levee completion and progress

Levee works started in late 2016 with the construction of concrete block walls in South Grafton. The number of work crews expanded from one work crew to six as works continued to progress in South Grafton and Grafton.

A key focus of the levee works process was to close out individual work lots as construction continued. The progressive completion approach to levee delivery had a dual benefit, residents were not overly burdened by construction activities and environmental risks were minimised.

80% of levee works were completed during the reporting period, a significant project milestone.

2.2 Demolition and property adjustment

Demolition works started in November 2016 and were completed in the reporting period. Demolition works were required in Grafton to allow space for the new bridge and road alignment. Condition B14 of the project approval required that a large number of houses had archival recordings completed prior to construction. The archival recordings were completed in August 2016.

Salvageable materials from the houses were reused and recycled, details of materials salvaged are included in appendix D of this report. Due to their age and conditions there were several constraints that limited the projects ability to reuse and recycle materials from the houses including asbestos, dry rot and dilapidated buildings. However a number of positive outcomes were achieved such as the salvage of heritage fittings and recycling of customised timber products from the federation era.

Environmental mitigations during demolition were effective and the project recorded a very low level of public complaints. Environmental mitigations included:

- Extensive pre-clearing surveys by the project ecologists resulted in a high number of threatened '*Three-toed Snake Tooth Skink'* relocations ahead of construction
- Safe removal of contaminated materials, over 200 tonnes of bonded asbestos was removed from the project area. All air quality monitoring on the boundary of works was compliant and no recordings of asbestos fibres
- All sites had active dust control during works to ensure that local residents were not affected during demolition
- All sites were actively rehabilitated to ensure sediment was controlled at the source

Figure 2 Site rehabilitation following demolition works, note mulch controls and good cover crop growth.

2.3 Utilities and service relocation

During the reporting period the project has been working towards finalising the services design and locating existing services. The services network within Grafton is largely unknown with many historic redundant and active services not in locations shown on dial before you dig drawings.

2.4 Road Works

The project is focused on ensuring environmental controls are installed and functioning prior to starting road works areas. A good outcome has been achieved at Fill 1 and Fill 2 by diverting site waters away from the Clarence River and into sediment structures/basins further away from the River.

In Grafton the Pound and Clarence Street car park was brought forward in the construction program to benefit local businesses and community members. The construction of the car park made good progress in the reporting period and is planned to be opened in May 2017.

Settlement monitoring equipment was installed along the road alignment in both North and South Grafton during the reporting period, this equipment is used to ensure the installed embankment is stable.

The import of earth fill started in the reporting period, the material is a granular Virgin Excavated Natural Material (VENM) product coming from a South Grafton quarry.

2.4.1 Traffic management

Traffic management is required throughout works to ensure that public road users and workers are kept separated and safe.

A summary of traffic management activities during the reporting period is detailed below:

- The permanent closure of Pound Street between Clarence and Kent Street executed 27.02.17
- Temporary closure of Greaves Street was established 27.02.17
- One lane periodic closures on Iolanthe, Greaves and Kent street for tree removal
- 30 traffic control plans were approved and implemented during the reporting period

Figure 3 Pound Street road closure

Figure 4 Fill 1 (foreground) and casting yard (background) work progress demonstrating ESC and sediment basins. Site runoff is being diverted away from the Clarence River at Fill 1 and directed towards the sediment basins and erosion/ sediment controls beside the fill.

2.5 Temporary Works

Temporary works are required to enable and support construction. Temporary works provide access, storage space and construction facilities used to build the new infrastructure. Several important temporary works activities have started:

- Crane pads
- Site access roads
- Temporary boundary fencing and signage
- Construction jetty

Figure 5 (a) Temporary works access track for access to the southern crane pad and (b) jetty abutment excavation at South Grafton.

2.6 Casting Yard

The project casting yard is significant support facility needed to construct the new bridge. The bridge design a balance cantilever will require more than 150 pre-cast segments to be built onsite. The segments will be built in South Grafton at the location on the eastern side of the project alignment that was assessed and approved in the project EIS and CEMP documents.

Activities that have started at the casting yard (refer to figure 4 above) include:

- Installation of geo-fabric barrier layer to separate the existing ground surface and the foundation of the casting yard
- Fencing of the boundary
- Installation of erosion and sediment controls
- Repair and upgrade of existing concrete pads
- Import of earth fill

2.7 Erosion and sediment controls

The project is focused on delivering industry best practice controls that are practical and reduce potential effects on the environment. During the reporting period the project has setup the environmental controls at several work areas. Environmental controls have been installed before works started.

In South Grafton controls are focused on diverting site waters away from the Clarence River into high standard erosion and sediment controls. Design drainage systems have been used to maximise water treatment efficiency and to minimise the disturbance footprint. By rehabilitating as we construct and using polymers and temporary grass covers, erosion is minimised and sediment is being controlled at the source.

The Grafton section of the project is an urban construction area. This section of the project has limited space and a high complexity of works. Controlling site waters through sediment basins and broad controls is not possible. Instead the focus is on controlling small parcels of works and minimising disturbance areas. Polymers and temporary grass covers are being used to good effect.

Figure 6 (a) Site dirty water drain and coarse sediment trap, (b) polymer application on stockpiles

2.8 Marine Works

Marine enabling works have started and the following activities have occurred onsite:

- Access road construction from the sugar loader
- Crane pad
- Temporary jetty
- Navigation buoys
- Marine controls
- Walkway access

Figure 7 (a) Temporary walkway and (b) early construction of the marine works jetty

3.0 Environmental Control and Performance

During the reporting period, the project implemented and maintained a high standard of environmental controls and management measures.

The project's environmental performance is reviewed and measured by regional RMS, the project ER, EPA, local council, DP&E and the NSW Department of Primary Industries – Fisheries.

3.1 Effectiveness of Environmental Controls

Environmental controls were affective during the reporting period. The project is implementing processes to ensure continuous improvement of the work site.

3.1.1 Soil and water management

Environmental controls are planned prior to ground disturbance and installed before works start. Industry trained environmental consultants and specialists have been engaged by the project throughout the reporting period to inspect, evaluate and audit the effectiveness of implemented environmental controls.

Weekly environmental inspections capture the need for maintenance of controls and ensure all controls are functioning properly and are fit for purpose. Weekly environmental inspections are completed as a minimum and include prior to, during and after rainfall events.

Prior to heavy rainfall, site controls are reviewed and reinforced. Additional maintenance and controls are installed prior to shut down periods and long weekends ensuring maximum efficiency of the site whilst workers are offsite.

During the reporting period, there were a total of 5 rainfall events which exceeded the 5 day 85th percentile rainfall of 37.2mm. All erosion and sediment controls performed well during these weather events minimising potential impacts on receiving catchments and adjacent sensitive receivers

Working in waterways permits are used to manage works in and around ephemeral and open waterways. During the reporting period four activities required working in waterways permits.

Soil and water controls are highlighted in Figures 1, 2, 4 and 7, controls targeted for specific locations.

Figure 9 (a) Clean rock access tracks to prevent mud tracking onto local roads, (b) sheathing of excavator hose lines when working around waterways for easy identification and containment of leaks and/or breaks, (c) mulch bund reinforced with a sediment fence

3.1.2 Levee works

One of the key challenges the levee team faced was minimising the impacts environmental controls might have in residents' yards. For example, the use of sediment fencing to control sediment was not possible in most instances. The project team made a decision that the use coir logs and covering the area in black plastic/geo-fabric would provide compliant sediment and erosion controls, whilst reducing the impacts on the resident's yards during works – refer to figure 1. The coir logs and black plastic/geo-fabric were recycled each day by drying out the materials and reusing.

Figure 10 (a), turfing of levee works and 10 (b) coir log controls.

Additionally, the project team worked out strategies whereby they could minimise the erosion and sedimentation exposure by staging their works to small areas and closing out locations as quickly as possible. Most sites where earth works were undertaken were either hydro-mulched, turfed,

spray sealed (asphalt), or hardstand (rock/gravel fill). The hydromulcher was available same day where required, reducing impacts.

3.1.3 Flora and Fauna

The project has implemented an extensive ecological survey program to ensure that impacts on the '*Three Toed Snake Tooth Skink'* (TTSTS) were minimised. The mitigations as described in the approved TTSTS management plan were implemented, the project also exceeded the requirements of the plan by implementing the following:

- Extra on the ground surveys well ahead of the construction program, this included an extensive two person pre-clearing operation throughout the work area
- Evening and night surveys to find skinks ahead of construction
- The use of all available industry best practice trapping techniques – pitfall traps, funnel traps, and traps with run diversions
- Extensive site training resulting in one skink being identified by site crews during works

The overall result of the implemented TTSTS management program yielded a very good low impact result for the project, setting up for the future when the project is restored and revegetated.

A total of 43 animals were encountered. Extensive effort and return surveys is required to find 'Three Toed Snake Tooth Skinks. All captured skinks have been released into relocation areas. A number of these areas have been improved by cane mulch, coir fibre, site mulch/ leaves and additional planting of suitable native species. Innovative skink fencing has been installed.

A large amount of new knowledge has been obtained in regards to 'Three Toed Snake Tooth Skinks' and the project team plan to issue the knowledge in the near future.

Figure 11 (a) and (b) Restoration and revegetation of retained Three Toed Snake Tooth Skink relocation areas to optimise skink habitat

Figure 12 (a) Restoration and revegetation of retained Three Toed Snake Tooth Skink relocation areas to optimise skink habitat and (d) skink exclusion fencing

Twenty three nest boxes were installed in agreed locations close to the project clearing areas. The results of monitoring will be reported in compliance report number.2.

Figure 13 Nest box installation on the project

A key benefit of the projects innovative pier skirt design was the reduction of clearing and reduced work areas required for the levees.

Further detail is outlined in Section 7.4.

3.1.4 Heritage

The levee works recorded nine unexpected finds during the reporting period, four of which were treated as finds of local significance by the project archaeologist. These included a brick cess pit, two cast iron crosses (originally from the Church roof), rubbish pits, and brick footings to the Church. The main alignment had three unexpected heritage finds, none of which were considered locally significant.

Education of field staff in recognising potential heritage items has resulted in works being curtailed in areas identified above twelve times for potential unexpected heritage finds during the reporting period.

The project works closely with the appointed heritage consultants who have been on site for considerable periods during construction.

Table 3-1 below summaries all heritage finds on the project during the reporting period.

Table 3-1: Heritage finds on the project during the reporting period

UF Number	Date	Location	Description	Significance
1	13 Feb 17	9-11 Victoria Street	Concrete footing for the 1960's levee	Nil
2	2 Mar 17	35 Victoria Street	Brick cess pit	Local
3	8 Mar 17	9-11 Victoria Street	2X Cast iron crosses, originally from roof	Local
4	8 Mar 17	7 Fitzroy Street	Rubbish pit	Local
5	8 Mar 17	9-11 Victoria Street	Concrete slab	Nil
6	8 Mar 17	9-11 Victoria Street	Concrete stairs	Nil
7	8 Mar 17	9-11 Victoria Street	Brick footings of church	Local
8	9 Mar 17	9-11 Victoria Street	Potential rubbish pit	Nil
9	9 Mar 17	9-11 Victoria Street	Potential rubbish pit	Nil
10	9 Mar 17	Parallel to Kent Street rear of 19 Pound Street	Isolated artefactual material and brick structure	Nil
11	9 Mar 17	Parallel to Kent Street inside block boundary of proposed utilities work	Brick structure with glass bottle frags	Nil
12	20 Mar 17	Pound Street	Redundant gas line previously used to power Grafton Street lights	Nil

The brick cess pit at 35 Victoria Street, Grafton (figure 14 below) proved to be the most challenging find of the levee works. The brick feature measured 1.3 metres wide and 1.6 metres long and consists of a double skin of bricks with a void at the southern extent. The brick appeared to be hand made with diamond-shaped frogs. Given the shallow nature of the brick feature, the archaeologist advised the project team to avoid any further impacts on the on the find. Under continuous monitoring the project team redesigned the alignment of the levee wall to go around the feature to avoid any further impact.

All locally significant heritage locations in close proximity to the project have been protected with clear exclusion signage and boundary fencing.

Figure 14. Brick cess pit found at 35 Victoria Street during levees works. In consultation with the archaeologist, the clay core wall design was refined to avoid impacts and the area over the well covered with geo-fabric. An adjacent tree was also protected in consultation with an arborist.

Further detail is outlined in Section 7.5.

3.2 Environmental Initiatives

The project team has embraced a beyond compliance approach to the project, aiming to go above and beyond industry best practice standards and to strive for excellence in all aspects of environmental management. This approach encourages a positive culture within the project team whereby the project aims to exceed the contractual and legal requirements, leaving a legacy that all associated with the project can be proud of.

Embracing the beyond compliance approach, the following goals have been achieved during the reporting period:

1. Having the site office in close proximity to the project footprint has allowed the project to implement the use of bikes on site to reduce the amount of traffic on the existing bridge and decrease our carbon footprint. Encouraging the use of bikes, or walking to site, also aims to improve the wellbeing of the project team.

2. The project has reduced embodied energy by utilising existing buildings saving on concrete, steel, wood and energy otherwise required to build site offices and compounds. The old Bunnings warehouse has been refurbished for the main site office and buildings marked for demolition have been saved and re-used as site compounds.
3. Where possible, the project has implemented early rehabilitation of disturbed areas to maximise ground cover and prevent erosion during periods of minimal works and adverse weather impacts, limiting the environmental effects. The project will continue to progressively rehabilitate work areas throughout construction, closing out areas as works are completed.

A number of other environmental initiatives have been achieved:

1. Innovations in regards to pile/ pier design, greatly reducing upstream afflux impacts from the EIS design and consequent extent of levee works.
2. Reduced clearing on the mainline project, including a number of locations along Pound Street e.g. 33 Pound Street and 13 to 17 Pound Street.
3. Reduced clearing impacts associated with the levees, as outlined in Section 3.1.3. Clearing has been markedly reduced from the EIS, down to approximately 21 trees.

Future project goals are likely to include:

- Assessing the amount of energy saved by the innovative pier skirt design
- Sustainability initiatives
- Developing a positive project culture through project awards and future initiatives

4.0 Environmental Management System Overview

4.1 Environmental Management System Certification

The overall Environmental Management System (EMS) for the Project is described within the Construction Environmental Management Plan (CEMP) and relevant sub plans. The EMS for the Project has been prepared to comply with the requirements of AS/NZS ISO 14001 Environmental Management Systems.

The Fulton Hogan EMS is periodically audited by external auditors to ensure compliance with ISO 14001.

4.2 Environmental Management Framework

The framework of the environmental management documents has been designed to comply with the requirements of ISO 14001 and to be consistent with the Guidelines for the preparation of an EMP (DP&I 2004).

The CEMP comprises relevant sections from Fulton Hogan's Corporate Management System as well as a number of supporting documents (i.e. issue specific environmental sub plans) providing more detailed environmental management specifications.

4.3 Construction Environmental Management Plan

The CEMP is the key management tool in relation to environmental performance during the design and construction phases. The CEMP outlines Fulton Hogan's approach to minimising and managing environmental risks associated with the construction phase of the project. The CEMP is a dynamic document that is reviewed and amended to incorporate additional requirements as required, including changes to the project team, organisational structure and responsibilities or as improvements to procedures and methodologies develop.

The CEMP has been prepared in accordance with a number of guidelines including:

- Guideline for the Preparation of Environmental Management Plans (DP&I 2004);
- RMS Specification G36 – Environmental Protection (Management Systems);
- ISO 14001:2004 – Environmental Management Systems; and
- ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing;
- NSW Minister for Planning Conditions of Approval (MCoA); and
- EA and Submissions Report

The CEMP was approved by the Department of Planning and Environment in accordance with MCoA B35 on 5 October 2016.

Detailed environmental management sub plans have been prepared n key environmental elements and identified for the Project through the environmental assessment and approval process. They document aspects, impacts, safeguards and monitoring requirements for each key environmental element, nominate who is responsible for implementing controls and note the frequency/timing of implementation.

The CEMP and sub-plans have been reviewed and the dates of revision for the plans are detailed in table 4-1 below.

Table 4-1: CEMP and Sub-plans consistency with MCoA and ER review dates

Plan Name	Approved for use on the Project	Latest Revision Date
Construction Environmental Management Plan	15/09/16	15/07/16
Construction Contaminated Land Management Plan	15/09/16	09/09/16
Construction Air Quality Management Plan	15/09/16	15/08/16
Construction Flora and Fauna Management Plan	15/09/16	06/09/16
Construction Flood Management Plan	15/09/16	29/08/16
Construction Heritage Management Plan	15/09/16	29/08/16
Construction Noise and Vibration Management Plan	15/09/16	25/08/16
Construction Soil and Water Quality Management Plan	15/09/16	08/09/16
Construction Waste and Energy Management Plan	15/09/16	15/08/16

5.0 Non-Compliances and environmental incidents

5.1 Compliance Management

A non-compliance is a failure to comply with the requirements of the Infrastructure Approval or any applicable licence, permit or legal requirement. These are identified through routine inspections, formal reviews such as auditing and compliance reporting, and incident management.

During the reporting period there was:

- One non-compliance. See table 5-1
- Two non-conformances. See table 5-2

Table 5-1: Non-compliance summary

Date	Description	Non-Compliant against	Status
30 March 2017	A non-compliance occurred when the project proceeded with works in the rail corridor for an additional access track prior to final approval. The project is required to have an approved CEMP, the condition that requires that is D45 of the State Significant infrastructure approval. Section 3.7 of the CEMP details the process for project modifications and refinements. The correct process for a project refinement was not followed and therefore it is reported as a non-compliance to the project approval. Consultation with landowners had occurred and the document signing had commenced, but was not fully signed off. A learning session was held with Fulton Hogan and RMS officers attending.	D40	Closed

Table 5-2: Non-conformance summary

Date	Description	Resolution	Status
01 March 2017	Non-conforming topsoil for Levees rehabilitation. At the stage of discovering the unsuitable material, turf had already been laid	As turf had already been laid, RMS confirmed to leave it as is.	Closed
01 March 2017	Non-conforming topsoil for Levees rehabilitation. Noticed after delivery from the supplier but prior to laying turf. Soil was accepted and turf was laid.	Topsoil was used in urban areas where it had already been delivered. In agricultural areas, the topsoil was replaced.	Closed

5.2 Incident Management

During the reporting period there were seven events recorded as incidents and one internal event - see tables 5-3 and 5-4 below. The incidents consisted of:

- Three reportable events
- Three category 2 incidents
- One category 1 incident

Table 5-3: Recorded Incidents

RMS Incident Category	Nov	Dec	Jan	Feb	Mar	Apr	Total
Category 1					1		1
Category 2				1		2	3
Reportable Event	2			1			3
Total	2	0	0	2	1	2	**7**

Table 5-4: Incident Summary

Date	Description	Classification	Status
12 Nov 16	Removal of the large fig trees from Pound Street, Grafton was completed on a weekend to reduce impacts on the local businesses. Because the works were completed over a weekend the usual tipping facility was unavailable to receive the vegetation. Vegetation was tipped on the edge of the edge of the work area at Ioanthe Street and some spilled outside of this area. The area the vegetation spilt to was within the EIS assessed boundary. An incident report was still raised in the system as it was not the planned tipping location. Fig tree removal works were high standard.	Addressed internally	Closed
18 Nov 16	Skink was impacted and killed during demolition of block wall	Reportable Event	Closed
24 Nov 16	Bonded asbestos encountered during sediment fence installation	Reportable Event	Closed
16 Feb 17	Earth spilled 100mm over RMS fenced boundary during sediment basin construction	Category 2	Closed
23 Feb 17	Potable water pipe struck during excavation	Reportable Event	Closed
30 Mar 17	Work starting before completion of final signed approval	Category 1	Closed
04 Apr 17	Oil tracked along the road from excavator	Category 2	Closed
21 Apr 17	Diesel spill from a broken tail shaft puncturing the diesel tank	Category 2	Closed

6.0 Environmental representative reports and correspondence

The CEMP requires a suitably qualified and experienced person, independent of the project design and construction, to act as a principal point of assistance in relation to all questions and complaints regarding environmental performance. Updates to the CEMP, consistency assessments and any other plans required under MCoA are required to be signed off by the environmental representative (ER) as necessary. The ER is also required to monitor the implementation of environmental management plans and monitoring programs.

6.1 Environmental representative approvals

During the reporting period, correspondence with the environmental representative has been inclusive of the following:

October 2016

- File Note – Geotechnical Investigations and Potholing
- Minor Consistency Review (Lease Area 1)
- Minor Consistency Review (Lease Area 2)
- Minor Consistency Review (Levee Raising Works)

November 2016

- Out of Hours Work Approval for Tree Removal
- Amendments to TTSTS Management Plan.

January 2017

- Ancillary Facility Assessment - Through Street Levee Works laydown area.

February 2017

- Ancillary Facility Assessment - Through Street Levee Works laydown area.

March 2017

- Consistency Review –ARTC Access Track

6.2 Environmental Representative Reports and Outcomes

Site inspections with the environmental representative occur on a monthly basis. The results of these inspections are detailed in this section.

Table 6-1: ER inspection report comments

Report Number	Date	Issues/Comments	Status
1	22 Feb 2017	Ensure that waste streams and any contaminated material is separated and handled/managed accordingly	Closed out
		Ensure the ESC plans are designed as per requirements and measures are installed accordingly	Closed out

2	22 Mar 2017	Confirm concrete wash out arrangements and procedures in EWMS. It was advised during initial planning sessions that there would be no concrete wash out on-site. This may have been in reference to the pre-cast yard and not applicable to the levee works	Closed out
		Ensure that concrete pours and traversing to pour location are managed to ensure there are no spills or are able to be contained and disposed of in accordance with Waste Management Plan	Closed out
		Consider installing stabilised overtopping points in mulch bunds to ensure there are no blow outs	Closed out
		Ensure appropriate stabilised inlets and outlets are installed on the sediment basin for the fill 1 site.	Closed out
		Site access points to be managed to ensure there is no tracking of mud off-site	Closed out
		Ensure mulch stockpiles are managed in accordance with the CSWMP in particular the RMS Environmental Direction: Management of Tannins from Vegetation Mulch, i.e. appropriate bunds & stabilised discharge point where required and the monitoring and maintenance.	Closed out
		Review discharge arrangements for sediment basin for fill 1 off-site into table drains to ensure there is sufficient capacity and there are no off-site flood impacts, particularly on private land	Closed out
		Confirm arrangement for water discharging through private land, where applicable	Closed out
		Confirm arrangements for ESC of active stockpile site in South Grafton	Closed out
		Levee works are being undertaken in a progressive manner with a high level of ESC, flora and fauna inspections, heritage and community consultation. Final works for turf arrangements are showing good sign of establishment and the sites have been managed well throughout the recent rain events. No action required, positive feedback to be passed onto site teams	Noted
3	28 Apr 2017	Earth stockpile site at corner of Kent and Greaves Street requires ERSED management (cover/seed/bund)	Closed out
		Remove asbestos from southern crane pad area	Closed out
		Install ERSED controls on access track at Levee works at sailing club	Closed out

7.0 Environmental Monitoring

Environmental monitoring is used to review potential environmental risk caused by the projects activity. It allows the project to assess and evaluate trends in the nominated environmental sector from which effective and efficient management measures can be driven.

A range of environmental monitoring is required by the MCoA throughout the duration of construction of the project. These measures are listed in the CEMP. The results of the monitoring programs are described in this section.

7.1 Water Quality

Water quality of the Clarence River is monitored before construction starts and during construction. The data is used to confirm appropriate environmental controls are in place and to ensure the potential effects on the Clarence River are managed.

Monitoring samples are taken upstream and downstream of the bridge works in the Clarence River. Sampling to date has not been inclusive of Alipou Creek due to accessibility issues however this will start in May of 2017 with the access through private land now approved.

Typically decreases in water quality are observed in the Clarence River following rainfall events in the wide upstream catchment. It takes about 2-7 days before upstream affected waters flow past the bridge works site in Grafton.

Construction monitoring began in November 2016, pre marine works and the majority of road works. Monitoring results and locations can be seen in **Appendix B.** Water quality monitoring during the first six months of construction are a record of environmental conditions with nil to minor impacts or changes observed as a result of construction. Increase in background levels can be seen both upstream and downstream during March and April monitoring periods correlating to major rainfall and flooding events however the results showed nil to minor impact from construction activity. Monitoring results are discussed at the ERG meetings monthly.

During the reporting period there was a total of 65 rain days, 5 of which exceeded the 5 day 85th percentile rainfall depth value of 37.2mm. Total rainfall was 674.8mm for the reporting period. Site water from rainfall events was managed through the project sediment control devices, stored water was treated and pumped onto well grassed areas.

7.1.1 Groundwater monitoring

Groundwater monitoring is required to assess the extent and movement of the existing contaminated plume of groundwater beneath the southern abutment of the new bridge. The required monitoring wells have been drilled and developed and will be sampled in the near future, results will be provided in the next reporting period.

7.2 Noise and Vibration Monitoring

Noise monitoring commenced in April 2017. Monitoring was undertaken during standard construction hours for periodic (monthly) review and background noise assessments. The recorded noise levels were consistent with the anticipated levels as described in the approved Noise and Vibration Management Plan. Noise monitoring results can be seen in **Appendix C**.

One out of hours work event was approved during the reporting period. Refer to table 7-1 below.

Table 7-1: OOHW application summary

Date	Description	Justification	Status
12-13 Nov 17	Weekend OOHW proposed for the clearing of 5 fig trees on Pound Street, Grafton	To reduce potential impacts on the six businesses and TAFE sharing a border with the works and improve safety outcomes	Approved

Vibration monitoring commenced in April 2017. Monitoring was undertaken during the construction of the new Clarence and Pound St car park and on all occasions, levels were within acceptable

parameters described in the approve Noise and Vibration Management Plan. Vibration monitoring results can be seen in **Appendix C**.

7.3 Air Monitoring

Ambient air quality monitoring was undertaken in accordance with the Construction Air Quality Management sub-plan. Dust monitoring gauges are placed at 4 locations across site: 1 in Grafton, 3 in South Grafton. Zero of the monitoring locations returned readings of greater than 4g/m^2. Air monitoring results for the reporting period are shown in figure 7-2 below.

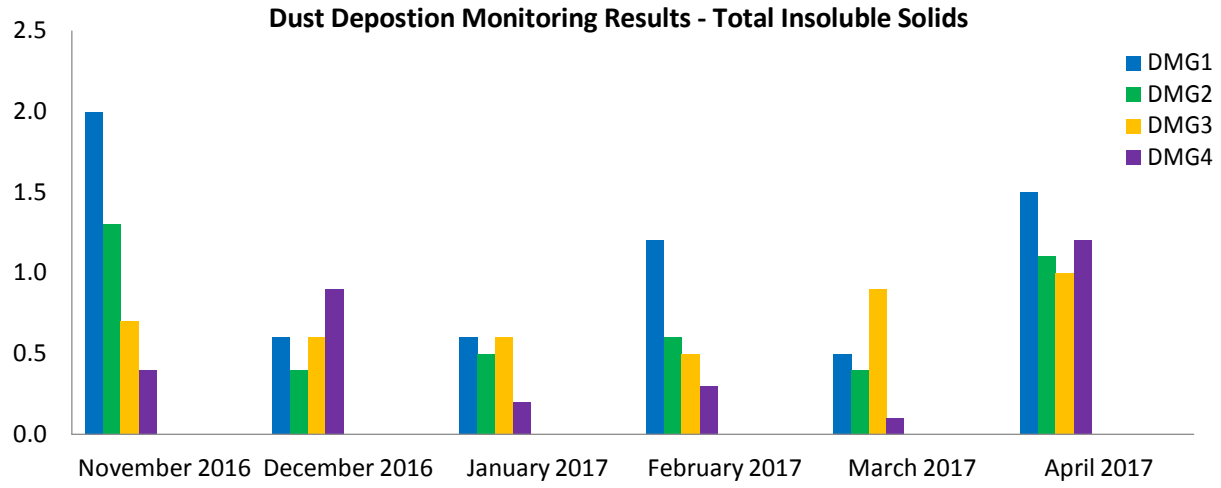

Figure 7-2: Air monitoring results for the reporting period. All results are reported in g/m2/month

Dust suppression on the project during the reporting period included the use of water carts, shade cloth, webbing around basin perimeters, and pre-wetting of materials prior to cartage. Seeding of stockpiles, batters and earth mounds was implemented where possible.

7.4 Flora and Fauna

Project ecologists have been onsite to carry out pre-clearing inspections, hollow bearing tree inspections, nest box installations, clearing reviews and fauna rescues. Due to the sensitivity of the clearing works, a low impact clearing method has been applied across the project utilising specialist harvesting equipment. This allowed for the safe removal of trees and vegetation from works within and near waterways, and in identified threatened species habitats, preventing fall impacts on the surrounding environments. The project ecologist has also been required to be onsite during the clearing works as well as completing pre-clearing inspections in areas identified for three-toed snake tooth skinks.

As a result, the skink management program has been highly successful. During the reporting period 43 skinks were successfully caught and relocated. Ten were taken into captivity by an authorised ecologist.

Figure 15 TTSTS being successfully released into new mulch garden after 3 weeks in captivity

As of April 2017, about 90% of clearing works has been completed.

Weed infestations near waterways have been hand painted and cut stump to prevent further spread of the species and ensure only targeted species are eliminated.

Multiple fauna rescues occurred during the reporting period. All staff and site crew have remained diligent in implementing the correct procedures when fauna have been sighted or injured, stopping works until the project ecologist had successfully removed the fauna and they had been safely relocated into adjacent unaffected habitat areas, or when injured, to the local veterinary clinic.

Figure 86 (a) Rescued eastern long neck turtle from the side of the road towards Thorley's Quarry and (b) Red belly black snake rescued from the northern crane pad. Both animals were successfully relocated to adjacent undisturbed habitat

7.5 Heritage (Aboriginal & Non-aboriginal)

All staff and site crew have remained diligent in implementing the unexpected find procedure when an unexpected heritage item is encountered. Education of field staff in recognising potential heritage items has resulted in works being curtailed in areas identified above twelve times for potential unexpected heritage finds during the reporting period.

The project works closely with the appointed heritage consultants who have been on site for considerable periods during construction.

As noted in Section 3.1.4, the levee works recorded nine unexpected finds during the reporting period, four of which were treated as finds of local significance by the project archaeologist. These included a brick cess pit, two cast iron crosses (originally from the Church roof), rubbish pits, and brick footings to the Church. The main alignment had three unexpected heritage finds, none of which were considered locally significant.

8.0 Audits and Inspections

8.1 Compliance Auditing

Regular auditing of the management system is completed during construction. This includes:

- Internal compliance audits undertaken by Fulton Hogan
- External compliance audits undertaken by the ER and RMS appointed auditors

The intent of these audits is to identify opportunities for improvement and any non-compliances during the course of construction so appropriate corrective actions can be implemented in a timely manner.

Table 8-1 below summarises the audits undertaken during the reporting period.

Table 8-1: Audit summary

Audit	Type of Audit	Date	Overview	Outcome
Project Review	Internal	21 Feb 17 – 22 Feb 17	The review looked at the establishment of Project Management Systems Company Implementation Policy and Procedural Compliance.	Positive with compliance and project set up in line with the requirements
Management Systems	External	21-23 March 2017	External compliance audit by RMS recommended auditor. Assessed activities: • Project CEMP • Site compliance • Regulator communication and engagement	The environmental performance of the project was observed to be good and three notable practices were raised during the RMS audit.
CEMP	External	21-23 March 2017	External compliance audit by RMS recommended auditor. Assessed activities: • Project CEMP • Site compliance • Regulator communication and engagement	The environmental performance of the project was observed to be good and three notable practices were raised during the RMS audit.
Conditions of Approval	External	April 2017	Environmental representative audit reviewing the projects compliance with the Ministers Condition of Approval	
Boundaries	Internal	04 Apr 17	Review of established site boundaries with the construction footprint	Minimal boundaries left to be installed. Closed out 06.04.17

8.2 Internal and external environmental inspections

The project completes weekly site inspections as a minimum to assess environmental performance and identify areas of improvement and maintenance. This includes prior to, during and after adverse weather events and prior to and during clearing.

Each inspection provides an opportunity to improve environmental management across the project including new erosion and sediment control installations, improved site mitigation measures and general site improvements.

Inspections are completed consistent with the requirements of the project CEMP. Table 8-2 below summarises the inspections completed on the project.

Table 8-2: Inspections summary

Type of Inspection	Attendees	Duration
Weekly	Fulton Hogan Staff; environmental, engineers, foreman, leading hand, labourers, superintendents, management	Weekly
Wet Weather	Fulton Hogan Staff; environmental, engineers, foreman, leading hand, labourers, superintendents, management	As required
ER	Simon Williams (ER - GeoLINK) Fulton Hogan Staff; environmental, engineers, foreman and superintendents	Monthly
Pacific Highway RMS	John O'Donnell Jason Sheehan Fulton Hogan Staff; environmental, engineers, foreman and superintendents	Monthly
NSW EPA	Craig Dunk Peter Higgs Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
NSW DPI (Fisheries)	James Sakker Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
DP&E	Michael Young Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
Environmental Consultants	SEEC Ecosure Ecology Cavvanba Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
Clarence Valley Council	David Morrison Fulton Hogan Staff; environmental, engineers, foreman and superintendents	As required
ERG	RMS ER EPA Council DPI (Fisheries) DP&E Fulton Hogan Staff; environmental, construction manager	Monthly

9.0 Environmental Complaints

In accordance with MCoA C2 and C3, a complaint management system has been established on the project to address any community enquiries and complaints during the course of construction. There are four mechanisms that have been established to facilitate the lodgement of enquiries and complaints:

Table 9-1: Community contact details

Tool	Details
Project Information line (24-hour toll free)	The Project information line (1800 918 759) is a 24-hour toll free telephone number allowing the community to contact the community relations team at all times when work is being carried out on site, including out of hours work. Outside of working hours, a recorded message with voicemail is available.
Email Address	The email address (graftonbridgecommunity@fultonhogan.com.au) is monitored by the community relations team for incoming emails during business days.
Postal Address	The postal address (76-79 Pound Street, Grafton NSW 2460) is monitored by the project team for incoming letters.
Website	The RMS Additional Crossing of the Clarence River – Grafton Bridge website (www.rms.nsw.gov.au/graftonbridge) includes the contact tools and will be updated regularly to have the latest information about the project.

These tools will be in place until eight weeks after the date of construction completion.

Stakeholder complaints will be responded to and managed in accordance with AS-ISO 10002-2006 Complaints Handling (which has superseded AS 4269 Complaints Handling).

9.1 Complaints Management

During the reporting period, 2259 events were logged by the community team including telephone calls, meetings, emails, letters, door-knocks and visits to the project display centre.

Of these events, three were registered as complaints relating to environmental management issues. A summary of these complaints are shown in table 9-2 below.

Table 9-2: Environmental complaints summary

Complaint Number	Date	Environmental Relevance	Summary	Status
1	17 Jan 17	Vibration	House removal in Grafton. Resident was consulted and provided more information on vibration and the low likelihood of impacts from these activities	Closed
2	14 Feb 17	Vibration	House removal in Grafton. Resident was consulted and provided more information on vibration and the low likelihood of impacts from these activities	Closed
3	15 Feb 17	Dust	Grafton resident made a complaint in regards to dust from demolition works. Resident was consulted. Extra dust management mitigations put in place	Closed

9.2 Community Engagement Initiatives

Throughout the report period, ongoing consultation with directly impacted residents about upcoming works took place. A member of the community relations team was available at all times during standard working hours at the community display centre at 76-79 Pound Street, Grafton.

Community consultation for works between 1st November 2016 and 30th April 2017 has included:

- Detailed design and Urban Design and Landscaping Plan
- Proposed levee works
- Out of hours works for vegetation removal
- Proposed establishment of Pre-cast Yard in South Grafton
- Proposed closure of parts of Pound and Greaves streets and car park construction
- Proposed ancillary facility in Pound Street, Grafton
- Start of South Grafton embankment construction and services relocation
- Proposed establishment of pre-cast facility in South Grafton
- Temporary jetty construction on the Clarence River foreshore in South Grafton
- Start of work in the Clarence River

The community relations team has managed a number of community group presentations, staffed displays and static displays including the following:

- Presentation to the Clarence River Historical Society on March 22 2017
- Presentation to the Grafton Chamber of Commerce on 19 April 2017
- Presentation to the Grafton Chamber of Commerce on 19 April 2017
- Staffed display at the Grafton Show on 5 and 6th May 2017

The Project has established a positive relationship maintaining regular two-way communication with the community and stakeholders to effectively address and manage issues as they emerge during construction. All contact with the community and stakeholders is recorded in the community contact database – Consultation Manager.

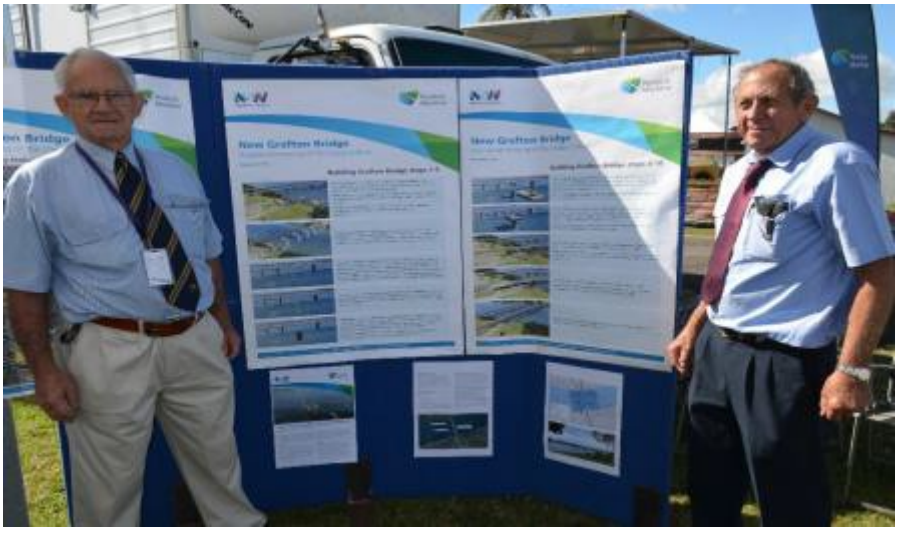

Figure 17 Grafton show society life members Ian McGraw and Barry Reeves at the FH/RMS community display booth at this year's annual Grafton Agricultural Show

APPENDIX A

Project Approval Compliance Table

COMPLIANCE TRACKING TABLE

CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
A1		In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all feasible and reasonable measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the SSI.	√	√	√		Low	Pre-construction, construction, and operation	Contractor and RMS	Open	Measures used to reduce environmental impacts include additional environmental requirements in the SWTC, a series of FHC/ RMS environmental workshops, ERG meetings (in construction), CEMP and sub-plans, environmental work method statements for high-risk construction activities.		*(i) to be responsible for condition A1., to the extent only that RMS is to implement all feasible and reasonable measures to prevent and/or minimise any harm to the environment that may result from the operation of the SSI;*
A2		The Proponent shall carry out the SSI generally in accordance with the:				√	Low	Pre-construction,	Contractor	Open	Addressed in compliance register. These sheets are updated regularly.		
A2		(a) State significant infrastructure application SSI-61 03;	√	√	√					Open			
A2		(b) Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume and Appendices A - L, prepared by Roads and Maritime Services, dated August 2014;	√	√	√					Open			
A2		(c) Additional Crossing of the Clarence River at Grafton Submissions Report Main Volume and Appendices, prepared by Roads and Maritime Services, dated October 2014;	√	√	√					Open			
A2		(d) Correspondence from Roads and Maritime Services to the Department titled Grafton Bridge - Additional Crossing of the Clarence River at Grafton - Proposed Early Works dated 1 December 2014; and	√	√	√					Open			
A2		(e) Modification request 1 and letter dated 24 September 2015 to modify the approval to update references to public authorities in the conditions of approval; and	√	√	√					Open			
A2		(f) Conditions of this approval.	√	√	√					Open			
A3		If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	√	√	√		Low	Pre-construction, construction, and operation	Contractor	Open	No inconsistency noted at this stage.		
A4		The Proponent shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:					Low	Pre-construction, construction,	Contractor				
A4		(a) any documentation or correspondence that is submitted in accordance with this approval; and	√	√	√					Open	Have an Excel sheet layer for DPE letters and applicable tracking.		
A4		(b) the implementation of any actions or measures contained in these documents.	√	√	√					Open	Refer extra Excel sheet layer for DPE letters and applicable compliance tracking.		
A5		This approval shall lapse 10 years after the date on which it is granted, unless the works the subject of this SSI approval are physically commenced on or before that date.	√	√	√		Low	Pre-construction, construction, and operation	RMS	Open	Project has physically commenced, with physical early works being undertaken eg geotechnical investigations, Charles St early works, surveying, geotechnical investigation, minor fencing.		*(ii) to be responsible for condition A5.;*
A6		The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals.	√	√	√		Medium	Pre-construction, construction, and operation	Contractor and RMS	Open	Addressed in Deed, SWTC, G 36 and Environment Documents. The arrangements for the ARTC EPL are currently under discussion between ARTC and RMS. RMS understands that EPA are receptive for the Contractor to have the EPL for the Pound St Bridge for the time the structure is being installed over 3 days. Fulton Hogan have decided they will not hold a water licence EPL.		*(iii) to be responsible for condition A6., to the extent only that RMS is to obtain the existing and future Approvals specified in Schedule 41;*

CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
A7		The Proponent may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Secretary prior to the commencement of each proposed stage. The Staging Report shall provide details of:		√	√		Medium	Pre-construction, construction	Contractor and RMS	Open	This matter has been discussed with DPE. The Department has confirmed on 15 September 2016 that a staging report is not required for the early opening of parts of the project (Clarence Street, Iolanthe Street and Spring Street) as indicated in the email provided from RMS dated 6 September 2016. Generally the Department requires a Staging Report where a project is opened to traffic, however, as the Additional Crossing of the Clarence River at Grafton project involves a new bridge, this project is considered to be different to a Pacific Highway Upgrade project. This detail on need for a staging report has been included in the Compliance Tracking Program and Pre-construction Compliance Report for CoA A7.		(iv) to be responsible for condition A7., to the extent only that RMS is to submit to the Secretary a Staging Report, prepared by the Contractor, prior to the commencement of the first proposed stage and an updated Staging Report (or advice that no changes to staging are proposed) prior to the commencement of each stage;
A7		(a) how the SSI would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and		√	√						Refer detail above.		
A7		(b) details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the SSI. Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).		√	√						Refer detail above.		
A8		The Proponent shall ensure that any strategy, plan, program or other document required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) is submitted to the Secretary no later than one month prior to the commencement of the relevant stage(s), unless otherwise agreed by the Secretary. Notes: While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program shall clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.		√	√		Medium	Pre-construction, construction	Contractor and RMS	Open	Noted. Noted.		*(v) to be responsible for condition A8., to the extent only that RMS is to submit to the Secretary any strategy, plan, sub-plan, program or other document prepared by the Contractor, required by the Planning Approval;*
A9		The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.	√	√	√		Medium	Pre-construction, construction	Contractor	Open	For early works induction training booklets are issued for all works. Addressed in FHC's induction program and environmental awareness training. This would also be considered in planning sessions and addressed in EWMSs.		
A10		The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.	√	√	√		High	Construction	Contractor	Open	For early works induction training booklets have been issued by RMS for all works. Addressed in FHC's induction program and environmental awareness training. This would also be considered in planning sessions and addressed in EWMSs.		

CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
A11		In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the SSI, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.	√	√	√		Low	Pre-construction, construction, and operation	Contractor and RMS	Open	To be undertaken if required.		*(vi) to be responsible for condition A11., to the extent only that RMS is to submit to the Secretary any matter referred to RMS by the Contractor;*
A12		The Proponent shall prepare and implement a Compliance Tracking Program, to track compliance with the requirements of this approval. The Program shall be submitted to the Secretary for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation, subject to the Secretary's review of the outcomes of the Independent Environmental Audit Report referred to in condition E5. The operation of the program may be extended if the Secretary determines that there has been unsatisfactory compliance. The Program shall include, but not necessarily be limited to:					Medium	Pre-construction, construction, and operation	Contractor to prepare, and RMS input	Open	This table is Appendix A of the Compliance Tracking Program. Compliance is being managed under a shared compliance system by RMS and FHC, with regular updating. DPE approval letter dated 10 October 2016. The letter approved the Compliance Tracking Program and Pre-Construction Compliance Report. Have address Modification 1 requirements raised in the DPE letter have been updated in this register.		
A12		(a) provisions for the notification of the Secretary prior to the commencement of construction and prior to the commencement of operation of the SSI (including prior to each stage, where works are being staged);	√	√	√					Open	Addressed in section 2.1 of this CTP. RMS advice to DPE issued on 17 October 2016 noting construction commencement on18 October 2016. Senior Project Manager adice to agencies on 18 October 2016 noting construction commencement on18 October 2016		*(vii) to be responsible for condition A12., to the extent only that RMS is to submit the Contractor's Compliance Tracking Program to the Secretary for approval, to submit information, data and details to the Secretary as a result of the Contractor implementing the Compliance Tracking Program during the performance of the Contractor's Work, and to implement the Compliance Tracking Program during the operational phase of the project following Construction Completion;*
A12		(b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval;	√	√	√					Open	Addressed on an ongoing basis, refer to Review History sheet. All parties to update tracking sheet of compliance input. Addressed in section 2.2 of the CTP.		
A12		(c) provisions for periodic reporting of compliance status to the Secretary, including but not limited to: (i) a Pre-Construction Compliance Report, prior to the commencement of construction; (ii) 6-monthly Construction Compliance Reports, for the duration of construction; and (iii) a Pre-Operation Compliance Report prior to the commencement of operation;	√	√	√					Open	Addressed in section 2.3 of the CTP.A Pre-Construction Compliance Report has been prepared, prior to the commencement of construction, and issued to DPE. 6 monthly due for period ending 17 April 2017. This report.		
A12		(d) a program for independent environmental auditing in accordance with AS/NZS ISO 19011 :2014- Guidelines for Auditing Management Systems;	√	√	√					Open	Addressed in section 2.4 of the CTP. Also addressed in the CEMP.		
A12		(e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;	√	√	√					Open	Addressed in section 2.5 of the CTP. Also addressed in the CEMP.		
A12		(f) provisions for reporting environmental incidents to the Department and relevant public authorities during construction;	√	√	√					Open	Addressed in section 2.6 of the CTP. Also addressed in the CEMP.		
A12		(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management;	√	√	√					Open	Addressed in section 2.7 of the CTP. Also addressed in the CEMP.		
A12		(h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities; and	√	√	√					Open	Addressed in section 2.8 of the CTP. Also addressed in induction, ESCP, EWMS's and toolboxes.		
A12		(i) provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval.	√	√	√					Open	Addressed in section 2.9 of the CTP. Addressed in Community Communication Strategy.		

CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
A13		The Proponent shall notify the EPA in relation to any pollution incident in carrying out the SSI as required by the Protection of the Environment (Operations) Act 1997 as required by that Act. The Proponent shall provide the Secretary with a record of any such notification.	√	√	√		Low	Construction	Contractor and RMS	Open	EPA are advised of all applicable incidents. EPA are given construction updates generally which include information on waste management, threatened species management and other activities as they are occuring. EPA are consulted on all of the project EWMS		*(viii) to be responsible for condition A13., except that the Contractor must notify the incident to RMS immediately and within 12 hours after the occurrence of the incident, must provide RMS in writing with any information, details and data relevant to the incident;*
A14		The Proponent shall notify the Secretary (using the contact name and phone number notified by the Department from time to time) of any incident (other than those relating to the Protection of the Environment (Operations) Act 1997) with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident on weekdays, or the following business day on weekends. The Proponent shall provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred.	√	√	√		Low	Construction	Contractor and RMS	Open	Undertaken as required. DPE were advised of one unseen skink behind building material.		*(ix) to be responsible for condition A14., except that the Contractor must notify the incident to RMS immediately and within 12 hours after the occurrence of the incident, must provide RMS in writing with any information, details and data relevant to the incident;*
A15		The Proponent shall meet the requirements of the Secretary or relevant public authority (as determined by the Secretary) to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition A14, within such period as the Secretary may require.	√	√	√		Low	Construction	Contractor	Open	To be undertaken as required, in consultation with DPE and RMS.		

COMPLIANCE TRACKING TABLE

			Staging/Relevance									
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
B1		The clearing of native vegetation shall be generally in accordance with the areas specified in the documents listed in condition A2, and with the objective of reducing impacts to any endangered ecological communities (EECs), threatened species and their habitat to the greatest extent practicable.	√	√	√	√	Medium	Pre-construction, construction	Contractor	Open	RMS and FHC will ensure compliance with the approved clearing limits under the Planning Approval. The project has scattered trees in an urban and rural environment. Clearing has been minimsed to only the areas required for construction. Clearing works is being completed in accordance with the project EWMS 003. Clearing of native vegetation has been minimised with a detailed design objective being to reduce impacts to any threatened species or EECs where feasible and reasonable. Clearing limits are clearly shown on relevant construction drawings and closely tracked throughout the project. Impacts on vegetation have been significantly reduced on the levees due to improved bridge design reducing need for levee works in some areas.Of the order of 20 trees were removed for levee works, much less than the EIS areas. Impacts on vegetation have been reduced in Grafton at 31 and 33 Pound St, 37 Pound St, 13-17 Pound St .		
B2		Prior to construction, pre-clearing surveys and inspections for EECs and threatened species shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a suitably qualified ecologist and shall be in accordance with the methodology incorporated into the approved Construction Flora and Fauna Management Plan required under condition D46(e).	√	√	√	√	Medium	Pre-construction	Contractor	Open	Pre clearing suveys has been undertaken by a qualified ecologist appointed by FHC prior to commencement of construction. This condition has been addressed in the CFFMP. Ecosure are undertaking ecological works. Pre-clearing surveys have so far resulted in 43 threatened skinks been moved safley away from the construction zone ahead of works.		
B3		The Proponent shall undertake flora and fauna surveys of those parts of the project area previously not surveyed, due to accessibility issues, prior to the commencement of construction that affects those areas. Should threatened species, communities or habitats be identified, these shall be offset and addressed in the Biodiversity Offset Statement required under condition D1.	√	√	√	√	Medium	Pre-construction	RMS	Open	Surveys of missed areas have been undertaken by RMS in January/ February 2016. These surveys have been undertaken and 2-3 Three toed Snake Tooth Skink found in these missing lots. Further surveys were undertaken on the project and outside the project. An TTSTS MP has been prepared. DPE has been advised of the missing lot survey results and referral to the DoE re EPBC.. EPBC referal has been determined 30/06/2016 as "Not Controlled Action". Work needs to be completed in accordance with TTSTS Management plan. .		*ix) To be responsible for condition B3.*
B4		The Proponent shall undertake a targeted rehabilitation program post construction to restore riparian habitat to at least the pre-construction condition or better, unless otherwise agreed by DPI (Fisheries) and NOW.		√	√	√	Medium	Construction, Operation	Contractor	Open	Has been addressed in consultation with agencies and in the FFMP, UDLP and revegetation plans.The rehabilitation of the riparian areas will be targeted to follow the completion of the superstructure		
B5		Vegetation shall be established in or adjacent to disturbed areas and include species which may provide habitat for wildlife following the completion of construction in the vicinity of the disturbed area. Revegetation is to be consistent with the Urban Design and Landscape Plan required under condition D42.	√	√	√	√	Medium	Construction, Operation	Contractor	Open	Has been addressed in consultation with agencies and in the FFMP, UDLP and revegetation plans. TTSTS MP measures will be included in the UDLP, RMS have raised the importance of this issue. As noted above, impacts on vegetation have been reduced in Grafton at 31 and 33 Pound St, 37 Pound St, 13-17 Pound St and 4 McClymont Place.		
B6		Scour protection measures shall be implemented prior to and during construction on the banks of the Clarence River in the vicinity of the bridge works to protect the riverbank from erosion and instability during construction and operation.			√	√	Medium	Pre-construction, construction	Contractor	Open	This issue is being addressed in detailed design.		
B7		The Proponent shall consult with and provide feasible and reasonable assistance to NSW State Emergency Service and Council, prior to operation of the SSI, to:					Medium	Pre-construction, construction	Contractor		Will be undertaken by FHC during construction and prior to operation.FH has consulted with SES and council on emergency response. FH wil continue to work with these groups throughout construction		
B7		(a) prepare any new or necessary update(s) to the relevant evacuation, traffic management and flood plans and documents in relation to flooding events in Grafton and South Grafton, to reflect changes to flooding levels, flows and characteristics; and		√	√					Open	RMS has provided mapping showing changes to the flood behaviour to SES and Council based on the concept design. FHC will provide any updates based on the detailed design		

			Staging/Relevance									
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
B7		(b) prepare or update community evacuation information, to improve the community's awareness of the risk of flooding and the need to evacuate Grafton and South Grafton prior to the levees overtopping.		√	√					Open	RMS has provided mapping showing changes to the flood behaviour to SES and Council based on the concept design. FHC will provide any updates based on the detailed design.		
B8		Any drainage works that are intended to be operated by Council shall be designed in consultation with Council. Facilities such as back-up generators shall be provided to ensure continued operation of the Pound Street pumping station during electrical power outages.			√	√	Medium	Pre-construction	Contractor	Open	This condition is being addressed through detailed design in consultation with RMS and Clarence Valley Council.		
B9		The SSI shall be constructed and operated to comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.	√	√	√	√	High	Construction, Operation	Contractor and RMS	Open	In accordance with CoA D46 (c) a Construction Soil and Water Quality Management Plan (CSWQMP) was prepared and submitted to the Secretary for approval. The Plan outlines the mitigation and management measures that would be implemented during construction to ensure compliance with section 120 of the Protection of the Environment Operations Act 1997. Planning sessions are held for earthworks to optimise controls and PESCPs. Innovation has been achieved at Fill 1 to divert dirty water away from the Clarence. Other innovations including ESCs, basins and land irrigation are being adopted.		*(x) to be to be responsible for condition B9., to the extent only that RMS is to operate the SSI to comply with section 120 of the Protection of the Environment Operations Act 1997 (NSW). The Contractor shall ensure that the SSI is designed and constructed such that the*
B10		All water from the SSI shall be appropriately treated prior to discharge, to protect the quality of the receiving waters.	√	√	√	√	High	Construction, Operation	Contractor and RMS	Open	In accordance with CoA D46 (c) a Construction Soil and Water Quality Management Plan (CSWQMP) was prepared and submitted to the Secretary for approval. The Plan outlines the mitigation and management measures that will be implemented during construction to meet water quality criteria for all off site water discharges.Planning sessions are held for earthworks to optimise controls and PESCPs. Innovation has been achieved at Fill 1 to divert dirty water away from the Clarence.		*(xi) to be responsible for condition B10., to the extent only that RMS is to ensure that all water from the SSI shall be appropriately treated prior to discharge during operation of the SSI;*
B11		In the event that remediation of contaminated soils is required, the Proponent shall engage a suitably qualified and experienced contaminated land consultant to prepare a validation report upon completion of the remediation. The validation report shall verify that the site has been remediated consistent with the remediation action plan for the project and to a standard consistent with the clean-up criteria for the site.	√	√	√		High	Pre-construction, construction	Contractor and RMS	Open	Contamination requirements have been addressed in the CCLMP. The project is undertaking confirming tests of potentially contamianted soils as they are excavated to ensure any risk is known about and managed. Acid sulphate tests on the geotech and excavations in Fill 1 during the period showed no evidence of acid sulphate contamiantion.		*(xii) to be to be responsible for condition B11., to the extent only that RMS is to undertake investigations to determine the presence of contaminated soils. For the avoidance of doubt, if remediation of*
B12.		The Proponent shall engage an accredited NSW Site Auditor to prepare a Site Audit Report and Site Audit Statement to determine the land use suitability. The Site Audit Report shall summarise the information reviewed by the auditor and provide the basis for the conclusions contained in the Site Audit Statement. The Statement and Report shall be submitted to the Secretary within seven days of the report being finalised and prior to the commencement of site preparation or excavation activities within areas identified as requiring remediation. A copy of the report shall also be submitted to Council for its information. Note: Terms used in this condition have the same meaning as in the Contaminated Land Management Act 1997.			√		High	Pre-construction	RMS and Contractor	Open	Not applicable at this stage.		*(xiii) to be responsible for condition B12.; to the extent only that RMS will submit a Site Audit Report and Site Audit Statement to the Secretary and Council;*
B13		Aboriginal heritage. 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).	√	√	√	D	Medium	Pre-construction, construction	Contractor	Open	Has been addressed in Construction Heritage Management Plan (CHMP). The CHMP was prepared in consultation with OEH, NSW Heriatge Council and Aboriginal groups. Heriatge isues have also been included in site environmental induction training. Permanent fencing has been installed on the eastern side of the corridor west of Alipou Ck in South Grafton. A meeting of Ngerrie LALC and RMS discussed Aboriginal heritage issues on 8 Feb 2016 and again on 28 June 2016. There have been further meetings with the LALC organised by Fulton Hogan.		

			Staging/Relevance									
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
B14.		Non-Aboriginal heritage. 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.	√	√	√		Medium	Pre-construction	Contractor and RMS	Open	Archival reports have been addressed by Biosis heritage consultants for two archival heritage reports. Also included this detail in the CHMP. The reports were forwarded to relevant agencies in November 2016.		*(xiv) to be responsible for condition B14;*
B15		Non-Aboriginal heritage. 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.	√	√	√		Medium	Pre-construction	Contractor and RMS	Open	Archival reports have been addressed by Biosis heritage consultants. Also included this detail in the CHMP. The reports were forwarded to relevant agencies in November 2016.		*(xv) to be responsible for condition B15. to the extent only that RMS will undertake archival recordings required under B15.;*
B16		Non-Aboriginal heritage. 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.	√	√	√		Low	Pre-construction	Contractor and RMS	Open	Has been addressed by Biosis heritage consultants. Also include this detail in the CHMP. Note updated Sched 28 ammended requirement.		*(xvi) to be responsible for condition B16 to the extent only that this condition applies to RMS' obligations under condition B14. and condition B15.;*
B17		Non-Aboriginal heritage. 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.	√	√	√		Medium	Pre-construction, construction	Contractor and RMS	Open	Being addressed by Biosis heritage consultants for RMS requirements only/ RMS monitoring. Biosis have attended the levee works for inductions, heritage protection issues and unexpected finds. The CHMP has addressed this condition.		*RMS to be responsible for condition B17 to the extent only that RMS is responsible for archaeological surveys during any investigations undertaken by RMS on the levees.*
B18		Non-Aboriginal heritage. Prior to the commencement of construction, the Proponent shall implement 'no-go' exclusion zones to prevent access and protect the following heritage item: FMW29.		√			Low	Pre-construction	Contractor	Open	The item was signposted during levee works close to the ship wreck. No impacts occurred. The contruction of the bridge will not go near this site. A marine exclusion area has been implemented on the Clarence River, this area is downstream of the current bridge. The marine exclusion is also the heritage site exclusion		
B19		Non-Aboriginal heritage. The Proponent shall not destroy, modify or otherwise physically affect the heritage items listed in Table 8-46 in the Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume (RMS, August 2014).	√	√	√	√	High	Pre-construction, construction	Contractor	Open	The CHMP has addressed this condition. Heritage sites are included in Sensitive Area Plans. Important all heritage items are included in the GIS sensitive area plan layers, including those additional items addressed in the June 2016 Built Heritage report.		
B20		Heritage - General. 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.	√	√	√	√	High	Pre-construction, construction	Contractor an	Open	This condition is being addressed thorugh detailed design and in the CHMP.		
B21		Heritage - General. This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the SSI.	√	√			Low	Pre-construction, construction	Contractor	Open	Addressed in the CHMP.		
B22		Heritage - General. 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.	√	√	√	√	Medium	Pre-construction, construction	Contractor	Open	Addressed in the CHMP and managed during construction, including using the Sensitive Area Plans.		

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
B23		Heritage - General. 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).		√	√	√	Low	Pre-construction	Contractor	Open	The CHMP has addressed this condition. The boundary fence has been installed on the eastern side of the works ion South Grafton to protect sensitive areas to the east.		
B24		In relation to new or modified local road, parking, pedestrian and cycle infrastructure, the SSI shall, where feasible and reasonable, be designed:				√	High	Pre-construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with Council, TAFE and local businesses.		
B24		(a) in consultation with the Council;			√						No update at this stage - in progress. All traffic control plans are updated and sent to council for review. The new carpark at Pound St near the TAFE has been installed, a good early initiative.		
B24		(b) to take into consideration existing and future demand, road safety and traffic network impacts;			√								
B24		(c) to meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice; and			√								
B24		(d) be certified by an appropriately qualified person that has considered the above matters.			√								
B25		The Proponent shall ensure that the SSI is designed to minimise land take impacts to surrounding properties as far as feasible and reasonable, in consultation with the affected landowners.	√	√	√	√	Medium	Pre-construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with affected landowners. 13 and 15 Pound Street have had impacts removed. Both properties have been acquired by RMS but will be returned to the property market at the end of the project.Fulton Hogan will continue to consult and engage with project neighbours throughout construction		
B26		The Proponent shall, in consultation with relevant landowners, construct the SSI in a manner that minimises intrusion and disruption to surrounding properties, unless otherwise agreed by the landowner.	√	√	√	√	Medium	Pre-construction, construction	Contractor	Open	This condition is being addressed by Fulton Hogan through detailed design in consultation with affected landowners. Design measures on the levees have also significantly reduced impacts to vegetation and properties.		
B27		Any damage caused to property as a result of the SSI shall be rectified or the landowner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the landowner may have against the Proponent.	√	√	√		Medium	Pre-construction, Construction. operation	Contractor	Open	Noted.		
B28		Utilities, services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Proponent.	√			√	High	Pre-construction	Contractor	Open	This condition is being addresed through detailed design. Minor refinements to utilities are being progressed for proposed minor design refinements to utilities.		

COMPLIANCE TRACKING TABLE

CoA Ref	Category	Condition	Staging/Relevance: Utilities	Staging/Relevance: Levee	Staging/Relevance: Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
C1		Prior to the commencement of construction or as otherwise agreed by the Secretary, the Proponent shall prepare and implement a Community Communication Strategy to the satisfaction of the Secretary. The Strategy shall provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (see condition D43), the Council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Strategy shall include, but not be limited to:					Medium	Pre-construction	Contractor and RMS	Open	A Community Communication Strategy (CCS) has been prepared and submitted to the Secretary prior to commencement of construction. DPE approval letter dated 6 October 2016.		*(xvii) to be responsible for condition C1., to the extent only that RMS will submit the Contractor's Community Communication Strategy for the approval of the Secretary, prior to the commencement of construction;*
C1		(a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;	√	√	√								
C1		(b) procedures and mechanisms for the regular distribution of information to community stakeholders on construction progress and matters associated with environmental management;	√	√	√								
C1		(c) the formation of community-based focus groups for key environmental management issues for the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the community-based focus groups;			√								
C1		(d) procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI;	√	√	√								
C1		(e) procedures and mechanisms through which the Proponent can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSI; and	√	√	√								
C1		(f) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator.	√	√	√								
C1		Issues that shall be addressed through the Community Communication Strategy include (but are not necessarily limited to):											
C1		(i) flooding and hydrology matters, including levee works;	√	√	√								
C1		(ii) traffic management (including parking, property access, pedestrian access);	√	√	√								
C1		(iii) noise and vibration mitigation and management;	√	√	√								
C1		(iv) heritage matters;	√	√	√								
C1		(v) landscaping and urban design matters;	√	√	√								
C1		(vi) construction staging, hours and activities;	√	√	√								
C1		(vii) the relocation of moorings including a strategy for consulting with affected mooring owners;			√								
C1		(viii) biodiversity matters; and	√	√	√								
C1		(ix) socio-economic, property and land use impacts, including impacts to recreational and commercial river users.	√	√	√								
C1		The Proponent shall maintain and implement the Strategy throughout construction of the SSI.	√	√	√								
C2		Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:	√	√	√		Medium	Prior to pre-construction, Prior to construction, prior to operation.	Contractor and RMS	Open	The web site is being updated progressively by RMS and Fulton Hogan.		*(xviii) to be responsible for condition C2., to the extent only that RMS is to upload to the project website the details of the Contractor's project 24-hour telephone number, postal address and email address complaints and enquiries number;*
C2		(a) a 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered;	√	√	√						A toll free number is established and well publicised in all communications material since the development of the project		
C2		(b) a postal address to which written complaints and enquires may be sent;	√	√	√						Postal address is established to the RMS Pacific Highway Office and publicised in all communications material and on the webiste		
C2		(c) an email address to which electronic complaints and enquiries may be transmitted; and	√	√	√						A dedicated Grafton Bridge email address is establised and managed by RMS		

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
C2		(d) a mediation system for complaints unable to be resolved.	√	√	√						Addressed in Community Communications Strategy.		
C2		The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction and prior to the commencement of operation. This information shall also be provided on the website (or dedicated pages) required by this approval.	√	√	√						This are included in the project web site. RMS placed advertisements prior to commencement of construction on two occasions (between 12 October and 19 October) in the Grafton Coastal Views, Grafton Daily Examiner and Clarence Valley Review.		
C3		Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Proponent shall prepare and implement a Construction Complaints Management System consistent with AS 4269: Complaints Handling and maintain the System for the duration of construction and up to 12 months following completion of the SSI. Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by condition A12 of this approval. The information contained within the System shall be made available to the Secretary and relevant agencies on request.	√	√	√		Low	Prior to pre-construction	Contractor and RMS	Open	Consultation Manager database is established which manages and tracks consultation, feedback and complaints. This will be handed over to the contractor to manage through construction. Fulton Hogan's Construction Complaints Management System is described in the Community Communications Strategy.		*(xix) to be responsible for condition C3., to the extent only that RMS will submit the Contractor's Construction Complaints Management System for the approval of the Secretary;*
C4		Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:	√	√	√		Medium	Prior to pre-construction	Contractor and RMS	Open	The Grafton Bridge web site has been established for a long period and is regularly updated with Commuunity Updates. The EIS is included in the web site. Subs report and planning approval docs on website. http://www.rms.nsw.gov.au/projects/northern-nsw/grafton-clarence-river-crossing/environmental-impact-statement.html		*(xx) to be responsible for condition C4., except that the Contractor must provide RMS with all current and up-to-date electronic information, details and data from the Contractor's Work that are required by condition C4. for the dedicated pages within the project website;*
C4		(a) information on the current implementation status of the SSI;	√	√	√								
C4		(b) a copy of the documents listed in condition A2, and any documentation supporting modifications to this approval that may be granted from time to time;	√	√	√								
C4		(c) a copy of this approval and any future modification to this approval;	√	√	√								
C4		(d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI;	√	√	√								
C4		(e) a copy of each current strategy, plan, program or other document required under this approval;	√	√	√								
C4		(f) the outcomes of compliance tracking in accordance with condition A12 of this approval; and	√	√	√								
C4		(g) details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address	√	√	√								

COMPLIANCE TRACKING TABLE

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
D1		Prior to the commencement of operation of the SSI, the Proponent shall prepare a Biodiversity Offset Statement in consultation with the EPA. The Statement shall:			√		Medium	Construction	Contractor and RMS		Biodiversity Offset Statement will be prepared in consultation with the DPE and EPA. It is important to note that the project impact 0.41 ha of EEC vegetation, remaining impacts include weeds/ planted native vegetation. TTSTS impacts would need to be considered. Vegetation impacts have been reduced on the levees and somewhat on the Grafton bridge side of the project. To be progressed in later 2017, has started early progression of this.	To be progressed in later 2017, has started early progression of this.	*(xxi) to be responsible for condition D1., except that the Contractor must:*
D1		(a) confirm the threatened species, communities and their habitat (in hectares) cleared and their condition; and		√	√								*a. ensure any impact on existing native vegetation, threatened and vulnerable species and Endangered Ecological Communities and their habitats is no greater than identified within the Environmental Documents; and*
D1		(b) provide details of measures to offset impacts of the SSI on native vegetation, including threatened species, communities and their habitats, including the timing, responsibility, management and monitoring, and implementation of the offset measures.			√								*b. progressively provide RMS with the relevant inputs from the Design Documentation, plans, sub-plans and other management documents that are required by condition D1. no later than 10 weeks prior to the commencement of construction that would result in the disturbance of native vegetation;*
D1		Biodiversity impacts shall be offset in in accordance with the document Principles for the Use of Biodiversity Offsets in NSW (DECCW, 2008). A copy of the statement shall be submitted to the Secretary and EPA.			√								
D2		Construction activities associated with the SSI shall be undertaken during the following standard construction hours:	√	√	√		Medium	Construction	Contractor	Open	Hours of work and Out-of-Hours Work Protocol have been included in the CNVMP. The CNVMP has been submitted to the Secretary for approval and was approved as part of the CEMP. During the reporting period one out of hours activitiy occurred in consultation with EPA, local community and sensitive recievers - approved by the project ER		
D2		(a) 7:00am to 6:00pm Monday to Friday, inclusive; and	√	√	√								
D2		(b) 8:00 am to 1 :00 pm Saturday; and	√	√	√								
D2		(c) at no time on Sunday or public holidays.	√	√	√								
D3		Construction works outside the standard construction hours may be undertaken in the following circumstances:					Medium	Construction	Contractor	Open	Out-of-Hours Work Protocol is included in the CNVMP.		
D3		(a) construction works that generate noise and vibration that is:	√	√	√								
D3		(i) LAeq(15 minute) noise levels no more than 5 dB(A) above rating background level at any residence in accordance with the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009);and	√	√	√								
D3		(ii) LAeq(15 minute) noise levels no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) at other sensitive receivers; and	√	√	√								
D3		(iii) continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of Assessing Vibration: a technical guideline; and	√	√	√								
D3		(iv) intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of Assessing Vibration: a technical guideline; or	√	√	√								
D3		(b) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved; or	√	√	√								
D3		(c) for the delivery of materials required outside the standard construction hours by the NSW Police Force or other authorities for safety reasons; or	√	√	√								
D3		(d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or (e) out-of-hours work in accordance with condition D 4.	√	√	√								
D4		Construction activities which cannot be undertaken during the standard construction hours for technical or other justifiable reasons (Out of Hours work) may be permitted with the approval of the Environmental Representative. Out of Hours work shall be undertaken in accordance with an approved Construction Environment Management Plan or Construction Noise and Vibration Management Plan for the SSI, where that plan provides a process for the consideration of Out of Hours work. This consideration includes:	√	√	√		Medium	Construction	Contractor	Open	Out-of-Hours Work Protocol have been included in the CNVMP. RMS and the project ER would be involved in assessment of any application for out of hours works. Out-of-Hours Work was undertaken for the fig removal in Grafton to increase safety by doing the work on a weekend.		
D4		(a) process for obtaining the Environmental Representative's approval for Out of Hours work;	√	√	√								
D4		(b) details of the nature and need for activities to be conducted during the varied construction hours;	√	√	√								
D4		(c) justifies the varied construction hours in accordance with the Interim Construction Noise Guideline (OECC, 2009);	√	√	√								

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D4		(d) provides evidence that consultation with potentially affected receivers, that the issues raised have been addressed and all feasible and reasonable mitigation measures have been put in place; and	√	√	√								
D4		(e) provides evidence of consultation with the EPA and Council on the proposed work outside the standard construction hours.	√	√	√								
D5		(a) Construction activities resulting in impulsive or tonal noise emission (such as rock breaking, rock hammering, pile driving) shall only be undertaken: (a) between the hours of 8:00am to 6:00pm Monday to Friday;	√	√	√		Medium	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D5		(b) between the hours of 8:00am to 1:00pm Saturday; and	√	√	√								
D5		(c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.	√	√	√								
D5			√	√	√								
D5		For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.	√	√	√								
D6		The Proponent shall, where feasible and reasonable, limit high noise impact activities and work to the mid-morning and mid-afternoon periods.	√	√	√		Medium	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D7		The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (OECC, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition D46(a).	√	√	√		High	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D7			√	√	√								
D7		Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of SdB(A) to the predicted level before comparing to the construction Noise Management Level.	√	√	√								
D8		The SSI shall be constructed with the aim of achieving the following construction vibration goals:			√		Low	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D8		(a) for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration-Part 3 Effects of vibration on structures;			√								
D8		(b)for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-1:1990- Evaluation and measurement of vibration in buildings - Guide for measurement of vibration and evaluation of their effects on buildings (and referenced in Australian Standard 2187.2 - 2006 Explosives-Storage and use- Use of explosives);			√								
D8		(c) for human exposure, the acceptable vibration values set out in Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).			√								
D9		Wherever feasible and reasonable, piling activities shall be undertaken using quieter construction methods, such as bored piles or vibrated piles rather than impact or percussion piling methods.			√		Medium	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D10		During construction, affected educational institutions shall be consulted and reasonable steps taken to ensure that noise generating construction works in the vicinity of affected buildings are not timetabled during examination periods where practicable, unless other reasonable arrangements to the affected institutions are made at no cost to the affected institution.	√	√	√		High	Construction	Contractor	Open	This condition has been addressed in the CNVMP.		
D11		The Proponent shall undertake a review of the operational noise mitigation measures proposed to be implemented for the SSI, within six months of commencing construction, unless otherwise agreed by the Secretary. The review shall be submitted for the approval of the Secretary, and be prepared in consultation with the EPA, and shall:			√	√	Medium	Construction	Contractor and RMS (later submission of the document)	Open	The Deed/ SWTC App 4 include detailed requirements in regards to operation noise outcomes and modelling as well as the Operational Noise Management Report. Note that RMS has retained responsibility for at residence noise treatment only. This review is required by 17 April 2017. The project received an extension from DPE to 31/7/201 to allow more time to review the operational noise report/ finalise EPA comments. EPA has provided comments and Fulton Hogan has actioned comments and returned to EPA to close. RMS has engaged RENZO Tonin to undertake additional detailed noise monitoring and modelling to predict any noise exceedances at all facades of affected noise sensitive receivers. Noise modelling data is now available as of 20/05/2017 for the scoping of impacted receivers.		*(xxii) to be responsible for condition D11., to the extent only that RMS will submit the Contractor's review of the operational noise mitigation measures for the approval of the Secretary;*
D11		(a) confirm the operational noise predictions of the SSI based on detailed design. This operational noise assessment shall be based on an appropriately calibrated noise model (which has incorporated additional noise monitoring, where necessary for calibration purposes);			√								
D11		(b) review the suitability of the operational noise mitigation measures identified in the documents listed in condition A2. The review shall take into account the detailed design of the SSI and, where feasible and reasonable, and where necessary, refine the proposed measures with the objective of meeting the criteria outlined in the NSW Road Noise Policy (Department of Environment, Climate Change and Water, 2011), based on the operational noise performance of the SSI predicted under (a) above; and			√								
D11		(c) where necessary, investigate additional feasible and reasonable noise mitigation measures to achieve the criteria outlined in the NSW Road Noise Policy (DECCW, 2011).			√								

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D12		Where feasible and reasonable, operational noise mitigation measures shall be implemented at the start of construction (or at other times during construction) to minimise construction noise impacts.			√	√	Medium	Pre-construction, construction	Contractor and RMS	Open	RMS is undertaking at residence treatment and is endeavouring to complete this pre start of road and bridge construction. The Contractor is required to design operational noise measures and measures such as noise walls and low noise pavements. These measures need completion of earthworks/ drainage as a first stage. The Contractor is finalising the Operational Noise Report and this includes operational noise mitigation measures. Scoping of sensitive receivers impacted by noise levels that exceed the RNP guidelines has commenced. The first package of building works for the installation of mitigation should be commenced in Late June or ealry July		*(xxiii) to be responsible for condition D12. to the extent only that RMS will undertake architectural noise mitigation measures to the affected properties identified in section 9.9 of Appendix 9 to the SWTC;*
D13		Access to all properties shall be maintained during construction, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier. Any access physically affected by the SSI shall be reinstated to at least an equivalent standard, unless agreed with by the property owner.	√	√	√	√	Medium	Construction	Contractor	Open	This has been addressed in the CTAMP. CTAMP has been submitted to the Secretary for approval. This plan was approved with the CEMP.		
D14		Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route shall be provided and signposted.	√	√	√	√	Medium	Construction	Contractor	Open	This has been addressed in the CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE.		
D15		Construction vehicles (including staff vehicles) associated with the SSI shall be managed to: (a) minimise parking or queuing on public roads; (b) minimise idling and queuing in local residential streets where practicable; (c) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds; and (d) adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan required under condition D46(b).	√ √ √ √ √	√ √ √ √ √	√ √ √ √ √	√	Medium	Construction	Contractor	Open	This has been addressed in the CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE..		
D16		Where feasible and reasonable, the Proponent shall provide alternative temporary parking spaces for formal on-street parking spaces removed and/or impacted by the construction of the SSI. The location and number of temporary or relocated parking spaces shall be determined in consultation with Council and affected businesses. The alternative parking spaces shall be provided prior to commencement of construction activities that impact on parking spaces within the SSI footprint.			√	√	High	Construction	Contractor	Open	This has been addressed in the CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE.		
D17		Upon determining the haulage route(s) for construction vehicles associated with the SSI, and prior to construction, an independent and qualified expert shall prepare a Road Dilapidation Report for local roads outside the SSI boundary. The Report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to their use by traffic and transport related to the construction of the SSI. The Report shall be submitted to Council for review prior to the commencement of haulage. Following completion of construction, a subsequent Report shall be prepared to assess any damage that may have resulted from the construction of the SSI. Measures undertaken to restore or reinstate local roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of Council, and at the full expense of the Proponent.		√	√		High	Pre-construction, construction	Contractor	Open	This has been addressed in the CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE. FH is in process of engaging an independent consultant to comoplete this survey. FH has produced map of local roads which will be impacted by the project and has consulted with CVC on the proposed locations.		
D17		Note: Nothing in this condition restricts the Proponent commencing adjustments and minor upgrades to the existing road network to cater for construction traffic and installation of temporary project signage prior to the commencement of construction.		√	√								
D18		Where available and practicable, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources shall be used, where feasible and reasonable, in preference to potable water for construction activities, including concrete mixing and dust control.	√	√	√	√	Medium	Construction	Contractor	Open	This condition has been addressed in the CSWQMP. The issues has also been discussed at the ERG meetings in July and Aug 2016. Water source options have been discussed at ERGs. Fulton Hogan will where possible recylce captured site waters to aid this extra capacity will be provided in site sediment basins. Blue book requirements to empty sediment basins after rainfall will also be met		
D19		Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Volumes 1 and 2, 4th Edition (Landcom, 2004) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or water.	√	√	√	√	Medium High	Construction	Contractor	Open	This condition has been addressed in the CSWQMP. Innovation has been applied at Fill 1 to divert dirty water away from the Clarence and improvement treatment.		

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D21		The Proponent shall consult with the NSW State Emergency Service during detailed design on feasible and reasonable measures to maximise the evacuation capability of Grafton and South Grafton during a major flood emergency.		√	√	√	Medium	Pre-construction	Contractor and RMS		This has been addressed in the Construction Flood Management Plan (CFMP). The Plan was prepared in consultation with SES and has been submitted to the Secretary for approval.		*(xxiv) to be responsible for condition D21., to the extent only that RMS is to be involved in the consultation between the Contractor and the NSW State Emergency Service during detailed design of the SSI;*
D22		The Proponent shall undertake further flood modelling based on the detailed design of the SSI. The flood modelling shall consider the recommendations of WMA water outlined in Appendix A EIS flooding and hydrology technical paper peer review in the document listed in condition A2(c), and:			√	√	High	Pre-construction	Contractor and RMS	Open	WBM are undertaking the flood modelling for RMS. The modelling includes MCoA D 22 a), b) and c) requirements. WBM undertake flood modelling for Clarence process so it is beneficial that the same consultant is used in relation to RMS Grafton Bridge works. Flood modelling is addressed in SWTC App 4 Section 4.16. WMA are the appointed RMS independent hydrologic consultant. KBR have prepared the Hydrological Mitigation report, RMS understands awaiting approval by the Secretary. The flood modelling does consider the recommendations from WMA Water		*(xxv) to be responsible for condition D22., to the extent only that RMS will provide the Contractor with the results from the following surveys undertaken by RMS prior to execution of the deed:* *a. bathymetric survey;* *b. flood levee survey; and* *c. detailed floor level survey of potentially affected properties;*
D22		(a) include a detailed floor level survey of potentially affected properties, as identified in the flood modelling;			√								
D22		(b) update the flood frequency analysis and application of the latest hydrological practice of the new Australian Rainfall and Runoff publication;			√								
D22		(c) assess the same design flood events as those in the EIS, including the probable maximum flood (PMF) event; and (d) assess and report all flood height changes to a resolution no coarser than 1 cm.			√								
D23		The Proponent shall prepare a Hydrological Mitigation Report that details all feasible and reasonable flood mitigation measures for properties where flood impacts are predicted to increase as a result of the SSI. The Report shall be prepared by a suitably qualified and experienced expert, whose appointment has been approved by the Secretary. The Report shall:		√	√	√	High	Pre-construction	RMS	closed	Schedule 41.Future Approvals to be obtained by RMS. "The Secretary of the Department of Planning and Environment's approval required by condition D23. of the Planning Minister's Approvals in respect of the Hydrological Mitigation Report". KBR have prepared the Hydrological Mitigation report and DPE have approved it.		*(xxvi) to be responsible for condition D23.;*
D23		(a) be informed by the detailed surveys (e.g. floor levels) of potentially affected properties and the results of the flood modelling of the detailed design carried out under condition D22 of this approval and in consultation with EPA and Council;		√	√						(a) potentially affected properties have been identified. Floor level surveys have been completed. (b) Flood management objectives have been set in the HMR and have been developed in consultation with Council and SES. (c) the proposed levee mitigation measures have no measurable impact on properties downstream of the new bridge. (d) potentially affected properties have been identified. Floor level surveys have been completed and directly affected property owners have been consulted with. One shed floor has been raised slightly. (e) Likely mitigation measures have been identified in the HMR. (f) Flood velocities are mostly not predicted to increase. Where they do increase, the potential impact is addressed in the HMR. (g) Flood management objectives are identified in the HMR and they form the basis for determining flood impact on properties (h) Directly affected landowners and Council have been consulted with with regard to refinement of public assets (levee). This consultation is ongoing. (i) No house raising is required. One shed floor has been raised. Mitigation measures are being determined in consultation with landowners. The HMR has been submitted to DPE and approved by DPE Levee mitigation measures are nearly finalised with more than 90% of the levee length is now to final height. Appart from town levee raisning, have raised the floor in own shed.		
D23		(b) include mitigation measures based on documented flood management objectives for affected properties. The flood management objectives shall cover flood level (height), duration, velocity and direction, and flood evacuation and be developed in consultation with Council and the SES;		√	√								
D23		(c) ensure mitigation measures that include changes to the height of the levees have no detrimental impact on residences and urban land uses protected by the levees and properties downstream of the SSI;		√	√								
D23		(d) identify properties in those areas likely to have an increased/exacerbated flooding impact and detail the predicted impact. The types of impacts to be considered include all those examined in the EIS including but not limited to changes in flood levels and velocities, alteration to drainage, reduction in flood evacuation access or capability and impacts on infrastructure,;		√	√								
D23		(e) identify mitigation measures to be implemented to address these impacts:		√	√								
D23		(f) identify measures to be implemented to minimise scour and dissipate energy at locations where flood velocities are predicted to increase as a result of the SSI;		√	√								
D23		(g) demonstrate consistency with the flood management objectives in subsection (b);		√	√								
D23		(h) be developed in consultation with directly-affected landowners, and Council and in relation to public assets and community flood evacuation issues; and		√	√								
D23		(i) where house raising is proposed, ensure habitable floor levels are raised to a minimum height of the 100 year ARI flood plus 0.5m freeboard, unless justified by site-specific assessment.		√	√								

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D23		Where the flood management objectives in subsection (b) cannot be complied with, the Proponent shall achieve compliance through modified design of the SSI; or achieve an acceptable level of mitigation of impacts through at property design measures (e.g. raised access tracks, flood refuge, house raising) in consultation with affected landowners. The Report shall be submitted for the approval of the Secretary one month prior to the commencement of construction within the floodplain that has potential to alter flood behaviour, unless otherwise agreed by the Secretary. Construction shall not commence on any components of the SSI that have potential to alter flood conditions until such time as works identified in the hydrological mitigation report have been completed, unless otherwise agreed by the Secretary.		√	√								
D24		Based on the mitigation measures identified in the Hydrological Mitigation Report, the Proponent shall prepare and implement a final schedule of feasible and reasonable flood mitigation measures proposed at each directly-affected property in consultation with the landowner, and consistent with the flood management objectives described in condition D23(b). The schedule shall be provided to the relevant landowner(s) prior to the implementation/construction of the mitigation works, unless otherwise agreed by the Secretary. A copy of each schedule of flood mitigation measures shall be provided to the Department and Council prior to the implementation/construction of the mitigation measures on the property.		√	√	√	High	Pre-construction	RMS	Open	KBR have prepared the Hydrological Mitigation report and it has been approved by DPE. Based on the mitigation measures identified in the Hydrological Mitigation Report, RMS will prepare and implement a final schedule of feasible and reasonable flood mitigation measures proposed at each directly-affected property in consultation with the landowner, and consistent with the flood management objectives described in condition D23(b). The schedule will be in the form of property adjustment plans which detail the proposed and agreed mitigation measures. Packages of levee design measures have been provided to DPE for the majority of levee works in Grafton and South Grafton, some minor exceptions for non finalised matters. Table of mitigation measures = levee works plans. All plans are now available, and have been signed off by all owners. RMS currently progressing the sign-off of completion Deeds by Owners, confirming that the work has been completed to their satisfaction.		*(xxvii) to be responsible for condition D24., to the extent only that RMS will prepare the schedule of flood mitigation measures and submit the schedule of flood mitigation measures to the Department and Council;*
D25		The Proponent shall undertake engineering and property investigations of the Grafton and South levees prior to detailed design to inform the structural capability of changes to the levees. Any work to augment the structure of the levees shall be carried out in consultation with Council and affected landowners.		√		√	High	Pre-construction, construction	RMS	Open	RMS has organised regular meetings with Council, OEH and SES to progress levee upgrading works. PWD have undertaken an engineering assessment of the levees and detailed design of the levee works for RMS. More than 90% or structural works completed. All work has been carried out in accordance with plans approved by Clarence Valley Council and the private landowners of individual properties impacted.		*(xxviii) to be responsible for condition D25., to the extent only that RMS will undertake engineering and property investigations of the Grafton and South Grafton levees prior to detailed design, and undertake a review of the consistency of those works with the SSI approval;*
D25		Note: Should additional assessment of work arising from the engineering and property investigations of the levees be required, the proponent shall undertake a review of the consistency of those works with the SSI approval. Work that is inconsistent with the SSI may require a modification of the approval.		√							Noted and a consistency assessment was undertaken for levee design changes, which resulted in significantly less impact due to improvements in bridge design. No additional work outside the Project Boundary as refined with approved Consistency Reviews, or inconsistent with the SSI were found to be necessary		
D26		The proposed Grafton and South Grafton levee flood mitigation measures shall be implemented prior to construction commencing in the Clarence River, including pier/pile construction and the installation of temporary in-river rock platforms, unless otherwise agreed by the Secretary.		√	√	√	High	Pre-construction	Contractor	Open	Completion of levee measures is a key project focus and is addressed in contract documents. The levee flood mitigation measures will be installed by Fulton Hogan during construction. RMS has submitted a decoupling proposal to DP&E this proposal would allow consturction of the temporary jetty and some piling works to start concurrently to ongoing levee works. DPE approval letter was issued on 29 March 2019. All Levee works scehduled to be finalised not later than 30 June 2017		
D27		The Proponent shall employ a suitably qualified and experienced independent hydrological expert, whose appointment has been endorsed by the Secretary, to provide independent advice for all hydrological matters, including assistance to landowners in resolving feasible and reasonable mitigation measures.		√	√		Medium	Pre-construction, construction	RMS	closed	WMA are the appointed RMS independent hydrologic consultant. The appointment of WMA Water has been approved by DPE. Schedule 41.Future Approvals to be obtained by RMS. "The Secretary of the Department of Planning and Environment's approval required by condition D27. of the Planning Minister's Approvals in respect of the suitably qualified and experienced independent hydrological expert".		*(xxix) to be responsible for condition D27.;*
D28		During detailed design, the Proponent shall undertake a detailed drainage study of the SSI adjacent to the northern and southern approach roads within the levees to ensure there are no adverse impacts to property or existing infrastructure. The study shall be carried out in consultation with Council and include the design of the Pound Street drainage basin and pumping station, and Council's existing drainage and flood relief systems.			√	√	High	Pre-construction	Contractor and RMS	Open	This is being addressed through detailed design and involve RMS in consultation with Clarence Valley Council.		*(xxx) to be responsible for condition D28., to the extent only that RMS will be included in all consultation with Council;*

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D29		The SSI shall be constructed in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust and tracking of material onto public roads. All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.	√	√	√		High Medium	Construction	Contractor	Open	Addressed in the CAQMP. CAQMP has been submitted to the Secretary for approval and approved as part of the CEMP.		
D30		Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with:	√	√	√	√	Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.		
D30		(a) all relevant Australian Standards;	√	√	√								
D30		(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume, within the bund; and	√	√	√								
D30		(c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997).	√	√	√								
D30		In the event of an inconsistency between the requirements listed from (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.	√	√	√								
D31		Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.	√	√	√	√	Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.		
D32		The reuse and/or recycling of waste materials generated on site shall be maximised as far as practicable, to minimise the need for treatment or disposal of those materials off site.	√	√	√	√	Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. Clearing material has been used for timber eg Men Shed and used for mulch for landscaping and erosion and sediment control.		
D33		All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009).	√	√	√		Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.		
D34		All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	√	√	√		Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.		
D35		The Proponent shall ensure that all plant and equipment used at the site is:	√	√	√		Medium	Construction	Contractor	Open	This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP.		
D35		(a) maintained in a proper and efficient condition; and	√	√	√								
D35		(b) operated in a proper and efficient manner.	√	√	√								
D36		The sites for ancillary facilities that are associated with the construction of the SSI and that have not been identified and assessed in the documents listed in condition A2 shall:	√	√	√	√	Medium	Pre-construction, construction	Contractor	Open	This has been addresse in Appendix A5 of the CEMP. Ancillary facilities outside the SSI includes a current shed in the industrial area of South Grafton for levee works.		
D36		(a) be located more than 50 metres from a waterway, including the Clarence River;	√	√	√								
D36		(b) be located within or adjacent to the SSI boundary;	√	√	√								
D36		(c) have ready access to the road network or direct access to the construction corridor;	√	√	√								
D36		(d) be located to minimise the need for heavy vehicles to travel through residential areas;	√	√	√								
D36		(e) be located in areas of low ecological significance and require no clearing of native vegetation;	√	√	√								
D36		(f) be located on relatively level land;	√	√	√								
D36		(g) be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);	√	√	√								
D36		(h) be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented;	√	√	√								
D36		(i) not unreasonably affect the land use of adjacent properties;	√	√	√								
D36		(j) provide sufficient area for the storage of material to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours; and	√	√	√								
D36		(k) be located in areas of low heritage conservation significance (including areas identified as being of Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the SSI.	√	√	√								
D36		The Proponent shall undertake an assessment of the facility against the above criteria in consultation with the relevant public authority(s) and the Council. The site and relevant environmental management measures shall be included in the Construction Environmental Management Plan required under condition D45.	√	√	√								

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
D37		Ancillary facilities that have not been previously identified and assessed in the documents listed in condition A2, and do not meet the criteria set out under condition D36, shall be approved by the Environmental Representative prior to its establishment. In obtaining this approval, the Proponent shall consult with the relevant public authority(s) and the Council, and demonstrate to the satisfaction of the Environmental Representative, how the potential environmental impacts can be mitigated and managed to acceptable standards. The outcomes of the assessment shall be documented in a report and include, but not necessarily be limited to:	√	√	√	√	Medium	Pre-construction	Contractor and RMS	Open	Assessment of ancillary sites against these criteria will be undertaken by Fulton Hogan where proposed in consultation with RMS.		*(xxxi) to be responsible for condition D37., to the extent only that RMS will review the Contractor's Assessment Report prior to the Contractor submitting the Contractor's Assessment Report to the Environmental Representative;*
D37		(a) details on the site location and access arrangements;	√	√	√								
D37		(b) a description of the activities to be undertaken including the hours of use and storage of dangerous goods;	√	√	√								
D37		(c) outcomes of the assessment of the site against the locational criteria set out in condition D36;	√	√	√								
D37		(d) an assessment of the environmental impacts on the site and the surrounding environment, including, but not limited to noise, vibration, air quality, traffic and access during site establishment and operation, flora and fauna, heritage, erosion and sedimentation, water quality and light spill;	√	√	√								
D37		(e) details of the mitigation, monitoring and management procedures specific to the ancillary facility that would be implemented to minimise environmental impacts; and	√	√	√								
D37		(f) demonstrated overall consistency with the approved SSI (including impacts identified in the documents listed in condition A2).	√	√	√								
D37		A copy of the report shall be included in the Construction Environmental Management Plan required under condition D45.	√	√	√								
D38		Notwithstanding condition D37, ancillary facilities that that have not been previously identified and assessed in the documents listed in condition A2 and result in additional impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, shall be approved by the Secretary prior to their establishment. In order to obtain this approval, the Proponent shall undertake an assessment of the ancillary facility in accordance with condition D37 and forward a copy of the assessment report to the Secretary, as part of the approval submission, at least one month prior to the establishment of the facility.	√	√	√		Medium	Pre-construction	Contractor and RMS	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed. An office ancillary site in Pound/ Greaves St has been approved, all within the SSI corridor. The two houses used were originally to be demolished, but are now retained, improving street amenity.		*(xxxii) to be responsible for condition D38., to the extent only that RMS will review and submit the Contractor's assessment report on the ancillary facility to the Secretary;*
D39		All ancillary facilities and access points shall be rehabilitated to at least their preconstruction condition or better, unless otherwise agreed by the landowner where relevant.	√	√	√		Medium	Construction	Contractor	Open	This will be undertaken by Fulton Hogan in consultation with RMS.		
D40		Where changes are made to the boundary or use of an ancillary facility, including facilities identified in the documents listed in condition A2, the Proponent shall assess the facility against the criteria set out in condition D36 If the ancillary facility site:	√	√	√	√	Medium	Pre-construction	Contractor and RMS	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed.		*(xxxiii) to be responsible for condition D40., to the extent only that RMS will review and submit the Contractor's assessment to Environmental Representative and Secretary;*
D40		(a) does not meet the criteria set out under condition D36 the Proponent shall seek the approval of the Environmental Representative in accordance with condition D37; or	√	√	√								
D40		(b) results in impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, the Proponent shall seek the approval of the Secretary in accordance with condition D38.	√	√	√								
D40		The relevant approval shall be obtained prior to the establishment of the ancillary facility.	√	√	√								
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 EPA.	√	√	√		Medium	Pre-construction	Contractor	Open	This will be undertaken by Fulton Hogan in consultation with RMS where proposed. A archaeologist/ LALC site walk over was undertaken for the Woods ancillary area and Robertson easement.		
D42		The Proponent shall prepare and implement an Urban Design and Landscape Management Plan prior to the commencement of permanent built works and/or landscaping, unless otherwise agreed by the Secretary, to present an integrated landscape and design for the SSI. The Plan shall be prepared in accordance with the Roads and Maritime Services urban design and visual guidelines, and the design principles and revegetation guidelines outlined in the EIS. The Plan shall be prepared by an appropriately qualified expert in consultation with EPA, including the Heritage Division, Council and community, and submitted to the Secretary for approval. The Plan shall include, but not necessarily be limited to:		√	√	√	Medium	Pre-construction	Contractor	Open	The UDLMP is currently being prepared and is proposed for submission to the Secretary for approval in March 2017 - refer RMS letter ref No A14430126, SF2015/135736 requesting extension of time for the preparation and submission of the UDLP. Approved extension of time to 31 March, DPE letter of 6 October 2016. The UDLMP was submitted to DPE in March 2017.		
D42		(a) identification of design principles and standards based on-		√	√								
D42		(i) local environmental values,		√	√								
D42		(ii) heritage values,		√	√								
D42		(iii) urban design context,		√	√								
D42		(iv) sustainable design and maintenance,		√	√								
D42		(v) community amenity and privacy,		√	√								

			Staging/Relevance										
CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
D42		(vi) relevant design standards and guidelines including "Crime Prevention Through Environmental Design Principles", and		√	√								
D42		(vii) the urban design objectives outlined in the EIS Technical Paper Urban Design and Landscape Concept Report;		√	√								
D42		(b) details on the location of existing vegetation and proposed landscaping (including use of indigenous and endemic species where possible). Details of species to be replanted/revegetated shall be provided in a Revegetation Strategy, including their appropriateness to the area and habitat for threatened species;		√									
D42		(c) a description of locations along the corridor directly or indirectly impacted by the construction of the SSI (e.g. temporary ancillary facilities, access tracks, etc.) and details of the strategies to progressively rehabilitate regenerate and/or revegetate the locations with the objective of promoting biodiversity outcomes and visual integration;		√	√								
D42		(d) appropriate roadside plantings and landscaping in the vicinity of heritage items and ensure no additional heritage impacts;		√	√								
D42		(e) appropriate landscape treatments on flood levees to ensure the structural integrity of the levees is not compromised;		√	√								
D42		(f) strategies for progressive landscaping of environmental controls (such as erosion and sedimentation controls, drainage controls);		√	√								
D42		(g) responsibilities for maintaining landscaping treatments and areas of regeneration and revegetation;		√	√								
D42		(h) location and design treatments for any associated footpaths and cyclist elements, and other features such as seating, fencing, materials and signs;		√	√								
D42		(i) a lighting plan lighting (with lighting in accordance with AS/NZS 1158 Lighting for Roads and Public Spaces series as relevant and AS 4282-1997 Control of the Obtrusive Effect of Outdoor Lighting) including lighting designs;			√								
D42		(j) an assessment of the visual screening effects of existing vegetation and the proposed landscaping and built elements. Where properties have been identified as likely to experience high visual impact as a result of the SSI and high residual impacts are likely to remain, the Proponent shall, in consultation with affected landowners, identify opportunities for providing at-property landscaping to further screen views of the SSI. Where agreed with the landowner, these measures shall be implemented during the construction of the SSI;		√	√								
D42		(k) graphics such as sections, perspective views and sketches for key elements of the SSI, including, but not limited to built elements of the SSI;		√	√								
D42		(l) final design details of the proposed external materials and finishes for the bridge and noise barriers, including schedules and a sample board of materials and colours;			√								
D42		(m) monitoring and maintenance procedures for the built elements, including performance indicators, responsibilities, timing and duration; and		√	√								
D42		(n) evidence of consultation with EPA, Council and community on the proposed urban design and landscape measures prior to finalisation of the Plan.		√	√								
D42		Note: The Urban Design and Landscape Plan shall be consistent with any revegetation and biodiversity offsets established for the SSI under the conditions of this approval.		√	√								
D43		Prior to the commencement of construction of the SSI, or as otherwise agreed by the Secretary, the Proponent shall nominate for the approval of the Secretary a suitably qualified and experienced Environmental Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Secretary. The Environment Representative(s) shall:	√	√	√		Low	Pre-construction	RMS	Open	Simon Williams has been appointed the Environmental Representative for the project/ approved by DPE.		*(xxxiv) to be responsible for condition D43., to the extent only that RMS is to nominate a suitably qualified and experienced Environmental Representative(s) (ER) for the approval of the Secretary and will appoint the ER jointly with the Contractor by way of the Deed of Appointment of ER, prior to the commencement of construction of the Project;*
D43		(a) be the principal point of advice in relation to the environmental performance of the SSI;	√	√	√								
D43		(b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/programs;	√	√	√								
D43		(c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI;	√	√	√								
D43		(d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);	√	√	√								
D43		(e) be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan;	√	√	√								

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
D43		(f) be given the authority to approve/reject Out of Hours Works in accordance with condition D4. These works shall be conducted in accordance with the Out of Hours Works Protocol (OOHW Protocol) required in accordance with condition D46(a)(vi);	√	√	√								
D43		(g) be given the authority to approve/reject ancillary facilities in accordance with conditions D36 and D37;	√	√	√								
D43		(h) be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur; and	√	√	√								
D43		(i) be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required.	√	√	√								
D44		The Environmental Representative shall prepare and submit to the Secretary a monthly report on the Environmental Representative's actions and decision on matters specified in condition D43 for the preceding month. The reports shall be submitted within seven (7) days from the end of each month for the duration of construction of the SSI, or as otherwise agreed by the Secretary. Notwithstanding, the Environmental Representative shall be given the independence to report to the Secretary at any time and/or at the request of the Secretary.					Medium	Construction	RMS	Open	The Project Environmental Representative restarted in early 2016 and increased presence at 20 September, 2016. Recommenced monthly reports from October 2016 as agreed with DPE.		*(xxxv) to be responsible for condition D44.;*
D45		The Proponent shall prepare and implement a Construction Environmental Management Plan for the SSI, prior to the commencement of construction, or as otherwise agreed by the Secretary. The Plan shall be prepared in consultation with relevant agencies and Council and outline the environmental management practices and procedures that are to be followed during construction. The Plan shall be prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004) and is to include, but not necessarily be limited to, the following:		√	√		Medium	Pre-construction	Contractor and RMS	Open	CEMP has been submitted to the Secretary for approval. The following associated management plans have also been submitted to the Secretary for approval: - CNVMP - CSWQMP - CFFMP - CAQMP - CCLMP - CFMP - CHMP - CTAMP. The CEMP and Management Plans were approved by DPE.		*(xxxvi) to be responsible for condition D45., to the extent only that RMS is to submit the Contractor's Construction Environmental Management Plan to the Secretary;*
D45		(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);		√	√								
D45		(b) statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;		√	√								
D45		(c) a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors, are aware of their environmental and compliance obligations under these conditions of approval;		√	√								
D45		(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan:		√	√								
D45		(d)(i) measures to minimise hydrology impacts, including measures to stabilise bank structures as required;		√	√								
D45		(d)(ii) measures to monitor and manage dust emissions including dust from stockpiles, traffic on unsealed roads and from materials tracking;		√	√								
D45		(d)(iii) measures to minimise emissions from construction vehicles, plant and equipment;		√	√								
D45		(d)(iv) measures to monitor and manage spoil, fill and materials stockpile sites including details of how spoil, fill or material would be handled, stockpiled, reused and disposed in a Stockpile Management Protocol. The Protocol shall include details of the locational criteria that would guide the placement of temporary stockpiles, and management measures that would be implemented to avoid/minimise amenity impacts to surrounding residents and environmental risks (including surrounding water courses);		√	√								
D45		(d)(v) measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures or dealing with green waste including timber and mulch from clearing activities;		√	√								
D45		(d)(vi) measures for managing asbestos waste including its removal, handling, storage, transport and disposal;		√	√								
D45		(d)(vii) measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins);		√	√								

			Staging/Relevance										
CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
D45		(d)(viii) measures to monitor and manage hazard and risks including emergency management;		√	√								
D45		(d)(ix) details of compliance and incident management consistent with the requirements of condition A12; and		√	√								
D45		(d)(x) procedures for the periodic review and update of the Construction Environmental Management Plan and Plans required under condition D46, as necessary (including where minor changes can be approved by the Environmental Representative).		√	√								
D45		The Plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of construction, or as otherwise agreed by the Secretary. Construction work shall not commence until written approval has been received from the Secretary. The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval shall prevail.		√	√								
D46		As part of the Construction Environmental Management Plan for the SSI, the Proponent shall prepare and implement:		√	√		High	Pre-construction	Contractor	Open	CEMP has been submitted to the Secretary for approval. The following associated management plans have also been submitted to the Secretary for approval: - CNVMP - CSWQMP - CFFMP - CAQMP - CCLMP - CFMP - CHMP - CTAMP. DPE CEMP approval was received on 4 October 2016, subject to addressing 4 conditions. DPE issue another letter dated 5 October 2016 correcting errors in the CEMP plan list.		
D46		(a) a **Construction Noise and Vibration Management Plan** to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be developed in consultation with the EPA and shall be consistent with the guidelines contained in the Interim Construction Noise Guidelines (DECC, 2009) and shall include, but not necessarily be limited to:		√	√								
D46		(a)(i) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval;		√	√								
D46		(a)(ii) details of construction activities and an indicative schedule for construction; including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;		√	√								
D46		(a)(iii) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise and vibration impacts (including construction traffic noise impacts);		√	√								
D46		(iv) procedures and mitigation measures to ensure relevant vibration criteria are achieved, including buffer distances for vibration intensive works, use of low-vibration generating equipment/vibration dampeners or alternative construction methodology, and pre- and post-construction dilapidation surveys of sensitive structures where vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria);and		√	√								
D46		(v) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any non-compliance would be rectified;		√	√								
D46		(vi) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition D4 by the Environmental Representative;(i) procedures for notifying sensitive receivers of construction activities that are· likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints;		√	√								
D46		(vii) a program for construction noise and vibration monitoring clearly indicating monitoring frequency, location, how the results of this monitoring would be recorded and, procedures to be followed where exceedences of relevant noise and vibration goals are detected; and		√	√								
D46		(viii) mechanisms for the monitoring, review and amendment of this plan.		√	√								
D46		(b) a **Construction Traffic and Access Management Plan** to manage construction traffic and access impacts of the SSI. The Plan shall be developed in consultation with Council and shall include, but not necessarily be limited to:		√	√								
D46		(b)(i) identification of construction traffic routes and construction traffic volumes (including heavy vehicle/spoil haulage) on these routes;		√	√								
D46		(b)(ii) details of vehicle movements for construction sites, levee stockpile sites and site compounds, including parking, dedicated vehicle turning areas, and ingress and egress points;		√	√								

			Staging/Relevance										
CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
D46		(b)(iii) identification of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, property access, and parking including details of oversize load movements;		√	√								
D46		(b)(iv) details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas, and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access;		√	√								
D46		(b)(v) details of measures to manage traffic movements, parking, loading and unloading at ancillary facilities during out-of-hours work;		√	√								
D46		(b)(vi) a response plan which sets out a proposed response to any traffic, construction or other incident;		√	√								
D46		(b)(vii) details on any access and speed restrictions to be imposed along the Clarence River, including timing and duration;		√	√								
D46		(b)(viii) information on the number of moorings to be relocated, their current location, proposed location, whether the relocation would be permanent and if not, the duration of relocation; and		√	√								
D46		(b)(ix) mechanisms for the monitoring, review and amendment of this plan.		√	√								
D46		(c) a **Construction Soil and Water Quality Management Plan** to manage surface water impacts during construction of the SSI. The Plan shall be developed in consultation with the EPA, DPI (Fisheries), NOW and the Council and include, but not necessarily be limited to:		√	√								
D46		(c)(i) details of construction activities and their locations, which have the potential to impact on waterways and stormwater drainage;		√	√								
D46		(c)(ii) surface water impact assessment criteria consistent with Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;		√	√								
D46		(c)(iii) risk assessment of the potential surface and groundwater quality impacts posed by bridge construction;		√	√								
D46		(c)(iv) management measures to be implemented to minimise surface water and groundwater impacts including details on waste water treatment devices, sediment basins, measures for managing pollutants at the source, spill management, and water quality monitoring;		√	√								
D46		(c)(v) details of the management measures to be implemented during piling, construction of bridge pylons and the use and decommissioning of temporary work platforms on the Clarence River to minimise water quality impacts;		√	√								
D46		(c)(vi) details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed, including locational criteria for guiding the placement of temporary stockpiles and measures to minimise potential impacts associated with stockpiling on waterways (such as erosion and sedimentation);		√	√								
D46		(c)(vii) a description of the erosion and sediment control measures to be implemented;		√	√								
D46		(c)(viii) details on the outcomes of the detailed site contamination investigations and proposed remediation measures, if remediation is required;		√	√								
D46		(c)(ix) a procedure detailing the contingency measures to be implemented in the event of the discovery of previously unidentified contaminated soils, including the process for updating or preparing a remediation action plan;		√	√								
D46		(c)(x) an Acid Sulfate Soils contingency plan, consistent with the Acid Sulfate Soils Manual (Acid Sulfate Soils Management Advisory Committee, 1998) and Acid Sulfate Soils Assessment Guidelines (Ahern et al., 1998) to deal with the unexpected discovery of acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage;		√	√								
D46		(c)(xi) a tannin leachate management protocol to manage the stockpiling of mulch and use of cleared vegetation and mulch filters for erosion and sediment control;		√	√								
D46		(c)(xii) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any noncompliance can be rectified; and		√	√								
D46		(c)(xiii) mechanisms for the monitoring, review and amendment of this plan.		√	√								
D46		(d) a **Construction Heritage Management Plan** 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:		√	√								

			Staging/Relevance										
CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
D46		(d)(i) in relation to Aboriginal Heritage: NSW Government		√	√								
D46		(d)(i)(a). details of management measures to be carried out in relation to Aboriginal heritage;		√	√								
D46		(d)(i)(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 EPA's Aboriginal Heritage Information Management System (AHIMS) register;		√	√								
D46		(d)(i)(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 EPA and/or the NSW Police Force;		√	√								
D46		(d)(i)(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		√	√								
D46		(d)(i)(e). procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and		√	√								
				√	√								
D46		(d)(ii) in relation to non-Aboriginal Heritage:		√	√								
D46		(d)(ii)(a). identification of heritage items directly and indirectly affected by the SSI;		√	√								
D46		(d)(ii)(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);		√	√								
D46		(d)(ii)(c). details of monitoring and reporting requirements for impacts on heritage items;		√	√								
D46		(d)(ii)(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 and NSW Heritage Council, and assessment of the consistency of any new heritage impacts against the approved impacts of the Silane		√	√								
D46		(d)(ii)(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		√	√								
D46		(d)(iii) mechanisms for the monitoring, review and amendment of this plan.		√	√								
D46		(e) a **Construction Flora and Fauna Management Plan** to detail how construction impacts on ecology will be minimised and managed. The Plan shall be prepared by a suitably qualified and experienced ecologist and developed in consultation with the EPA and DPI (Fisheries), and shall include, but not necessarily be limited to:		√	√								
D46		(e)(i) plans for impacted and adjoining areas showing vegetation communities, important flora and fauna habitat areas, locations where threatened species, populations or endangered ecological communities have been recorded; including pre-clearing surveys to confirm the location of any threatened flora and fauna species and associated habitat features;		√	√								
D46		(e)(ii) a protocol for the removal and relocation of fauna during clearing, including provision for engagement of a suitably qualified and experienced ecologist to identify locations where they would be present; to oversee clearing activities and facilitate fauna rescue and re-location; and consideration of timing of vegetation clearing with consideration to the avoidance of clearing native vegetation during the breeding/nesting periods of threatened species, where feasible and reasonable;		√	√								
D46		(e)(iii) details of general work practices and mitigation measures to be implemented during construction and operation to minimise impacts on native terrestrial and aquatic fauna and flora (particularly threatened species and their habitats and endangered ecological communities) not proposed to be cleared as part of the SSI, including, but not necessarily limited to: fencing of sensitive areas; measures for maintaining existing habitat features (such as bush rock and tree branches etc.); seed harvesting and appropriate topsoil management; construction worker education; weed management, erosion and sediment control, including measures to at least maintain habitat values downstream; and progressive re-vegetation;		√	√								

			Staging/Relevance										
CoA Ref	Category	Condition	Utilities	Levee	Other works	Design	Risk	Timing	Responsible Party	Status (open/closed)	Compliance comments	Required action	Schedule 28 Reference Cl 2. c)/ Responsibility
D46		(e)(iv) rehabilitation and revegetation details, including objectives, identification of flora species and sources, measures for the management and maintenance of rehabilitated areas, and timeframes and responsibilities for revegetation and rehabilitation;		√	√								
D46		(e)(v) procedures for monitoring success of regeneration and revegetation, and corrective actions should regeneration or revegetation not conform to the objectives adopted;		√	√								
D46		(e)(vi) weed management measures focusing on early identification, suppression and control of invasive weeds and effective management controls;		√	√								
D46		(e)(vii) a protocol for managing aquatic and terrestrial pest animal/invasive species and plant species, and pathogens;		√	√								
D46		(e)(viii) a procedure for dealing with unexpected endangered ecological communities and threatened species identified during construction, including cessation of work and notification of the EPA and DPI (Fisheries), determination of appropriate mitigation measures in consultation with these agencies (including relevant re-location measures) and updating of ecological monitoring and/or biodiversity offset requirements; and		√	√								
D46		(e)(ix) mechanisms for the monitoring, review and amendment of this plan.		√	√								
D46		(f) a **Construction Flood Management Plan** to detail how construction impacts on hydrology and flooding from works on the flood levee and within the Clarence River and its floodplain will be minimised and managed and that any significant adverse impacts to people and property are avoided. The Plan shall be prepared in consultation with a suitably qualified and experienced hydrologist, EPA, SES and Council, and shall include, but not necessarily be limited to:		√	√	√							
D46		(f)(i) an assessment of the probabilities and consequences of flood damages and personnel safety over the likely construction period including for possible extensions to this period;		√	√								
D46		(f)(ii) details of works and activities, including structures within the Clarence River, which may be impacted by a flood during construction and associated risks;		√	√								
D46		(f)(iii) details of measures to ensure work sites and plant and equipment are secure during flooding events and do not become flood debris or impact on property and the environment;		√	√								
D46		(f)(iv) management measures and procedures that would be implemented prior to a flooding event, including timeframes for securing work sites and moving plant and equipment,		√	√								
D46		(f)(v) consideration of the flood management objectives described in condition D23(b);		√	√								
D46		(f)(vi) monitoring of the work sites during flood events; and		√	√								
D46		(f)(vii) mechanisms for the monitoring, review and amendment of this plan.		√	√								

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levey**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
E1		The SSI shall be designed and operated with the objective of not exceeding the road noise criteria outlined in the NSW Road Noise Policy (Department of Environment, Climate Change and Water, 2011).			√	√	Low	Pre-construction, Operation	Contractor and RMS	Open	This matter will be developed by the construction Contractor in detailed design, in consultation with RMS. There are extensive Environnmental Document requirements in regards to design and operation in regards to noise. The SWTC App 4 includes extensive operational noise requirements and the Operational Noise Management Report. This report has been reviewed by EPA and will be submitted to DPE in the near future.		*(xxxvii) to be responsible for condition E1, to the extent only that RMS is to operate the SSI with the objective of not exceeding the road noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011);*
E2		The Pumping Station at Pound Street shall be designed and operated (including regular maintenance and testing) to not exceed the noise criteria in the NSW Industrial Noise Policy (2000).			√	√	Medium	Pre-construction, construction, operation	Contractor	Open	This is an MCOA and SWTC App 4 (App 4.21) requirement that will be addressed by the construction Contractor in detailed design.Addressed in the detailed design.		
E3		The Proponent shall undertake operational noise monitoring, to compare actual noise performance of the SSI against noise performance predicted in the review of noise mitigation measures required by condition D11 within 12 months of the commencement of operation of the SSI, or as otherwise agreed by the Secretary. The Proponent shall subsequently prepare an Operational Noise Compliance Report to document this monitoring. The Report shall include, but not necessarily be limited to:			√	√	Low	Pre-construction, construction	RMS	Open	Operational noise monitoring will be undertaken within 12 months of the commencement of operation.		
E3		(a) noise monitoring to assess compliance with the operational noise levels predicted in the review of operational noise mitigation measures required under condition D11 and documents listed in condition A2;			√								
E3		(b) a review of the operational noise levels in terms of criteria and noise goals established in the NSW Road Noise Policy 2011;			√								
E3		(c) methodology, location and frequency of noise monitoring undertaken, including monitoring sites at which SSI noise levels are ascertained, with specific reference to locations indicative of impacts on sensitive receivers;			√								
E3		(d) details of any complaints and enquiries received in relation to operational noise generated by the SSI between the date of commencement of operation and the date the report was prepared;			√								
E3		(e) any required recalibrations of the noise model taking into consideration factors such as noise monitoring and actual traffic numbers and proportions;			√								
E3		(f) an assessment of the performance and effectiveness of applied noise mitigation measures together with a review and if necessary, reassessment of feasible and reasonable mitigation measures; and			√								

			Staging/Relevance										
CoA Ref	**Category**	**Condition**	**Utilities**	**Levey**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Compliance comments**	**Required action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
E3		(g) identification of additional feasible and reasonable measures to those identified in the review of noise mitigation measures required by condition D11, that would be implemented with the objective of meeting the criteria outlined in the NSW Road Noise Policy 2011, when these measures would be implemented and how their effectiveness would be measured and reported to the Secretary and the EPA. The Proponent shall provide the Secretary and the EPA with a copy of the Operational Noise Report within 60 days of completing the operational noise monitoring referred to in (a) above or as otherwise agreed by the Secretary.			√								
E4		Prior to the commencement of operation, the Proponent shall incorporate the SSI into existing environmental management systems administered by the Proponent and prepared in accordance with the AS/NZS ISO 14000 or similar Environmental Management System series. If there is an inconsistency between the existing environmental management systems and the conditions of this SSI approval, the requirements of this SSI approval shall prevail.		√	√		Low	Construction, Operation	Contractor and RMS	Open	To be undertaken closer to operation.		*(xxxviii) to be responsible for condition E4., except that the Contractor must provide RMS with all the information, details and data from the Contractor's Work that are required to incorporate the project into the RMS existing environmental management systems;*
E5 E5		Within 18 months of the commencement of operation, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the SSI. This audit shall: (a). be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;					Medium	Operation	RMS	Open	To be undertaken in operation. Sch 41. Future Approvals to be obtained by RMS. "The Secretary of the Department of Planning and Environment's approval required by condition E5. of the Planning Minister's Approvals in respect of the suitably qualified, experienced and independent team of experts to conduct an Independent Environmental Audit of the SSI (as defined in the Planning Minister's Approvals)".		*(xxxix) to be responsible for condition E5;*
E5		(b). include consultation with the relevant agencies and Council;											
E5		(c). assess the environmental performance of the SSI and assess whether it is complying with the requirements in this approval, and any other relevant approvals (including any assessment, plan or program required under these approvals);											
E5		(d). review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and											
E5		(e). recommend measures or actions to improve the environmental performance of the SSI, and/or any strategy, plan or program required under these approvals.											
E5		Note: This audit team shall be led by a suitably qualified auditor, and include experts in noise and vibration, hydrology and any other fields specified by the Secretary.											
E6		Within 90 days of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent shall submit a copy of the audit report to the Secretary and relevant public authorities, together with its response to any recommendations contained in the audit report. Should the Audit identify unsatisfactory compliance with the SSI approval, the Secretary may require an additional Audit to be undertaken at a later date(s).					Low	Operation	RMS	Open	To be undertaken in operation.		*(xl) to be responsible for condition E6; and*
E7		The Proponent shall maintain the SSI in accordance with the documents listed in condition A2 and any strategy, plan, program or other document required by the conditions of this approval.					Low	Operation	RMS	Open	Noted.		*(xli) to be responsible for condition E7; and*

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
General environmental management													
G1	D45	A Construction Environmental Management Plan will be prepared and implemented to ensure appropriate environmental management measures are followed during project delivery. The Construction Environmental Management Plan will provide a framework for environmental management during construction and will: · Outline all environmental management practices and procedures to be followed during construction and demolition works associated with the project · Describe all activities to be undertaken on the site during construction of the project · Detail how the environmental performance of the construction works will be monitored · Detail what corrective actions will be taken to address identified adverse environmental impacts · Describe of the roles and responsibilities for all relevant employees involved in the project · Include relevant sub-plans. The Construction Environmental Management Plan will be developed in accordance with *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004).		√ √ √ √ √ √ √ √	√ √ √ √ √ √ √ √		Medium	Pre-construction	Contractor		CEMP has bee prepared by FHC and submitted to the Secretary for approval. Approval has been received from DPE.		
Consultation													
CO1		Roads and Maritime will consult with:											
	B24	· *Clarence Valley Council on the potential staging of local road network upgrades in Grafton and South Grafton;*		√	√		Medium	Pre-construction, Construction	Contractor		FHC will consult with the Council reagrding staging of local road network upgrades prior to commencement of the works.		
	D23	· *[Clarence Valley Council on] the design and potential staging of flood mitigation works; and*		√	√		High	Pre-construction	RMS		Addressed by RMS / FHC through detailed design in consultation with the Council.		***Updated from Sch App 28*** *(i) (ii)to be responsible for environmental mitigation measure CO1, to the extent only that RMS is to will:* *a. consult with Clarence Valley Council regarding the design and potential staging of flood mitigation works; IC-DC-C91-2 D&C Project Deed Schedules Ed 1/Rev 234, August September 2015 Page 129 ME_122838916_17 (W2003x)3* *b. arrange with Clarence Valley Council the ownership transfer process for Clarence Valley Council's assets and their maintenance following completion of construction by the Contractor; and* *c. arrange with ARTC the ownership transfer process of the railway bridge on Pound Street following completion of construction by the Contractor;*
		· *[Clarence Valley Council on the] project's asset ownership and maintenance*		√	√		Low	Post-construction	RMS		To be undertaken by RMS in consultation with the construction Contractor.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
	Noise- D4,D11,D46(a) (noise mitigation), D29- dust emissions, Water- D46 (c)	· *NSW EPA regarding water, noise and air quality impacts as relevant and require.*		√	√		Medium	Pre-construction Construction	Contractor		Addressed in Appendix A2 of the CEMP.		
	-	· *ARTC on the design, construction and ownership transfer of the railway bridge on Pound Street.*		√	√		High	Pre-construction, Construction, Operation	Contractor and RMS		Is being addresses by FHC through detailed design.		*(ii) to be responsible for environmental mitigation measure CO1, to the extent only that RMS is to arrange with ARTC the ownership transfer process of the railway bridge on Pound Street following completion of construction by the Contractor;*
Traffic and transport													
TT1	-	The provision of permanent aids to navigation on the bridge will be investigated as part of detailed design.			√	√	Medium	Pre-construction	Contractor		Is being addresses by FHC through detailed design.		
TT2	-	Roads and Maritime will conduct a project road safety audit as part of detailed design to identify and address potential safety issues associated with the operation of the project			√		Medium	Pre-construction	Contractor				
TT3	-	If more detailed information regarding future demand becomes available during detailed design of the project, Roads and Maritime will assess the suitability of incorporating the revised projections.			√	√	Medium	Pre-construction	RMS		As far as aware, no detailed information regarding future demand has become available at this stage.		*RMS to be responsible for environmental management measure TT3.*
TT4	-	Access to bus stops will be maintained during construction *or suitable alternatives will be identified* in consultation with the bus operators where feasible and reasonable.			√	√	Low	Construction	Contractor		Addressed in the CTAMP.		
TT5	D46(b)	Construction traffic management measures will be developed and identified as part of the construction environmental management plan. The plan will: · Detail how the traffic associated with construction activities will be managed in accordance with the relevant standards, including *Traffic Control at Work Sites* (Roads and Maritime, 2010), AS1742 and Roads and Maritime Specification G10 · Confirm haulage routes between material source sites and ancillary site / flood levee stockpile access locations · Quantify the impacts on level of service during critical construction periods and demonstrate how the mitigation measures proposed will enable acceptable traffic operations and level of service on the road network during construction · Identify how the continuous, safe and efficient movement of traffic for both the public and construction workers will be maintained · Identify site-specific traffic control measures (including signage) to be provided to manage and regulate traffic movements at relevant locations during construction · Identify access arrangements at both construction sites and quarry sites, detailing vehicle ingress / egress movements · Include requirements and methods to consult and inform the local community of impacts on the local road network and traffic		√ √ √ √ √ √ √	√ √ √ √ √ √ √		High	Pre-construction	Contractor	High	Addressed in the CTAMP.		

				Staging/Relevance									
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Describe impacts on all transport modes, identifying appropriate mitigation measures in accordance with the relevant guidelines and in consultation with relevant parties (i.e. bus and rail operators). · Consider other developments and projects that may also be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic.		√ √	√ √								
TT6	D46 (b)	Construction deliveries will be timed to occur outside peak traffic periods when feasible and reasonable, to minimise impacts on road network. Where feasible and reasonable, machinery and materials to be delivered over long distances will be transported to Grafton by rail and hauled to site by road transport. Consultation will be initiated with the appropriate rail operators / owners to explore this opportunity at the appropriate design stage. Emergency services will be notified in advance of changes to traffic conditions (e.g. partial or total road closures).		√ √ √	√ √		Medium	Construction	Contractor		Addressed in the CTAMP.		
TT7	D17	Local roads used for construction access will be repaired where required and maintained in serviceable condition.		√	√		Medium	Pre-construction, Construction	Contractor		Addressed in the CTAMP and road condition reports.		
TT8	-	Roads and Maritime will coordinate the placement of the new Pound Street bridge with ARTC to ensure the North Coast Line possession coincides with other works required along the line. In addition, North Coast Line users (passengers and freight operators) will be notified of impending changes to minimise impacts on them.			√	√	High	Pre-construction, Construction	Contractor		Addressed in Community Communication Strategy.		
TT9	-	Exclusion zones around critical areas of construction activities and floating construction plant will be clearly marked in accordance with Roads and Maritime advice and requirements.	√	√	√		Medium	Construction	Contractor		Addressed in the CTAMP. Also being addressed in identification of heritage sites such as Induna.		
TT10	-	Commercial fishing licence holders on the Clarence River at Grafton will be consulted during construction to minimise impacts and address any access issues in and around the construction site.			√		High	Construction	Contractor		Marine notices are publicly availalble on the NSW maritme website. Commerical fishers will not be affected by the construction exclusion zone		
TT11	-	A proclaimed Marine Notice will be issued through Roads and Maritime alerting river users of ongoing construction activities.			√		Medium	Construction	Contractor		Marine notices are publicly availalble on the NSW maritme website. Marine notices are also displayed on local signage at boat ramps and on local information boards		
TT12	D46(b)(vii)	Temporary aids to navigation will be provided where feasible and reasonable and in accordance with Roads and Maritime advice and requirements (such as lighted buoys to mark exclusion zones).			√		Medium	Construction	Contractor		Addressed in the CTAMP.		
TT13	C1	Early and ongoing liaison with local marine events organisers (including Grafton Rowing Club, Grafton River Sailing Club and the Grafton Bridge to Bridge Waterski Race organiser) will be carried out to ensure the viability of these annual events and general activities organised by the clubs.		√	√		Medium	Pre-construction, Construction	Contractor		Addressed in the CTAMP.		
TT14	D46(b)(vii)	A construction navigation management plan will be prepared and implemented to set out river procedures and impact reduction measures to be adopted during construction.			√		Medium	Pre-construction	Contractor		Addressed in the CTAMP.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
TT15	D16	*Roads and Maritime will investigate opportunities to provide a comparable level of parking on Clarence Street between Pound Street and the railway viaduct in consultation with local business owners.*			√	√	High	Pre-construction	Contractor		Is being addressed by FHC thorugh detailed design. Parking has been maximised in the design and is comparable to the existing amount of parking. Parking has been established on the corner of Pound and Clarence St.		
Flooding and hydrology													
FH1	D46(f)	Flood monitoring and response measures will be included as part of the construction environmental management plan. These measures will include protocols to monitor the forecast of large rainfall and flood events in the project area and protocols to minimise the risk of damage to infrastructure and equipment during a large flood or rainfall event and will include but not limited to: · Methods of monitoring rising water and where possible notification from upstream · A register of all materials stored in work areas within the banks of the Clarence River and within the levee system · Methods and responsibilities for removal of all materials safely from work areas during a flood event · Notification and consultation with relevant stakeholders.		√ √ √ √ √	√ √ √ √ √		High	Pre-construction	Contractor		Addressed in the Construction Flood Management Plan.		
FH2	-	NSW State Emergency Services will be notified of any partial or total road closures during construction	√	√	√		High	*Construction*	Contractor		Addressed in the CTAMP and Community Communication Strategy.		
FH3	D23 D24 D25	Roads and Maritime will consult with affected landowners during detailed design and construction regarding flooding impacts on properties, residences and other structures.		√ √ √ √	√ √ √ √	√	High	Pre-construction, Construction	RMS and Contractor		Active consultation is underway in regards to levee design.Understand RMS handles to 85 % design, Contractor thereafter.		
FH4	D22 D23	Detailed flood modelling will be carried out to further refine the levee raising mitigation measures proposed for the project and to *further* consider the need to raise any houses not protected by the existing levee which would be affected by increased flood levels within the river. As part of this modelling, floor level surveys will be carried out on properties identified as potentially affected by residual impact from the project.		√ √	√ √	√	High	Pre-construction	Contractor and RMS		WBM are undertaking the flood modelling for RMS. The modelling includes MCoA D 22 a), b) and c) requirements. WBM undertake flood modelling for Clarence process so it is beneficial that the same consultant is used in relation to RMS Grafton Bridge works. Flood modelling is addressed in SWTC App 4 Section 4.16. WMA are the appointed RMS KBR have prepared the Hydrological Mitigation report. (a) potentially affected properties have been identified. Floor level surveys are in progress. One shed is proposed for floor level raising.		*(iii) to be responsible for environmental management measure FH4 to the extent only that RMS is to:* *a. carry out detailed flood modelling and floor level surveys based on the RMS Concept Design; and* *b. provide the Contractor with any relevant information and data that it has in its possession, including RMS Flood Data.*
FH5	D23 D24, D25	Property-specific flood risk will be assessed for each property identified as being affected by residual impact from the project, based on the results of the floor level survey. Flood mitigation options will be developed and implemented in consultation with property owners and Clarence Valley Council.		√ √	√ √	√	High	Pre-construction, Construction	Contractor and RMS		This is currently underway by RMS. Implementation will be undertaken by the construction Contractor. The Hydrological Mitigation Report indicates impacts and mitigation options.		*(iv) to be responsible for environmental management measure FH5, to the extent only that RMS will assess the flood risk for each property and prepare the final schedule of flood mitigation measures;*

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
FH6	-	Flood mitigation works will be staged to ensure no worsening of the existing flood regimes during construction.		√	√	√	High	Pre-construction, Construction	Contractor		D23 and D26 which require the flood mitigation works to be complete prior to in-river works. FHC will stage flood works to minimise the impacts on exisiting flood regimes during construction. DPE has approved decoupling of waterway and levee works, refer RMS and DPE correspondence.		
Climate change and sea level rise													
CC1	-	Bridge approach embankments will be investigated in detailed design to take into account sea level rise and severity of storms and flooding resulting from climate change.			√ √ √ √	√	Medium	Pre-construction	Contractor		Currently being addressed through detailed design.		
	B8	The proposed pump station in Grafton will be equipped with redundant power supply capacity.			√	√	Low	Pre-construction	Contractor		Currently being addressed through detailed design.		
	-	Adopted design flood levels will include an appropriate allowance for increased rainfall intensities due to climate change in accordance with the *NSW Floodplain Risk Management Guideline – Practical Considerations of Climate Change (DECCW, 2007)* .		√	√	√	High	Pre-construction	Contractor		Currently being addressed through detailed design.		
CC2	-	Regular inspections of project elements will be carried out for early identification of potential issues relating to embankments and ground conditions. Operational procedures will be in place for the regular and timely removal of debris and falling trees and branches.		√ √	√ √		Medium	Construction	Contractor		Addressed in Appendix A8 of the CEMP.		
Noise and vibration													
NV1	-	The redeveloped section of rail should be equal to or better than the existing viaduct in terms of noise impact, with no additional noise impact introduced into the system via expansion joints or similar.			√	√	Medium	Pre-construction	Contractor		Addressed in detailed design and Operational Noise Report.		
NV2	E2	The pump station and pump station building will be designed to achieve the industrial noise emission criteria outlined in Table 8-33 of the EIS.			√	√	Medium	Pre-construction	Contractor		Addressed in detailed design.		
NV3	-	Noise walls developed for the project would be designed in accordance with the *Noise wall design guideline* (Roads and Maritime, 2006).			√	√	Medium	Pre-construction	Contractor		Addressed in detailed design.		
NV4	D46(a)	The appointed construction contractor will be required to prepare a detailed Construction Noise and Vibration Management Plan (CNVMP). This plan will include but not limited to the following: · Roles and responsibilities · Noise-sensitive receiver locations · Predicted impacts · Mitigation strategy · Monitoring methodology · Community engagement strategy.		√ √ √ √ √ √ √	√ √ √ √ √ √ √		Medium	Pre-construction	Contractor		Addressed in approved CNVMP.		
NV5	-	Workers and contractors will be inducted and trained (such as through toolbox talks) in the use of equipment in ways that minimise noise.	√	√	√		Medium	Pre-construction, Construction	Contractor		Addressed in CNVMP.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
NV6		Site managers will periodically check the site and nearby residences for noise problems so that solutions can be quickly applied, where required.	√	√	√		Medium	Pre-construction, Construction	Contractor		Addressed in CNVMP.		
NV7	D2, D5, D6	Construction work will be undertaken in accordance with the approved construction hours as outlined in Section 6.4 of the EIS.	√	√	√		Low	Construction	Contractor		Addressed in CNVMP.		
NV8	D3 D4	Noise from construction work that might be carried out outside the recommended standard hours will follow Section 2.3 of the *Interim Construction Noise Guidelines* (DECC, 2009) where feasible and reasonable.	√ √	√ √	√ √		Medium	Construction	Contractor		Addressed in CNVMP.		
NV9	-	The location of stationary plant (such as air-compressors and generators) will be located as far away as feasible and reasonable from sensitive receivers.	√	√	√	√	Low	Construction	Contractor		Addressed in CNVMP.		
NV10	-	Natural screening by topography and vegetation will be used wherever possible to reduce noise impacts.	√	√	√	√	Medium	Construction	Contractor		Addressed in CNVMP.		
NV11	D46(a) - general	Site sheds, other temporary structures or screens will be used to limit noise exposure where feasible and reasonable.	√	√	√	√	Medium	Construction	Contractor		Addressed in CNVMP.		
NV12	D46(a) - general	Low noise construction equipment and/or methods will be preferred, where feasible and reasonable.	√	√	√	√	Medium	Construction	Contractor		Addressed in CNVMP.		
NV13	-	Compliance with the Transport for New South Wales *Construction Noise Strategy* which summarises the maximum allowable noise levels for construction equipment to be applied to the project.	√	√	√		Medium	Construction	Contractor		Addressed in CNVMP.		
NV14	-	Construction programming should aim to reduce noise impacts and minimise noisy activities occurring concurrently as far as feasible and reasonable.	√	√	√		Low	Pre-construction, Construction	Contractor		Addressed in CNVMP. Noise was well managed during the Out of Hours fig tree removal works.		
NV15	C1	The Draft Community Consultation Strategy prepared for the project outlines methods for consultation with the community during construction which are to be followed, including, but not limited to: · Advance notification of planned activities and expected disruption/effects	√ √	√ √	√ √		Low	Construction	Contractor		Addressed in the Community Communication Strategy and CNVMP.		
	C2, C3	· Construction noise complaints handling procedure	√	√	√		Low	Construction	Contractor				
	D46(a)	· Effective monitoring of noise levels in and around potentially affected dwellings.	√	√	√		Medium	Construction	Contractor				
NV16	D9	Alternative piling methodologies will be investigated to reduce potential impacts from these activities.			√	√	Medium	Construction	Contractor		Addressed in CNVMP.		
NV17	D3 D46(a)	Limit construction vibration impacts on sensitive receivers.	√	√	√		Medium	Construction	Contractor		Addressed in CNVMP.		
NV18	D12	Operational noise barriers will be installed as early as possible to provide ongoing screening from construction activities, where feasible and reasonable.			√	√	Medium	Construction	Contractor		Addressed in CNVMP and operational noise report.		
NV19	D7	Noise architectural treatments at affected properties will be developed and implemented in consultation with property owners.			√	√	High	Pre-construction	RMS, note Schedule 28		RMS is managing at residence noise treatment. This will be undertaken after rechecking the noise model and progression of consultation with affected residences.		*(v) to be responsible for environmental management measure NV19, to the extent only that RMS will develop and implement at residence noise architectural treatments to the affected properties identified in section 9.9 of Appendix 9 to the SWTC;*

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
NV20	E3	No later than one year after commencement of operation of the project, Roads and Maritime will undertake operational noise monitoring to compare the actual noise performance of the project against predicted noise performance. The report will include, but not necessarily be limited to: · Noise monitoring to assess compliance with operational noise levels predicted · A review of the operational noise levels in terms of criteria and noise goals · Methodology, location and frequency of noise monitoring undertaken · Details of any complaints and enquiries received in relation to operational noise · Any required recalibrations of the noise model · An assessment of the performance and effectiveness of applied noise mitigation measures · Any additional feasible and reasonable measures required.					Low	Operation	RMS.		Understand RMS is undertaking monitoring in operation.There are specific requirements in regards to operational noise in the Environment Documents and SWTC App 4.21. The Contractor is required to undertake modelling to predict the 2019 and 2029 noise contours.		
Non-Aboriginal heritage													
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. 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. The heritage interpretation plan will be developed in consultation with Clarence Valley Council and relevant stakeholders.					Low	Pre-construction	Contractor		Incorporation of the concepts for the Heritage Interpretation Plan Strategy have been included into the landscape design plan		
NH2	D42	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.			√	√	Medium	Pre-construction	Contractor		Will be included in the UDLP which is currently being prepared by FHC. Understand the urban designer is aware of this requirement. There are large opportunities in regards to heritage interpretation in Grafton and South Grafton.		
NH3	B13	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.			√	√	Medium	Pre-construction, Construction	RMS		RMS responsible for at residence noise treatments. Biopsies have been appointed to assist in regards to this measure. Understand the urban designer is aware of this requirement.		
NH4	B13 B23 D46(d)	A construction heritage management plan (CHMP) will be prepared as part of the construction environmental management plan for the project. The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The CHMP will include: · Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the Project · Details of management measures for the project · Procedures for dealing with previously unidentified finds · Heritage training and induction processes for construction personnel		√ √ √ √ √ √ √	√ √ √ √ √ √ √		High	Pre-construction	Contractor		CHMP has been prepared and submitted to the Secretary for approval and approved by		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Procedures for ongoing Aboriginal consultation and involvement for the duration of the project. · *The CHMP will be provided to the Heritage Council of NSW for comment prior to finalisation.*		√ √	√ √								
NH5	B20, B23, D46(d)	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.		√	√	√	Medium	Construction	Contractor		Addressed in the CHMP and applicable EWMS's.		
NH6	B14	Archival recording will be prepared for the following heritage items:		√	√		Low	Pre-construction	Contractor and RMS		Archival recording by RMS heritage consultants Biosis has been completed for MCoA conditions.		*(vi) to be responsible for condition environmental management measure NH6, to the extent only that environmental management measure NH6.applies before impacts occur;*
		CZB10, CZB11, CZB13, CZB16, CZB17, CZB18, CZB19, CZB20 & CZB21, CZB24, CZB25, CZB26, CZB27, CZB28, CZB29, CZB30, CZB31, CZB32, CZB33, CZB34, CZB35, CZB36 and CZB37.		√	√								
	B15	Archival recording will also be carried out for portions of Pound Street within the Grafton Conservation Area (C3).		√	√								
		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 *How to Prepare Archival Records for Heritage Items* and *Photographic Recording of Heritage Items Using Film or Digital Capture* (Heritage Office 2001, revised 2004, 2006).		√	√								
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.			√		Low	Construction	Contractor		FHC will relocate in the second reporting and reinstate this on the new section of viaduct at Pound Street.		
NH8	B18	No-go areas will be established around three heritage items:		√	√	√	Low	Pre-construction	Contractor		The project is using signage and fencing to exclude areas of hertiage importance. This strategy is working to good affect		
		· CZB07 (Fisher's Drain) · FMW29 (*SS Induna* shipwreck) · FMW34 (Water Trough, Lane Park).		√ √ √	√ √ √								
		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.		√	√								
		For FMW29, *SS Induna* , 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 *SS Induna.* A maritime exclusion area (to be in accordance with Maritime and navigational requirements) will be placed 15 metres from the shipwreck to remind workboats to not enter this area.		√	√								
		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.		√	√								

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
NH9	B17, D46(d)	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.		√ √ √ √ √	√ √ √ √ √		High	Pre-construction	Contractor and RMS		Addressed in Annexure B of the CHMP. Biosis are assisting the project team progress levee construction.		*(vii) to be responsible for environmental management measure NH9, to the extent only that RMS is responsible for archaeological surveys during any investigations undertaken by RMS on the flood levees;*
NH10	D46(d)	If unexpected non-Aboriginal heritage items or skeletal remains are encountered, the *Roads and Maritime Services Standard Management Procedure for Unexpected Archaeological Finds* (2012) will be implemented.	√	√	√		Medium	Construction	Contractor		Addressed in Annexure A of the CHMP.		
NH11	-	Investigate design refinement opportunities to avoid direct impact on the turntable site located in railway land in South Grafton.			√	√	Low	Pre-construction	Contractor		This is being addressed in detailed design. Direct impact on the Rail turntable has been achieved in the detail design. Further to this, the rail turntable may be rehabilitated as a heritage item and featured in the shared user path (subject to further consultation with ARTC and TfNSW)		
Aboriginal heritage													
AH1	B13	Detailed design and construction stages will avoid further encroachment towards the Golden Eel dreaming site.	√	√	√		Medium	Pre-construction, construction	Contractor		Addressed in the CHMP.This is a very sensitive issue to the Aboriginal community.		
AH2	D46(d)	The Aboriginal community will continue to be consulted as an identified group within the overall community consultation strategy for the project.		√	√		Medium	Pre-construction, Construction	Contractor		Addressed in the CHMP.A further meeting involving RMS and Fulton Hogan has occurred on 28 June 2016 and another is planned on 21 July 2016. There have been ongoing meetings with Fulton Hogan.		
AH3	-	An interpretive strategy 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.					Low	Pre-construction	Contractor		Interpretative signage will be developed in consultation with Ngerrie. This will be discussed at an LALC meeting on 23 May 2017 and progressed	To continue progressing this.	

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
AH4	D46(d)	A construction heritage management plan (CHMP) will be prepared as part of the construction environmental management plan for the project. The CHMP will detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The CHMP will include: · Details of Aboriginal and non-Aboriginal cultural heritage sites within and adjacent to the project · Details of management measures for the project · Procedures for dealing with previously unidentified finds · Heritage training and induction processes for construction personnel · Procedures for ongoing Aboriginal consultation and involvement for the duration of the project.	 √ √	 √ √ √ √ √ √	 √ √ √ √ √ √		High	Pre-construction	Contractor		CHMP has been prepared and submitted to the Secretary for approval, plan approved by DPE. Addressed in the CHMP.		
AH5	D45(b), D46(d)	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.		√	√		Medium	Pre-construction, Construction	Contractor		Addressed in the CHMP. A Aboriginal heritage video has been prepared by Mark Flanders and used in inductions. RMS understands a copy of this video was viewed by Ngerrie LALC.		
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 during construction.	√	√	√		Medium	Construction	Contractor		Addressed in the CHMP.		
AH7	-	In the event that unexpected Aboriginal cultural material or skeletal remains are encountered, the *Standard Management Procedure for Unexpected Archaeological Finds* (Roads and Maritime, 2012) will be implemented.	√	√	√		Medium	Construction	Contractor		Addressed in Annexure A of the CHMP.		
Socio-economic, property and land use													
SE1	B25	Roads and Maritime will prepare an excess land strategy during detailed design and would investigate opportunities to return available regionally significant farmland, following completion of the project.				√	Low	Pre-construction, construction and operation	RMS		Very little of the project is farmland/ would be returned to farmland.		*(viii) to be responsible for environmental management measure SE1;*
SE2	-	Roads and Maritime will communicate in a timely way with the tenants of Basmar Hall regarding its closure, to maximise the opportunity for tenants to find alternative space.			√		Low	Pre-construction	Contractor		Understand the owners can use the hall for as long as possible. Completion of purchase is expected on 10 October 2016. Property now owned by RMS.		
SE3	C1	Roads and Maritime will consult with the owners of the moorings during the detailed design stage and before construction.			√	√	Low	Pre-construction	Contractor		Being addressed through detailed design.		
SE4	-	Roads and Maritime will: · Continue ongoing timely communication with affected residents on project timing and acquisition processes · Deal in an efficient and empathetic manner with residents who seek acquisition on hardship grounds · Provide compensation in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* and Roads and Maritime policies.		√ √ √ √	√ √ √ √		Medium	Pre-construction	RMS		Property purchase has been undertaken under Just Terms legislation.		*(ix) to be responsible for environmental management measure SE4;*
SE5	D42, D46(e)	Roads and Maritime and the construction contractor will minimise impacts, where feasible and reasonable, on existing character trees, including figs and jacarandas. Visual impacts and mitigation measures are outlined in Section 8.8 of the EIS.		√ √	√ √	√	Medium	Pre-construction, Construction	Contractor		Being addressed through detailed design and in the Urban Design and Landscaping Plan and landscape drawings.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
SE6	C1	Roads and Maritime will prepare and implement a community consultation strategy to fully inform the community of works during the construction process. The Strategy will be implemented by the construction contractor. A draft of this strategy is presented in Appendix C of the EIS. The mitigation measures below will be incorporated into the strategy.		√ √	√ √		Medium	Pre-construction, Construction Prior to pre-construction	Contractor		Addressed in the Community Communication Strategy.		
SE7	-	Roads and Maritime and the construction contractor will continue to liaise with Grafton TAFE Campus and the Gummyaney Aboriginal pre-school to minimise impacts on access and operations.	√		√	√	Medium	Pre-construction, Construction	Contractor		Addressed in the Community Communication Strategy and CTAMP. Land take at the TAFE was avoided. Regular consultation with TAFE and protocols in place to ensure adequate notice provided on impacts.		
SE8	C1	Roads and Maritime will consult with Clarence River Sailing Club and other Clarence River event organisers regarding the need to make alternative access arrangements during construction.		√	√		Low	Construction	Contractor		Addressed in the Community Communication Strategy and CTAMP.		
SE9	C1 D4, D46(a)	Roads and Maritime and the construction contractor will maintain ongoing and timely communication with nearby residents regarding construction work. This will include notice on timing and duration of activities and potential localised impacts. The community and business will be notified of any construction activities outside standard construction working hours. Management measures to reduce construction noise impacts would be required and would be implemented as identified in Section 8.4 of the EIS.	√ √ √	√ √ √	√ √ √		Medium	Construction	Contractor		Addressed in the Community Communication Strategy and CTAMP/ CNVMP.		
SE10	D16-parking impacted by construction	Roads and Maritime and the construction contractor will maintain ongoing timely communication with affected businesses on project timing, changes to traffic conditions and access arrangements.	√	√	√		Low	Construction	Contractor		Addressed in the Community Communication Strategy and CTAMP.		
SE11	D14 D46(b)	The construction contractor will: · Maintain access to existing bridge pedestrian links · Maintain access for river users, including the Clarence River Sailing Club, and provide appropriate safety and maritime directional and safety signage on structures in the river · Maintain communications with police and emergency services in relation to changed access arrangements and traffic management plans.		√ √ √ √	√ √ √ √	√	Medium	Construction	Contractor		Addressed in the CTAMP.		
SE12	D13, D16, D46(b)	The construction contractor will maintain access to affected businesses at South Grafton and Grafton and provide directional signage.			√	√	Medium	Construction,	Contractor		Addressed in the CTAMP.		
SE13	D46(b)	Roads and Maritime will develop construction traffic management measures as part of the construction environmental management plan. The measures will detail access arrangements for residents close to the ancillary sites and construction work zones including residents along Greaves Street and Bridge Street. Mitigation measures are outlined in Section 8.1 of the EIS to enable acceptable traffic operations and level of service on the road network during construction.		√ √	√ √		High	Pre-construction	Contractor		Addressed in the CTAMP.		
SE14	-	Roads and Maritime will maintain access to the Clarence River Visitor Information Centre and other businesses along Spring and Charles streets in South Grafton by providing directional signage in accordance with relevant Roads and Maritime and Government guidelines.			√	√	Medium	Construction	Contractor		Addressed in the CTAMP.		
Visual amenity, built form and urban design													
V1	D42	Detailed design will investigate opportunities to:			√	√	Medium	Pre-construction	Contractor		Being addressed by FHC through detailed design		

				Staging/Relevance									
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Refine car parking arrangements on the southern side of Pound Street			√						Being addressed by FHC through detailed design		
		· Adjust the kerb line along Pound Street between Clarence Street and Villiers Street. This would enable extra tree planting on both sides of the street and the removal of proposed parallel parking on the southern side. This would improve the visual and pedestrian amenity, reduce the scale of the street and reduce the encroachment of works in TAFE land			√						Encroachment into TAFE has been avoided. Visual amenity has been provided for.		
		· Reduce the batter steepness around the water detention basin to avoid the need for fencing			√						Completed in design.		
		· Reduce the construction boundary to reduce impacts on Pound Street and Greaves Street			√						Not achievable to reduce the boundary, however two houses have been retained and also areas of vegetation retained.		
		· Refine the drainage detention basin design in Grafton to minimise its visual impact			√						Effective measures being undertaken.		
		· *Incorporate Crime Prevention Through Environmental Design principles into the project where required.*			√								
V2	D42	During detailed design, the pier designs will be developed to further reinforce the complementary relationship between the proposed bridge piers and the piers on the existing bridge. In particular, the option of tapering the piers at their long elevation will be considered.			√	√	High	Pre-construction	Contractor		Being addressed by FHC through detailed design. Piers are similar in appearance to the existing piers and taper in their long elevation.		
		In addition, opportunities will be considered to further streamline the appearance of the bridge, including:			√								
		· Aligning the edges of the piers with the outside faces of the girders			√						The detailed design shows the edges of piers are aligned with the outside face of the box girder		
		· Investigating monolithic construction as an alternative to the current pier design			√						The detailed design shows monolithic construction of the piers and superstructure for the river piers		
		· Ensure the proposed bridge soffit appears as a series of continuous curves with a segmented appearance to be avoided			√						The detailed design shows the soffit as a series of continuous curves.		
		· *Incorporate Crime Prevention Through Environmental Design principles into the project where required.*			√								
V3	D42	Detailed design will consider:			√	√	Medium	Pre-construction	Contractor		Being addressed by FHC through detailed design		
		· Flattening the fill embankments to the bridge approach road to better integrate it with the surrounding flat rural landscape			√								
		· Opportunities to enhance the location's role as the southern arrival point to South Grafton and Grafton			√								
		· Incorporating safe and efficient bicycle access on the Iolanthe Street / Pacific Highway / Through Street roundabout and the Gwydir Highway / Pacific Highway roundabout to allow a connection to the regional Coastline Cycleway route on the Pacific Highway			√								
		· *Incorporate Crime Prevention Through Environmental Design principles into the project where required.*			√								
V4	-	Consideration should be given to undertaking an arborist assessment to inform the design development and optimum levee alignment.		√	√	√	Low	Pre-construction	Contractor and RMS		Are trying avoid trees where possible, noting significant reduction in clearing that have been achieved. Where required, an arborist would be utilised. An arborist has been used to minimise impacts on a number of trees on the levee.		*(x) to be responsible for environmental management measure V4, to the extent only that RMS is responsible for consultation with the infrastructure owners during detailed design, and to the to the extent this measure relates to the design of the levee raising.*

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		Where the levee has existing structures (e.g. a building) a specific levee raising design will be required. Where feasible and reasonable, the design will: · Investigate opportunities to avoid changes to the existing structure (e.g. minor realignment of the levee crest) · Keep changes to the existing structure to a minimum · Identify a construction method that will keep the structure operational while construction work is being carried out (subject to safety considerations). Roads and Maritime will consult with the infrastructure owners during detailed design.		√ √ √ √	√ √ √						Being addressed by FHC through detailed design		
	D46(d)	For heritage listed items, the design will seek to avoid or minimise the need to modify the structure and investigate non-intrusive options to achieve the required levee level. Levee raising materials and finishes will be sympathetic to minimise impact on the significance of the heritage item.		√	√	√	High	Pre-construction	Contractor and RMS		Being addressed by FHC through detailed design of the project. Levee works have been designed to address this measure. Innovative measures have been used to avoid impacts to the unexpected cesspit in the Grafton levees. Has been adopted to minimise impacts on a cesspit on the levee works.		
V5	-	Detailed design and documentation drawings will define the extent of all construction activity, including temporary work, to protect the area during construction.	√	√	√	√	Medium	Pre-construction	Contractor		Construction drawings show the extent of works within the approved boundaries		
	-	Construction facilities will be contained within the construction work zone and occupy the minimum area practicable for the intended use.	√	√	√		Low	Construction	Contractor		Ancillary facilities were included in the EIS. Any additional proposed sites would need to be assessed against ancillary criteria and approved by RMS/ ER where authorised.		
	-	Suitable barriers will be erected to screen views from nearby areas.	√	√	√		Low	Construction	Contractor		Has been addressed in the CNVMP.		
	D39	Work sites will be returned to at least their pre-construction state once work is complete, or progressively reinstated throughout the construction process, where possible.	√	√	√		Low	Construction	Contractor		To be finalised as sites are planned for decommissioning.		
	D19	Pollution and dust emissions will be minimised and monitored throughout the construction period (refer to Section 8.12).	√	√	√		Medium	Construction	Contractor		Addressed in Construction Air Quality MP(CAQMP).		
	D14	Footpaths affected by construction activities will be diverted or re-routed.	√	√	√		Medium	Construction	Contractor		Addressed in detailed design.		
	D46(e)	Trees to be retained within construction facilities areas will be identified, protected and maintained.	√	√	√		Medium	Construction	Contractor		This is being done by flagging. A considerable number of trees have been saved on the levee works and mainline works.		
	-	Temporary lighting will be screened or diverted to reduce unnecessary light spill.	√	√	√		Low	Construction	Contractor		The project is not currently using temporary lighting		
	-	Material used for temporary land reclamation will be removed once construction is complete.	√	√	√		Medium	Construction	Contractor		No temporary land reclamation.		
Biodiversity													
B1	B1	Disturbance and clearing of native vegetation will be minimised, particularly avoiding and minimising vegetation removal wherever possible through the detailed design process. Detailed design will investigate opportunities to retain the two hollow bearing and five habitat trees identified within the project area.		√	√	√	Medium	Pre-construction, Construction	Contractor		Addressd in the CFFMP.A considerable number of trees have been saved on the levee works and mainline works.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
	D46(e)	A revegetation management sub-plan will be developed as part of the flora and fauna management plan to revegetate with species suitable for the creation of hollows and foraging resources. Strategies to compensate for the loss of hollow bearing/habitat trees will focus on revegetation and rehabilitation activities along riparian and adjoining areas.		√	√						Addressd in the CFFMP.		
B2	D46(e)	As part of the flora and fauna management plan, a revegetation management sub-plan will be developed to provide specific details for the re-establishment of native vegetation on areas disturbed by the project construction. This plan will be developed in accordance with *Roads and Maritime Biodiversity Guidelines* (RTA, 2011) and the design principles identified in *Appendix L, Technical Paper: Flora and Fauna Assessment* of the EIS. It will also include details for the regeneration and rehabilitation of areas with a focus on riparian areas within the project area with reference to Guide 3, Guide 6 and Guide 10 of the *Roads and Maritime Biodiversity Guidelines* . The plan will include objectives to incorporate local native species across all revegetation and landscaping efforts along the Clarence River and in the adjoining project area. This will include species consistent with freshwater wetlands on coastal floodplain and sub-tropical coastal floodplain forest threatened ecological communities species composition, which could potentially provide foraging resources and roosting to threatened fauna species, and increase corridors and connectivity throughout the landscape. *This plan will be developed in consultation with OEH.*		√ √ √	√ √ √		High	Pre-construction	Contractor		OEH would be EPA. Addressed in the CFFMP.		
B3	-	During detailed design, the project design team will comply with the *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013) in relation to requirements for maintaining fish passage via the design and construction of instream structures.		√	√	√	Low	Pre-construction	Contractor		Is being addressed through detailed design.		
B4	D46(e)	A flora and fauna management plan (FFMP) will be prepared as part of the construction environmental management plan before construction in accordance with *Biodiversity Guidelines – Protecting and Managing Biodiversity on RTA Projects* (Roads and Maritime, 2011). The FFMP will detail how impacts on biodiversity will be minimised and managed during construction and operation and will incorporate specific management measures identified in the EIS. Measures outlined in this table will be addressed within the flora and fauna management plan, including timeframes for implementation and monitoring to be developed post-EIS and project approval.		√ √ √	√ √ √		High	Pre-construction	Contractor		CFFMP has been prepared and submitted to the Secretary for approval. This plan was approved by DPE.		
B5	D46(e) B2	To minimise the impacts of vegetation clearing and habitat loss the following specific measures will be implemented: · Clearing of vegetation will be carried out in accordance with *Guide 1 Pre-clearing Process of Biodiversity Guidelines* (RTA, 2011). These guidelines cover the felling of both non-habitat and habitat trees and the rescue and relocation of fauna · The pre-clearing process will be consistent with *Guide 2 Exclusion zones of Biodiversity Guidelines* (RTA, 2011) and include: pre-clearing surveys by an experienced/qualified ecologist and mapping and delineating the boundaries of threatened flora and/or fauna species, threatened ecological communities and/or suitable habitat (hollow bearing/habitat trees) · Pre-clearance surveys to include surveys for Hairy-joint Grass during flowering period (between summer and autumn) within final impact areas	√ √ √ √	√ √ √ √	√ √ √ √	√	High	Construction	Contractor		Addressed in the CFFMP. Addressed in the CFFMP. Ecosure are the project ecologists.		

			Staging/Relevance									
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Pre-clearing surveys to be carried out for the Three-toed Snake-tooth Skink, in suitable areas, not yet surveyed (ancillary sites, especially in North Grafton where houses are to be demolished) before demolition and construction works during late spring and early summer in accordance with the relevant guidelines (DSEWPaC,2011; DEC, 2004 and TSSC, 2008)	√	√	√								
		· Construction traffic will be restricted to defined access tracks and construction works zone areas	√	√	√								
		· The location of exclusion zones will be identified, with temporary fencing or flagging tape to indicate the limits of clearing (in accordance with the Roads and Maritime Biodiversity Guidelines (RTA, 2011))	√	√	√								
		· All relevant staff will be inducted and informed of the limits of vegetation clearing and the areas of vegetation to be retained.	√	√	√								
B6	D46(e)	· Weeds will be controlled in accordance with RTA (2011a) – *Biodiversity Guidelines Guide 6: Weed Management*	√	√	√		Medium	Construction	Contractor		Addressed in the CFFMP. One weed Castor oil plant has been cut, poisoned and stockpiled seperately in both Grafton and South Grafton.		
		· Declared noxious weeds will be managed in accordance with the requirements of the Noxious Weeds Act 1993	√	√	√								
		· Weed infested topsoil will be appropriately stockpiled with sediment fencing and as soon as practical, disposed of or treated appropriately to limit potential impacts on nearby areas of native vegetation.	√	√	√								
B7	D46(e)	The FFMP will outline a strategy for the implementation of site hygiene protocols and management measures according to Biodiversity *Guide 7 – Pathogen Management from Roads and Maritime* (2011) to reduce the risk of localised or regional introduction of Myrtle Rust, *Phytophthora cinnamomi* and the amphibian chytrid fungus as a result of the project.	√	√	√		Medium	Pre-construction	Contractor		Addressed in the CFFMP.		
	-	Measures for preventing the introduction and/or spread of disease causing agents such as bacteria and fungi will be implemented, as detailed in RTA (2011a) – *Biodiversity Guidelines Guide 7: Pathogen management* .	√	√	√		Medium	Construction	Contractor				
B8	D46(e)	Where practical, vegetation removal (especially of the two hollow-bearing and five habitat trees identified) will occur outside the main fauna breeding season (August to February) to avoid potential breeding disturbance to fauna, particularly avifauna (birds and bats).				√	Medium	Construction	Contractor		Addressed in the CFFMP.		
		Pruning or lopping tree limbs will be conducted in preference to tree removal wherever possible.		√	√								
		An appropriate tree removal procedure will be adopted. It will require the presence of a qualified ecologist or wildlife expert experienced in the rescue of fauna as detailed in *RMS Biodiversity Guidelines -Guide 4: Clearing of vegetation and removal of bush rock including the staged removal* process (2011).		√	√						Ecosure are the project ecologists.		
		Woody debris and habitat trees removed for the project will be managed in accordance with *RMS Biodiversity Guidelines - Guide 5: Re-use of woody debris and bush rock* (2011).		√	√						In some cases, trees are being reused for timber.		
		Fauna handling during vegetation removal will be carried out by a licensed fauna ecologist or wildlife carer, as detailed in *RMS Biodiversity Guidelines Guide 9: Fauna handling (2011).*		√	√						Ecosure are the project ecologists.		
B9	D46(e)	Threatened species guidelines will be developed for threatened flora and fauna likely to occur directly within the project area and which may be impacted during construction, in order to show and educate construction workers of its appearance and outline what should be done if the species is found during construction. Relevant species will include:		√	√		High	Pre-construction	Contractor		Addressed in the CFFMP, which includes a TTSTS MP and Microbat MP.		
		· Hairy-joint grass		√	√								

				Staging/Relevance									
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Three-toed Snake-tooth Skink · Grey-headed Flying-fox · Microbats.		√ √ √	√ √ √								
B10	D46(e)	If unexpected threatened fauna or flora species are discovered, works will stop immediately and the *Unexpected Threatened Species Find Procedure* RTA (2011a) as well as the *Biodiversity Guidelines Guide 1: Pre-clearing process* (Roads and Maritime, 2011) will be followed. This procedure will be included in the FFMP developed for the project.		√	√		Medium	Construction	Contractor		Addressed in the CFFMP.		
B11	D46(e)	Nest boxes and bat roost structures will be installed in accordance with the principles outlined in the *Roads and Maritime Guide 8 Nest Boxes* (2011). Details of the number and type of nest boxes will be included in the FFMP prepared for the project, and will include the following details:		√	√	√	High	Pre-construction, Construction	Contractor		A Nest Box MP and Bat MP have been prepared by Fulton Hogan. 70 % of the nest boxes have been installed as required. The project team is looking at focussing the remaining nest boxes on fauna other than microbats.		
		· The number and type of nest boxes required based on the number, quality and size of the hollows that will be removed		√	√								
		· Specifications for nest box dimensions, installation requirements, locations of nest boxes and ongoing monitoring and maintenance		√	√								
		· Installation timeframes, including the installation of 70% of nest boxes before the removal of any vegetation		√	√								
		· Staged habitat removal, including removal of secondary or less preferential roosting habitat before removal of primary habitat, such as hollow-bearing trees and houses.		√	√								
		· Pre-demolition inspection and exclusion measures to prevent continued use of roosts. These will be prepared to address the subject species, specific habitat, roosting habits at each location, and capture and handling procedures (if required).		√	√								
B12	D46(e)	Direct disturbance of aquatic fauna and riparian zones will be minimised in accordance with *Roads and Maritime Biodiversity Guidelines – Guide 10 Aquatic habitat and riparian zones* (2011).	√	√	√	√	High	Pre-construction, Construction	Contractor		Addressed in the CFFMP.		
B13	D19 D46(c)	Erosion and sediment control measures will be implemented and maintained to: · Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets	√ √	√ √	√ √	√	Medium	Construction	Contractor		Addressed in CSWQMP and ESCPs		
		· Reduce water velocity and capture sediment on-site	√	√	√								
		· Minimise the amount of material transported from site to surrounding road surfaces	√	√	√								
		· Divert clean water around the site in accordance with *Managing Urban Stormwater: Soils and Construction Guidelines* (Landcom, 2004).	√	√	√								
		Erosion and sedimentation controls will be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.	√	√	√								
		Erosion and sediment control measures will not be removed until the works are complete and areas are stabilised.	√	√	√								
		Work areas will be stabilised progressively during the works.	√	√	√								
		A progressive erosion and sediment control plan is to be prepared for the works.	√	√	√								
		The *Guidelines for in stream works on waterfront land* (NSW DPI 2012) will be implemented when constructing and installing piers, bridge footings and undertaking river front landscape works.	√	√	√								

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
B14	-	Where feasible and reasonable any large woody debris that may be encountered during construction will be relocated.		√	√	√	Low	Construction	Contractor		Addressed in the CFFMP.		
Soils, sediments, water and contaminated land													
SW1	-	Acid-resistant construction materials will be used where possible in areas known to contain acid sulfate soils.	√	√	√	√	High	Pre-construction, Construction	Contractor		Is being addressed in detailed design and procurement strategy.		
SW2	B9, B10, D19, D4(c)	Operational water quality management and protection measures, such as swales, to protect nearby waterways from pollutants from the bridge and approaches will be further refined and investigated in consultation with Clarence Valley Council.			√	√	High	Pre-construction, Construction, Operation	Contractor		Is being addressed through detailed design, earthworks planning sessions and progression of PESCPs.		
SW3	D46(c)	As part of the construction environmental management plan, a soil and water management plan will be prepared in line with current Roads and Maritime specifications. The plan will include (but not limited to): · *A risk assessment of the potential impacts on water quality and hydrological processes* · Details of erosion and sediment controls to be implemented, including erosion and sediment control plans developed for the project · Details of inspection frequency for control measures · Monitoring and maintenance of environmental control measures · Environmental work method statements for high risk activities such as dewatering and works within waterways · Procedures to manage stockpiles generated during construction · Tannin leachate management measures · Acid sulfate management measures · Detailed consideration of measures to prevent (where possible) or minimise any water quality impacts · Measures to manage known and unexpected contamination during the construction stage · Consideration of water dissipation due to wick drains.		√ √ √ √ √ √ √ √ √ √ √	√ √ √ √ √ √ √ √ √ √ √		High	Pre-construction	Contractor		Addressed in CSWQMP and ESCPs		
SW4	D19	Erosion and sediment control measures will be implemented in accordance with the Landcom/Department of Housing *Managing Urban Stormwater, Soils and Construction Guidelines* (the Blue Book) and maintained to: · Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets · Reduce water velocity and capture sediment on-site · Minimise the amount of material transported from site to surrounding pavement surfaces · Divert clean water around the site.	√ √ √ √ √	√ √ √ √ √	√ √ √ √ √	√	Medium	Construction	Contractor		Addressed in CSWQMP and ESCP's. All ESCPs are reviewed by RMS.		
SW5	-	Erosion and sedimentation controls will be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.	√	√	√		Medium	Construction	Contractor		Addressed in the CSWQMP. FH, RMS, Environmental Representative and agency inspections are undertaken.		
SW6	-	Erosion and sediment control measures will not be removed until the works are complete and areas are stabilised.	√	√	√		Medium	Construction	Contractor		Addressed in the CSWQMP. This is being undertaken, refer detail in the 6 monthly compliance report.		
SW7	-	Work areas will be stabilised progressively during the works.	√	√	√		Low	Construction	Contractor		Addressed in the CSWQMP.		
SW8	D18	Water from site will be used for construction purposes, such as dust suppression, where feasible and reasonable.		√	√		Low	Construction	Contractor		Addressed in the CSWQMP.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
SW9	D46(c)	Where excavation is to be carried out in areas anticipated to contain acid sulfate soils, work will proceed according to the soils and water management plan (acid sulfate soils section). Specific controls to be implemented will include:	√	√	√	√	Medium	Construction	Contractor		Addressed in the CSWQMP, refer to the Acid Sulfate Procedure.		
		· Capping exposed surfaces with clean fill to prevent oxidation	√	√	√								
		· Placing excavated acid sulfate soils separately in a lined, bunded and covered area	√	√	√								
		· Neutralising acid sulfate soils for reuse (where appropriate) by using additives such as lime	√	√	√								
		· Disposing of acid sulfate soils where necessary in accordance with the relevant guidelines set out in the *Acid Sulfate Soils Assessment Guidelines* (Ahern et al, 1998).	√	√	√								
SW10	D46(c)	If acid sulfate soils are disturbed, any acid produced will be neutralised and acid waste prevented from leaving the site in accordance with the applicable guidelines.	√	√	√	√	Medium	Construction	Contractor		Addressed in Annexure C of the CSWQMP		
SW11	D46(c)	Construction work in proximity to waterways will be undertaken in accordance with best practice and the NSW Office of Water guidelines for controlled activities where feasible and reasonable.	√	√	√	√	High	Pre-construction	Contractor		Will be addressed by FHC in Works in or Near Waterways EWMS which will be prepared in consultation with the relevant agencies. Water quality measures are addressed in CSWQMP.		
		Construction water quality management measures to protect nearby waterways from construction activities will be included in the soil and water management plan developed for the project. This plan will include (but not limited to) the following measures:		√	√								
		· Appropriate controls to minimise risk of release of dirty water into drainage lines and/or waterways		√	√								
		· Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) is to be carried out on a regular basis to identify any potential spills or deficient erosion and sediment controls		√	√								
		· Water quality control measures to prevent any materials (e.g. concrete, grout, sediment etc.) entering waterways.		√	√								
SW12	-	Before commencement of works within the river, a workshop will be held with relevant government agencies including representatives from EPA, NSW Office of Water, Department of Primary Industries Fisheries, Roads and Maritime and the construction contractor to discuss potential options for temporary working platforms.			√		High	Pre-construction	Contractor		Workshop held at the ERG meeting in Aug 2016. Proposed platform approach has been provided to RMS and agencies.		
		Any temporary working platforms will be managed in accordance with the principals detailed in Section 6.6.1 of the EIS.			√								
SW13	-	Exposed areas will be progressively rehabilitated. Methods will include permanent revegetation, or temporary protection with spray mulching or cover crops.	√	√	√		Medium	Construction	Contractor		Addressed in CSWQMP and ESCP. Also in UDLMP and landscape drawings.		
SW14	-	Topsoil, earthworks and other excess spoil material will be stockpiled in accordance with the principles outlined in *Stockpile Management Guidelines* (Roads and Maritime, 2011).	√	√	√		Low	Construction	Contractor		Addressed in the CSWQMP and Stockpile Management Protocol.		
SW15	D45	Stockpiles will be placed within a designated ancillary site or stockpile area in accordance with the following principles:	√	√	√		Medium	Construction	Contractor		Addressed in the CSWQMP,Stockpile Management Protocol and Waste and Energy MP.		
		· Not require removal of areas of native vegetation (where feasible and reasonable)	√	√	√								
		· Not be located under the 'dripline' of trees	√	√	√								
		· Be located outside known areas of weed infestation	√	√	√								
		· Be located such that waterways and drainage lines are not directly impacted.	√	√	√								

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
SW16	-	Where practicable, stockpiles will be located away from areas subject to concentrated overland flow. Stockpiles located on a floodplain will be managed so as to minimise loss of material in flood or rainfall events.	√	√	√		Medium	Construction	Contractor		Addressed in the CSWQMP and Stockpile Management Protocol.		
SW17	-	All construction stockpiles will comply with the requirements of the *Protection of the Environment Operations Act 1997* and *Waste Avoidance and Resource Recovery Strategy 2007* for any waste activities that involve the generation, storage and/or disposal of waste. The NSW Resource Recovery Exemptions will also be applied to the storage and management of stockpiled material.	√	√	√		High	Construction	Contractor		Addressed in the CSWQMP, Stockpile Management Protocol and Waste and Energy MP.		
SW18	D46(c)	Stockpiles containing potential acid sulfate soils will be managed in accordance with the *Acid Sulfate Soils Manual* (Acid Sulfate Soils Management Advisory Committee, 1998).	√	√	√		Medium	Construction	Contractor		Addressed in the CSWQMP,Stockpile Management Protocol and Waste and Energy MP.		
SW19	D45, D46(c)	Emergency spill response measures will be developed and incorporated into the soils and water management plan as part of the construction environmental management plan. This plan will detail measures for the prevention, containment and clean-up of accidental spills of fuels and chemicals.	√	√	√		Medium	Pre-construction	Contractor		Addressed in the CSWQMP.		
SW20	-	The storage, handling and use of the chemicals and fuels will be in accordance with the *Work Health and Safety Act 2000* and *Workcover's Storage and Handling of Dangerous Goods Code of Practice* (WorkCover, 2005).	√	√	√	√	Medium	Construction	Contractor		Addressed in the CSWQMP and Construction Waste and Energy MP.		
SW21	D30	Physical controls to address the potential risks associated with the use and storage of chemicals on-site will include: · Bunded storage facilities for chemicals and fuels · Bunded areas for refuelling and washdown · Effective spill kits at all construction sites.	√ √ √ √	√ √ √ √	√ √ √ √	√	Low	Construction	Contractor		Addressed in the CSWQMP and Construction Waste and Energy MP.		
Disturbance of contaminated soils													
CS1	-	A detailed site investigation will be prepared for the areas of potential contamination identified in the EIS in accordance with *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011). The site investigation will provide detailed information on the type, extent and level of contamination and assess: · Contaminant dispersal in air, surface water, groundwater, soil and dust · The potential effects of contaminants on public health, the environment and the project structures · Off-site impacts on soil, sediment and biota (where applicable) · The adequacy and completeness of all information available to be used in making decisions on remediation.	√ √ √ √	√ √ √ √	√ √ √ √	√	High	Pre-construction	Contractor and RMS		Two contamination reports have been prepared by Cavvanbah for RMS, These were for contamination on the project and a contamination report for ARTC lands south of the Clarence River, In February 2016, the ARTC report was provided to Transport for NSW and ARTC (email dated 23 February 2016). RMS has finalised a contamination strategy for contamination on Transport NSW/ ARTC land. Construction Contamination Management Plan has been prepared and submitted to the Secretary for approval.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
CS2	D46(c)	If the results of the detailed site investigation indicate a remedial action plan needs to be prepared and implemented, this plan will be prepared in consultation with Department of Planning and Environment and Office of Environment and Heritage. The plan will be prepared in accordance with *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011).	√	√	√		High	Pre-construction	Contractor and RMS		No RAP required at this stage.		
CS3	-	An asbestos survey will be conducted for structures to be demolished as part of the project. An asbestos certified disposal service will be engaged for properties identified as having asbestos materials.	√ √	√ √	√ √		High	Pre-construction	Contractor		FHC's Asbestos Management Procedure will be implemented during demolition of structures. FHC will engage a certified asbestos disposal contractor to handle and dispose of asbestos during demolition of structures. AMPE Sarle was employed by FH for asbestos removal and demolition.		
Air quality													
AQ1	D29	An air quality management plan will be developed as part of the construction environmental management plan to manage any increased dust impacts from construction activities. The plan will consider and describe construction activity processes such as: handling of spoil, management of stockpiles, operation of machinery, and traffic management.		√	√		High	Pre-construction	Contractor		CAQMP has been prepared and submitted to the Secretary for approval and approved by DPE.		
	D45(d)	The plan will have regard to the measures outlined in the *Local Government Air Quality Toolkit, Module 3: Guidance note – Construction sites* (NSW EPA 2007) and include the following: · A plan showing the locations of all potentially affected properties and residences on a map · Details of potential sources and impacts of dust		√ √ √	√ √ √								
AQ1 cont'd		· Air and dust management objectives consistent with EPA guidelines · Details of air quality control measures to be implemented during construction · A monitoring program to assess compliance with the identified objectives · Details of mitigation measures to be implemented during weather conditions where high dust episodes are likely (such as strong winds in dry weather) · A progressive stabilisation/rehabilitation strategy for disturbed surfaces with the aim of minimising exposed surfaces · Contingency plans to be implemented in the event of non-compliances and/or complaints about dust · Procedures for regularly reviewing the effectiveness of the air quality/dust management plan.		√ √ √ √ √ √ √	√ √ √ √ √ √ √						Addressed in CAQMP.		
AQ2	-	If a concrete batching plant is required, dust control measures would be incorporated into the design of the concrete batching plant. These could include the following: · A partially enclosed load hopper (on three sides) when truck loading/delivery is in progress · Continual wetting operations to reduce emissions during all materials handling · Bulk cement would be stored in silos with filter components on the vents			√ √ √ √	√	Medium	Construction	Contractor		At this stage a concrete batch plan is not anticipated to be required for the project.		

				Staging/Relevance								
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		· A dry batch dust collector to extract dust during the transfer of the concrete product to the trucks and any emissions from the loading of the weigh hoppers (this system has a dust extraction efficiency of 99.9% for all particulates greater than 5 microns) · A fully enclosed conveyor · Surface wetting along all exposed surfaces and stockpiles during unfavourable meteorological conditions (i.e. windy and dry conditions) Use of water carts along haul roads and access points as required to minimise generation of dust.			√ √ √ √								
Greenhouse gases													
GG1	-	Roads and Maritime will investigate the use of LED lighting in place of incandescent lamps as part of the project's detailed design, and use them where practicable to reduce electrical energy consumption. Any energy-efficient alternatives will have to meet lighting and safety standards for major roads.			√	√	Low	Pre-construction	Contractor		Is being addressed in detailed design. RMS are further investigating LED lighting.		
GG2	-	Fly-ash content within concrete will be utilised where feasible. Construction contractors will be required to propose recycled content construction materials where they are cost, quality and performance competitive.			√		Low	Pre-construction, Construction	Contractor		Addressed in CWEMP.		
GG3	D32	Reuse of excavated road materials will be maximised as far as possible where they are cost, quality and performance competitive to reduce use of materials (with embedded energy).			√	√	Medium	Construction	Contractor		Addressed in CWEMP.		
GG4	-	Steel with high recycled content will be utilised where feasible, for example where it is cost, quality and performance competitive. Contractors will be required to propose recycled content construction materials where they are cost, quality and performance competitive.			√	√	Low	Pre-construction, Construction	Contractor		Addressed in CWEMP.		
GG5	-	The feasibility of using biofuels (biodiesel, ethanol, or blends such as E10 or B80) will be investigated by the construction contractor, taking into consideration the capacity of plant and equipment to use these fuels, ongoing maintenance issues and local sources. Works will be planned to minimise fuel use.	√	√	√		Medium	Construction	Contractor		Addressed in CWEMP. Activities undertaken to reduce greenhouse gases includes use of bikes on the project and use of the old BBC building as the project compound.		
GG6	-	A construction energy management plan will be developed as part of the project's construction environmental management plan. The plan will include a commitment to monitor on-site energy consumption and identify and address on-site energy waste.		√	√	√	Medium	Pre-construction	Contractor		Addressed in CWEMP.		
GG7	B1, B5, D42	Vegetation clearance will be minimised, where feasible, in accordance with the approved project. Areas to be revegetated will be revegetated in accordance with the project landscape plan.	√	√	√	√	High	Construction	Contractor		Addressed in CWEMP, CFFMP and EWMS's. Vegetation clearance on the project has been reduced.		
GG8	-	The environmental induction developed for the project will include measures to promote energy-efficient work practices by construction personnel.	√	√	√		Medium	Pre-construction, Construction	Contractor		Addressed in CWEMP and induction.		
Utilities and services infrastructure													
UI1	B28	The National Broadband Network Co will be consulted during detailed design about the location, timing and cost of a potential conduit attached to the new Grafton Bridge.	√		√	√	Low	Pre-construction	Contractor		Is being addressed in detailed design.		
UI2	B28	Essential Energy will be consulted during detailed design about the location and timing of a potential easement across the Clarence River.	√		√	√	Low	Pre-construction	Contractor		Is being addressed in detailed design.		
UI3	B28	Relevant service utility providers or owners will be consulted to verify locations, impacts and any protection, relocation or decommissioning work required.	√		√	√	Low	Pre-construction	Contractor		Is being addressed in detailed design.		
UI4	-	A Dial Before You Dig search will be carried out to identify the location of utility services.	√		√	√	High	Pre-construction	Contractor		Is being addressed in detailed design.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
UI5	-	A services search within land not covered by the Dial Before You Dig search will be carried out to identify the location of utility services.	√		√	√	High	Pre-construction	Contractor		Is being addressed in detailed design.		
UI6	-	Existing services to be potentially impacted by the project will be physically relocated.	√		√	√	Medium	Construction	Contractor		Is being addressed in detailed design.		
UI7	B28	Relevant service utility providers or owners will be consulted before the removal of any decommissioned utility services beneath acquired properties.	√		√	√	Medium	Pre-construction	Contractor		Is being addressed in detailed design.		
Waste minimisation and management													
WM1	-	Rubbish bins will be located at strategic locations.	√	√	√		Low	Construction	Contractor		Addressed in CWEMP.		
WM2	D32	Roads and Maritime will investigate options for reusing or salvaging demolition waste from heritage items.		√	√		Medium	Construction	Contractor		Addressed in CWEMP. Salvage, reuse and recycling of demolitions has been optimised where possible, noting safety issues, nails, termites, asbestos issues.		
WM3	-	A construction waste management plan will be prepared as part of the construction environmental management plan to identify measures for minimising and managing waste. The construction waste management plan will include:		√	√		High	Pre-construction	Contractor		Addressed in CWEMP.		
		· The type and volume of all materials to be utilised during the project construction		√	√								
		· Destinations for each resource/waste type either for on-site reuse or recycling, off-site reuse or recycling, or disposal at a licensed waste facility		√	√								
		· Quantity and classification of excavated material generated as a result of the project		√	√								
		· Disposal strategies for each type of material		√	√								
		· Details of how waste will be stored and treated on-site		√	√								
		· Identification of all non-recyclable waste		√	√								
		· Identification of strategies to ‘avoid’, ‘reduce’, ‘reuse’, and ‘recycle’		√	√								
		· Management of surplus material as documented in Section 9.3.2 of the EIS		√	√								
		· Identification of available recycling facilities on and off-site		√	√								
		· Identification of suitable methods and routes to transport waste		√	√								
		· Procedures and disposal arrangements for unsuitable excavated material or contaminated material		√	√								
		· Site clean-up for each stage.		√	√								
WM4	-	A resource use management strategy will be prepared as part of the construction waste management plan to identify the hierarchy for sourcing and use of resources. The strategy will include:		√	√	√	High	Pre-construction	Contractor		Addressed in CWEMP.		
		· Project areas with a deficit in material will import surplus material from other project sections in preference to external sources		√	√								
		· Where possible, the distances that earthworks materials are moved across the project as a whole will be minimised		√	√								
		· Any unsuitable material will be used for landscaping or disposed of within each project section, either for batter flattening or noise mounds or placed in stockpile		√	√								
		· Construction contractors will reduce the amount of unsuitable waste generated during excavations, where feasible (e.g. treatment at source)		√	√								
		· Other locations of disposal of unsuitable material will be considered including borrow source areas created as part of the project		√	√								
		· The generation and management of unsuitable material during project earthworks will be monitored to ensure appropriate management of the issue		√	√								
		· Details on materials that will be sourced from the project (including location and type)		√	√								

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Proposed sustainable material sourcing (such as recycled materials or use of waste water) · Materials that could be recycled and re-used on-site or transferred to other project sections.		√ √	√ √								
WM5	D46(c), D30	A risk assessment will be carried out to determine the need, location and size, of spill containment mechanisms.		√	√		Medium	Pre-construction	Contractor		This activity has been completed and the information is contained in the drainage design report		
WM6	-	Asbestos surveys will be conducted for structures to be demolished as part of the project. An asbestos certified disposal service will be engaged for properties identified as having asbestos materials.		√	√		High	Pre-construction	Contractor		Addressed in CWEMP. AMPE Sarle have been engaged for this work by Fulton Hogan and have the appropriate Workcover licence. Asbestos removal works was completed for houses by late February 2017. Further testing is being undertaken to remove unexpected finds for asbestos.		
WM7	D30	The handling, storage and transport of hazardous materials and waste will be in accordance with the *National Code of Practice Storage and handling of dangerous goods* (Workcover, 2001) and the relevant material safety data sheet for the product.	√	√	√	√	Medium	Construction	Contractor		Addressed in CWEMP.		
WM8	-	Regular visual inspections will be conducted to ensure that work sites are kept tidy and to identify opportunities for reuse and recycling.	√	√	√		Low	Construction	Contractor		Addressed in CWEMP. A number of recycling bins are provided on site.		
WM9	D45	Requirements for waste management will form part of site training and induction processes.	√	√	√		Medium	Pre-construction, Construction	Contractor		Addressed in CWEMP/ Induction.		
WM10	D33, D34	All generated waste will be managed and disposed of in accordance with relevant State legislation and government policies including the *Waste Avoidance and Resource Recovery Act 2001* , the *Waste Avoidance and Resource Recovery Strategy 2007* and the *Waste Reduction and Purchasing Policy* . The *Waste Classification Guidelines* (DECCW, 2008) will also be used to classify the different types of waste.	√	√	√		High	Construction	Contractor		Addressed in CWEMP/ Waste register.		
WM11	-	The project will aim for the following: · 100% beneficial reuse of usable spoil, recognising that there is likely to be a significant volume of excavated material that is potentially contaminated or otherwise unsuitable for reuse. Sampling and testing will confirm which excavated material is suitable for reuse · 95% beneficial reuse of construction and demolition waste · Minimising the need for extracting new material by reusing material from other nearby projects (e.g. the Woolgoolga to Ballina Pacific Highway upgrade) where feasible and reasonable.	√	√	√ √ √	√	High	Construction	Contractor		Addressed in CWEMP. Spoil and concrete from Charles Street early works has been stored on the project for upcoming reuse, maximising reuse and recycling. House demolition is salvaging and recycling as much material as possible. As required by law, all asbestos is being disposed of at licenced landfills. Fill material is mainly been sourced from approved quarries.		
WM12	-	For any surplus material the following beneficial re-use options will be considered : · Construction of acoustic and visual mounds where there is a benefit to residents and other sensitive receivers			√ √	√	Medium	Construction	Contractor		Addressed in CWEMP.		

				Staging/Relevance								
Category	**CoA Ref**	**Condition**	**Utilities**	**Levee**	**Other works**	**Design**	**Risk**	**Timing**	**Responsible Party**	**Status (open/closed)**	**Comments**	**Required Action**	**Schedule 28 Reference Cl 2. c)/ Responsibility**
		· Flattening of road batters · Rehabilitation of borrow pits · Engineered fill · Improvements to flood prone land.			√ √ √ √								
WM13	D30	Liquid waste, including waste oil, will be collected and stored in appropriately bunded areas.		√	√	√	Medium	Construction	Contractor		Addressed in CWEMP.		
WM14	D45(d)	A waste register will be maintained for the construction site. It will detail the types of waste collected, amounts, date and time, and details of disposal.	√	√	√		Medium	Construction	Contractor		Addressed in CWEMP. Waste register is being maintained by Fulton Hogan.		
WM15	-	Where feasible and reasonable, materials will be bought in bulk to minimise the amount of packaging required.	√	√	√		Low	Pre-construction, Construction	Contractor		Addressed in CWEMP.		
WM16	-	Sources of material that have sustainable packaging design, such as recycled and recyclable packaging, will be favoured over other material sources where cost effective.	√	√	√		Low	Construction	Contractor		Addressed in CWEMP.		
WM17	D18, D32	The use of recycled products in construction work will be investigated.	√	√	√	√	Medium	Pre-construction Construction	Contractor		Addressed in CWEMP.		
WM18		Where practicable, houses, redundant services and other structures will be deconstructed rather than demolished to allow as much material as possible to be re-used or recycled off-site.	√	√	√		Medium	Construction	Contractor		Addressed in CWEMP.		
WM19	D45(d), D(c)	Logs and green waste will be mulched (where not contaminated by weeds) and beneficially reused onsite for rehabilitation and landscaping as a first preference, or offsite in the local area.		√	√		Medium	Construction	Contractor		Addressed in CWEMP. To date cleared mulch has been stored for ESC and landscaping. Green waste is also being used in skink relocation areas.		
Cumulative impacts													
CI1	-	Construction contractor will identify all other developments and projects occurring in the vicinity of the project and identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur.			√		Medium	Pre-construction Construction	Contractor		Addressed in Appendix A3 of the CEMP.		
CI2	D45(d)	Construction contractor will review environmental impacts every six months during construction. Any new impacts identified during construction will be addressed appropriately to reduce cumulative effects and reported as part of the construction environmental management plan.			√		Medium	Construction	Contractor		Addressed in the CEMP and Compliance Tracking Program. First 6 monthly report to be prepared for the period 18 October 2016 to 17 April 2017.		

APPENDIX B

Water Quality Monitoring Results

B-1: Water quality monitoring completed during the reporting period

								Observations			Flow	
Date	**Sample Location**	**Site**	**Turbidity (NTU)**	**pH**	**Conductivity (µs/cm)**	**Temp (C)**	**Oil/Grease**	**Algae**	**Debris**	**Speed**	**Colour**	**Comments**
16/11/2016	South Grafton	US1	7	N/A	135	N/A	Nil	-	-	-	-	Field sampling only
16/11/2016	North Grafton	US2	6	N/A	135	N/A	Nil	-	-	-	-	Field sampling only
16/11/2016	South Grafton	DS1	8	N/A	136	N/A	Nil	-	-	-	-	Field sampling only
16/11/2016	North Grafton	DSR	6	N/A	137	N/A	Nil	-	-	-	-	Field sampling only
12/12/2016	South Grafton	US1	5	N/A	135	N/A	Nil	-	-	-	-	Field sampling only
12/12/2016	North Grafton	US2	5	N/A	135	N/A	Nil	-	-	-	-	Field sampling only
12/12/2016	South Grafton	DS1	4	N/A	136	N/A	Nil	-	-	-	-	Field sampling only
12/12/2016	North Grafton	DSR	5	N/A	137	N/A	Nil	-	-	-	-	Field sampling only
19/01/2017	South Grafton	US1	8	N/A	138	N/A	Nil	-	-	-	-	Field sampling only
19/01/2017	North Grafton	US2	7	N/A	140	N/A	Nil	-	-	-	-	Field sampling only
19/01/2017	South Grafton	DS1	6	N/A	140	N/A	Nil	-	-	-	-	Field sampling only
19/01/2017	North Grafton	DSR	7	N/A	140	N/A	Nil	-	-	-	-	Field sampling only
10/02/2017	Prince Street	US1	3.8	N/A	136	N/A	Nil	-	-	-	-	Field sampling only
10/02/2017	Sailing Club	US2	2.5	N/A	175	N/A	Nil	-	-	-	-	Field sampling only
10/02/2017	Cochrane Pk	DS1	2.1	N/A	328	N/A	Nil	-	-	-	-	Field sampling only
10/02/2017	Wharf Street	DSR	2.9	N/A	210	N/A	Nil	-	-	-	-	Field sampling only

								Observations			Flow	
Date	**Sample Location**	**Site**	**Turbidity (NTU)**	**pH**	**Conductivity (µs/cm)**	**Temp (C)**	**Oil/Grease**	**Algae**	**Debris**	**Speed**	**Colour**	**Comments**
21/03/2017	Boat Ramp North	US1	88	7.02	60	21.6	No	No	Yes	Moderate	Brown	Sampling during flood - approximately 2.7m rise
21/03/2017	Boat Ramp South	US2	94	6.9	54.4	23.1	No	No	Yes	Moderate	Brown	"
21/03/2017	Pound Street	DS1	77.2	7.5	67.4	24.1	No	No	No	Slow	Brown	"
21/03/2017	Alipou Creek	DS2	-	-	-	-	-	-	-	-	-	No access
21/03/2017	Butters Lane	DS3	43	6.9	104.6	23.6	No	No	Yes	Slow	Brown	"
21/03/2017	Upstream River	USR	-	-	-	-	-	-	-	-	-	No access
21/03/2017	Downstream River	DSR	-	-	-	-	-	-	-	-	-	No access
28/04/2017	Boat Ramp North	US1	12.33	8.41	123.3	21.8	No	No	No	Slow	Brown	
28/04/2017	Boat Ramp South	US2	11.57	7.87	124.3	22.5	No	No	No	Slow	Brown	
28/04/2017	Pound Street	DS1	9.33	7.8	119.8	21.9	No	No	No	Slow	Brown	
28/04/2017	Alipou Creek	DS2	-	-	-	-	-	-	-	-	-	No access
28/04/2017	Butters Lane	DS3	9.14	7.94	188.3	19.3	No	No	No	Slow	Brown	
28/04/2017	Upstream River	USR	-	-	-	-	-	-	-	-	-	No access
28/04/2017	Downstream River	DSR	-	-	-	-	-	-	-	-	-	No access

B-2: Water quality monitoring locations, including extra locations sampled for construction

APPENDIX C

Noise and Vibration Monitoring Results

C-1: Noise monitoring completed during the reporting period

Monitoring Type	Date	Time (24 hr)	Works Activity	Works Location	Monitoring Location	NML (RBL+5)	LA_{eq15}	LA_{max}	LA_{min}	LA_{10}	LA_{90}	Compliant	Additional Comments
Periodic (monthly)	26/4/17	15:00	Assembly of the crane	Southern bank of the Clarence River	Butters lane residents	49	43.8	48.7	36.2	45.1	39.2	Yes	Construction works barely audible
Periodic (monthly)	26/4/17	15:30	Laying out geo-fabric at casting yard	Pre-cast yard	Through Street businesses	55	53.2	59.7	42.9	54.2	49.8	Yes	Construction works not audible above background

C-2: Vibration monitoring completed during the reporting period

Date	Construction Activity	Monitoring location	Structure	Building Structure Requirement (mm/s)	Human Response Criteria (mm/s)	Recorded Peak (mm/s)	Compliant	Additional Comments
4/4/17	Vibratory Rolling	18B Clarence Street	Residential	20	200	0.93	Yes	Monitoring of construction at Pound/Clarence St car park
20/4/17	Vibratory Rolling	18B Clarence Street	Residential	20	200	1.56	Yes	Monitoring of construction at Pound/Clarence St car park
21/4/17	Background	18B Clarence Street	Residential	20	200	0.31	Yes	Background check - no activity
27/4/17	Excavation	8 Greaves Street	Residential	20	200	3.2	Yes	Monitoring of excavation for northern embankment access track

APPENDIX D

Demolition materials salvage and recycling

Reuse and Recycling Register - House Demolition, Grafton

Address	House Description	Salvaged Materials	Notes
22 Clarence Street, Grafton	Raised level house tiled roof	Timber flooring, Windows, doors, kitchen, copper piping, bearers and joists, pool pump, pool filter, hot water system	Double and triple asbestos lining hidden beneath exterior and interior lining
20 Clarence Street, Grafton	Corrugate iron roof, single storey	Timber flooring, Water heater, doors, windows, roof timbers, kitchen	
18a Clarence Street, Grafton	two units, single storey brick veneer	Vanity x 2, kitchens x 2, hot water systems x 2, all of the windows, doors, front doors, lead lights	Pine timber no value in salvaging. Shower screens do not fit into other properties, shower mixers are not recyclable, cannot remove baths for reuse
37 Pound Street, Grafton	Weather board, pitched roof	Doors, windows, kitchen, joists, bearers and structural timbers	
35 Pound Street, Grafton	Double brick concrete slab	Hot water system, some windows	Tiled roofs makes recycling the timber difficult it crushes the roof timbers during mechanical removal. Double brick house so less salvageable timber
33 Pound Street, Grafton	Raised level house corrugate iron roof	A significant amount of structural timber, wood fire heater and water heater, kitchen stove, windows, sliding doors, vanity	
31 Pound Street, Grafton	Stucco single storey - dilapidated	A couple of internal doors	This house was in a very poor state of repair it had a significant amount of dry rot and was not structurally sound
21 Pound Street, Grafton	Community hall	All the internal timber, flooring, structural timber	Minimal other fitting as this was a community hall not a house
19 Pound Street, Grafton	Weatherboard corrugated iron roof	Floor joists, windows, kitchens, wooden stair case	
17 Pound Street, Grafton	Queenslander styled house, elevated	Thousands of bricks donated to a neighbouring resident, sandstone went to a neighbouring resident, casement timber windows, French doors	
18 Kent Street, Grafton	Two storey quite high off the ground	Windows, doors, kitchen, hot water cylinder	Solar system was on the top roof and contractor didn't have specialists for safe high roof access. Renovated with pine not salvageable
16 Kent Street, Grafton	Federation style home, single storey on brick piers, weatherboard	Structural timber from patios, windows and doors, salvageable shed	Coming up to Christmas these properties were half demolished and the project made a decision to completely demolish and remove them before the Christmas break to prevent a safety risk for people that broke into the site
14 Kent Street, Grafton	Federation style home, single storey on brick piers, weatherboard	Structural timber and a salvageable shed, some timber fencing	Coming up to Christmas these properties were half demolished and the project made a decision to completely demolish and remove them before the Christmas break to prevent a safety risk for people that broke into the site
12 Kent Street, Grafton	Federation style home, single storey on brick piers, weatherboard and brick front patio	A good amount of timber, windows , French doors, good structural timber, garden plants	Coming up to Christmas these properties were half demolished and the project made a decision to completely demolish and remove them before the Christmas break to prevent a safety risk for people that broke into the site
3 Greaves Street, Grafton	Single storey weatherboard	Some structural timber, a new carport	Close to original condition with few upgrades, low salvageable potential due to the age of the home and level of maintenance
5 Greaves Street, Grafton	Single storey weatherboard	Some structural timber	Close to original condition with few upgrades, low salvageable potential due to the age of the home and level of maintenance
2 Greaves Street, Grafton	Two storey weatherboard, corrugated iron roof with open front veranda on the second storey	Some timber, wood fire heater, fence was salvaged	Kitchen and fittings were old and couldn't be salvaged

4 McClymont Street, Grafton	Two storey, weatherboard	Windows, good French doors, good rear entry door, skirting boards Australian cedar, new aluminium doors, a small amount of structural timber,	Upstairs renovation was built out of timber veneer, vertical boards on the internal lining were only thin and hard to recover and there is few buyers for this product. Vanity and Kitchen were both old
4 Greaves Street, Grafton	Tiled roof, weatherboard	All of the timber flooring, all of the kitchen and appliances, marble bench top, cedar bathroom all handmade, every window, every door, Australian hardwood internal timber and structural timber, lots of pool fencing	Pool pump was stolen, stone carved lion was stolen from the front steps
6 Greaves street, Grafton	Brick veneer	Bi-fold lead light window in the main bathroom, wood fire heater, roller doors on the garage, lots of pool fencing, mantle piece at the fire	Brick veneer structure at the front of the house wasn't structurally sound. Kitchen wasn't good, vanity wasn't good