



Clarence River Crossing

Construction / Pre-Operation Compliance Report

Report 6

April 2019 - October 2019



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Appendices

- Appendix A: Project Approval Compliance Table
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Distribution of controlled copies

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/>.

Distribution of this report will be made through the Clarence River Crossing project document control system. The environmental management team will maintain, review and update this document on a six monthly basis.

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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Each new revision to the report will be distributed to all registered copyholders with an instruction that the superseded copy be destroyed or marked as superseded.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 |
|----------|---------------|-----------------------------------|-----------------|--------------|----------|
| 1 | June 2019 | Draft for internal review | All | Project team | S. Leigh |
| 2 | August 2019 | Updated project details | All | Project team | S. Leigh |
| 3 | December 2019 | Final draft for review | All | Project team | S. Leigh |
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| 7 | April 2020 | Updated to include TfNSW comments | 15, 16, 32, 50 | Project team | S. Leigh |

Abbreviations

| | |
|----------|--|
| CEMP | Construction Environmental Management Plan |
| CPESC | Certified professional in erosion and sediment control |
| DPIE | Department of Planning, Industry & 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 |

1.0 Introduction

The Clarence River Crossing entails a new 525-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 consist of a replacement of 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.

During this reporting period, the Clarence River Crossing is compliant with the conditions of approval (**Appendix A**). A review of compliance for the six-month period from 19 April 2019 to 14 October 2019 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 sub plans

2.0 Project Update

Project works are proceeding generally in accordance with the construction program. During the reporting period there was a total of 49 (as of 14 October) rain days. No observed rain days exceeded the 5 day 85th percentile rainfall depth value of 37.2mm (as of 14 October). Total rainfall was 180.6mm (as of 14 October) for the reporting period. Project works were interrupted at times due to the rainfall events.

The project is scheduled to open the main bridge structure at design speed in December 2019, weather permitting.

2.1 Levees

The levee works for the project are over 98% complete, with one small levee still required near the South Grafton bowling club.

The temporary access through the Grafton levee within the project alignment that supported construction of the new bridge has been removed.

The new Grafton stormwater pump station and Pound Street line has been pipe jacked through the levee to reduce the potential flood risk on the project and the outlet structure completed.

All areas on the flood side of the levee were managed with environmental controls in place to ensure site materials were contained onsite.

2.2 Demolition

Demolition works have continued throughout the reporting period. These demolition works included the removal of the Pound Street Rail Bridge, removal of fencing, redundant power poles and road signage.

Minor demolition work is still required during the construction of the new Gwydir Highway roundabout.

2.3 Utilities and service relocation

Utilities works have continued to progress in both Grafton and South Grafton, the general update to the status of work are as follows:

- 100% of water relocation completed
- 100% of sewer relocation completed
- 100% copper telecommunications cable relocation completed
- 95% of fibre optic cables have been installed
- 90% of the electrical service packages completed
- 90% of stormwater relocation completed

2.3.1 Drainage

Pavement drainage works have progressed in South Grafton and Grafton, the focus of these works has been:

- Pound Street drainage works are now 100% complete.
- Concrete open drains in fill 2 are now 100% complete
- Culvert 7 at Pound Street is now completed
- Subsoils and road drainage features are now completed for fill 2, Pound and Clarence Street.

2.3.2 Pump Station

Construction of the pump station structure was completed in August 2018. The steps completed to reach final completion during the reporting period included:

- Installation of internal pump systems
- Inlet and outlet piping systems
- Installation of the electrical works and pump control units



Figure 1 Outfall structure of the northern pump station

2.4 Earthworks

Earthworks progressed well in the reporting period, completed works include:

- Clarence Street all earthworks complete
- Pound Street earthworks are complete
- Fill 3, the southern abutment to the bridge all earthworks complete
- Fill 1 batter widenings are completed
- Minor earthworks at Villiers and Pound Street and Villiers and Dobie Street roundabouts.

Staged works along the Pound Street and Iolanthe Street commercial zones have been managed to reduce the potential impacts on the businesses and maintain parking and access for the businesses which operate along those streets.



Figure 3 fill 1 finalised verge, steel barrier, street lighting and asphalt

2.4.1 Contaminated Land

During the reporting period there were several new contaminated land issues that were encountered.

The '*Rehabilitation Action Plan*' for the asbestos contaminated topsoil was reviewed by the NSW site Auditor and comments addressed. The encapsulation works were completed during the reporting period.

Monitoring of the two hydro-carbon plumes within the project boundary is now completed. The areas where hydro-carbon affected soil is in the ground included:

- Location at abutment A, project chainage 850. This area of land is former rail land which was used for engine maintenance. Plume has shown no signs of moving towards Alipou Creek or the Clarence River. Monitoring requirements are now complete
- Location at fill 1, near culvert 1, project chainage 400. This contamination was found during construction when an open drain was excavated. Investigations mapped the affected area, a decision was made to leave the contamination in the ground. Monitoring wells are installed around the perimeter of the plume. Ground water monitoring is now completed and showed no impacts of hydro-carbon mobilisation. This affected area is being managed under a 'rehabilitation action plan' (RAP), the RAP is assessed by a NSW EPA approved contaminated land auditor.
- Where required, any long-term outcomes resulting from the project contaminated land investigations and rehabilitation will be covered by an Operational Environmental Management Plan (OEMP) for the relevant site specific contamination. The OEMP will form part of the RAP and Validation of the site and will be included in the project 'Operational Management Plan' and the existing environmental management system for operation.

During the reporting period several new contaminated soil sources were encountered. New encounters included:

- An asbestos conduit found when excavating the C11 drain
- Asbestos within soil when excavating at the toe of the northern levee
- Asbestos encountered in the J2 open channel drain adjacent to Bunnings
- Asbestos fragments were found in soil beneath abutment A

When asbestos is encountered onsite works stop and contaminated land specialists are engaged to safely remove the materials. The process for safely removing the material is to isolate the work area with no other workers in the area. The area is wet down and material is safely removed into a lined truck by an asbestos removalist. Air monitoring is in place to confirm asbestos fragments are not lost during the process.



Figure 4 Asbestos contaminated material being encapsulated in a batter widening for future infrastructure

2.4.2 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:

- Pound Street has been closed in one direction allowing staged pavement construction.
- A number of traffic switches at Iolanthe St and the Pacific Highway for pavement and drainage construction
- Multiple traffic switches to construct the Villiers Street roundabouts at the Pound and Dobie Street intersections.
- A number of traffic switches on the Pacific Highway to construct the Gwydir highway roundabout
- About 50 new traffic control plans have been used on the project, extra plans were used for new traffic arrangements at Iolanthe Street

2.5 Temporary Works

The project has put in place a number of temporary facilities and sites to support construction, these include:

- Crane pads
- Site access roads
- Temporary boundary fencing and signage
- Construction jetty
- Construction pads at the bridge works areas
- Temporary access through the Grafton levee which includes a designed flood management strategy
- Temporary pavements in preparation for needed traffic switches

Temporary work areas and facilities that were remediated at the completion of construction or as they become redundant in the reporting period included:

- Northern crane pad
- Southern crane pads
- Fill 2 stockpile area
- Removal of temporary boundary fencing and signage
- Construction pads at the bridge works areas
- Temporary access through the Grafton Levee
- South Grafton construction jetty

Removal of the South Grafton construction jetty, which included removing pile casings from the Clarence River occurred during the reporting period. These works were managed well with no incidents.



Figure 5 Removal of the temporary jetty in south Grafton

2.6 Casting Yard

During the reporting period production at the casting yard was consistent and in line with the general construction program. All segments are now completed, rectified and erected.

Operations completed at the casting yard during the reporting period included:

- Repairs to segments
- Transport of segments from the casting yard to the bridge
- Removal of excess and no longer needed construction materials and waste

The pre-cast yard is being used to stockpile surplus materials that will be reused before completion.

2.7 Bridge Works

Marine works proceeded generally in accordance with the construction program. During the reporting period all pier diaphragms were completed and 100% of the bridge segments were erected.

Most segments were installed using the marine works barge, with the larger crane on the northern side of the Clarence River also being used. Works proceeded well with good environmental controls and a low level of incident.



Figure 6 Significant progress has been made on the new Grafton Bridge during the reporting period

The barges that supported the marine works have now left the Clarence River. Marine works proceeded well to completion with good environmental controls and a low level of incident.



Figure 7 Marine works progress

2.8 Sustainability

The Clarence River Crossing project continues to implement and encourage a number of initiatives to promote sustainable outcomes across site. Current approaches include:

- Correct cigarette butt disposal campaign. Additional signage was installed on the bridge deck
- Return and earn program for plastic bottles promoted on the project with separate bins, signage and education programs
- Battery recycling facilities installed at the project offices
- The beneficial reuse of 17,000m³ of spoil and concrete to improve a flood prone parcel of land in South Grafton
- The encapsulation of ACM in South Grafton which will allow for future infrastructure when required.

The project has continued to recycle steel from all construction works. Water from onsite sediment basins has been recycled for onsite dust suppression.



Figure 8 beneficial reuse of surplus material in south Grafton to improve land use

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 RMS Northern Project Office, the project ER, EPA, Clarence Valley Council, DPI&E, SEEC (Project Soil Conservationist), and the NSW Department of Primary Industries – Fisheries.

3.1 Effectiveness of Environmental Controls

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

3.1.1 Soil and water management

The project continues to focus and invest resources into best practice erosion and sediment controls. The result of that investment is rainfall events have been observed to be well managed and not cause a measurable effect on receiving water ways.

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 during rainfall events.

Final design features including pavements, kerb and gutter, footpaths and landscaping have now been completed in the southern and northern bridge access areas into Grafton, Pound Street and Clarence Street. This stage of construction ensures the soil is locked away and the runoff from the project is clean.



Figure 9 Completion of landscaping and final drainage features



Figure 10 best practice erosion and sediment controls installed for temporary pavement and drainage works

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 and prior to new works commencing.

3.1.2 Flora and Fauna

Only minor clearing occurred during the reporting period this clearing was small trees and shrubs within the work zone that clashed with design features required to be built.

The *'Three-Toed Snake Tooth Skink Management Plan'* does not require monitoring of the TTSTS protection areas during construction. FH continues to go above and beyond the requirements of the management plan by applying extra mitigations such as during construction protection area monitoring. The result of the extra monitoring has confirmed that the TTSTS are surviving well in the protection areas. Both adults and juveniles have been observed in the protection areas. FH is now working with the clients to understand how the skink protection areas are to be left following completion. Final landscaping and skink habitat is being established as per the landscape design in areas adjacent to the skink protection areas.



Figure 11 Juvenile TTSTS observed as surviving in the TTSTS protection area. This represents continual success of the protection areas

Monitoring requirements of the nest boxes has been completed.

Further detail will be discussed in section 7.4.

3.1.3 Heritage

The project has stopped works 27 times for potential heritage finds. Of those stoppages four occurred within the reporting period. The potential heritage finds were:

- 1) A red brick wall structure was located when excavating a stormwater culvert. An assessment was completed and deemed the wall to be part of an adjacent power pole and not of heritage significance.
- 2) Concrete pavers were uncovered when excavating beneath the Pound Street rail viaduct. The pavers were assessed and determined to be modern concrete pavers that were most likely from previous road/pavement surfacing and were not considered to be a relic.
- 3) A cistern was located in the original 5 Greaves Street property during pump station works. Works stopped and an assessment was completed. The item was considered 'work' rather than a 'relic'. The cistern was deconstructed and bricks placed aside for the RMS project team.



Figure 12 A cistern was located whilst excavating to install the pump station gravity main in Grafton

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.

Fulton Hogan was audited by 'Telarc' in early 2019 to review compliance with the ISO 14001 requirements, this audit found the FH business to have a compliant ISO management system that fosters continuous improvement.

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 on key environmental elements and identified for the Project through the environmental assessment and approval process. They document aspects, impacts, safe-guards and monitoring requirements for each key environmental element, nominate who is responsible for implementing controls and note the frequency/timing of implementation.

Reviews of the project CEMP occur periodically to ensure the CEMP management system is up to date and applicable to the works which are occurring.

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 | Summary of update |
|---|---------------------------------|----------------------|--|
| Construction Environmental Management Plan | 15/09/16 | Feb 2019 | Refer to appendix A |
| Construction Contaminated Land Management Plan | 15/09/16 | October 2017 | Not updated, supplementary plans have been written during construction |
| Construction Air Quality Management Plan | 15/09/16 | Feb 2019 | Updated for the final stage of construction |
| Construction Flora and Fauna Management Plan | 15/09/16 | Feb 2019 | Updated to include details of TTSTS observed during construction |
| Construction Flood Management Plan | 15/09/16 | Feb 2019 | Updated to include extra details on the during construction flood management mitigations |
| Construction Heritage Management Plan | 15/09/16 | August 2016 | No change |
| Construction Noise and Vibration Management Plan | 15/09/16 | October 2017 | No Change |
| Construction Soil and Water Quality Management Plan | 15/09/16 | November 2017 | No Change |
| Construction Waste and Energy Management Plan | 15/09/16 | August 2016 | No Change |
| Construction Traffic and Access Management Plan | 15/09/16 | October 2017 | No Change |

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.

The six monthly and periodic certification – April 2019 – September 2019 was completed during the reporting period. There were 0 non-compliances observed on the project.

Table 5-1 Non-compliance summary

| Date | Description | Non-Compliant against | Status |
|------------|-------------|-----------------------|------------|
| <i>Nil</i> | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> |

Table 5-2 Non-conformance summary

| Date | Description | Resolution | Status |
|------------|-------------|------------|------------|
| <i>Nil</i> | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> |

5.2 Incident Management

During the reporting period there were eight events recorded as incidents - see tables 5-3 and 5-4 below.

Table 5-3 Recorded Incidents

| RMS Incident Category | Apr | May | Jun | Jul | Aug | Sep | Oct | Total |
|-----------------------|----------|----------|-----|----------|----------|----------|-----|----------|
| Category 1 | | 1 | | 1 | 2 | | | |
| Category 2 | 2 | | | | 1 | 1 | | |
| Reportable Event | | | | | | | | |
| Total | 2 | 1 | | 1 | 3 | 1 | | 8 |

**Reportable events may include rainfall events that exceed the storage capacity of the onsite sediment basin or unexpected finds. These events are expected and anticipated during construction*

Table 5-4 Incident Summary

| Date | Description | Agency reporting | Classification | Status |
|----------------|---|--|----------------|--------|
| 3 April 2019 | Concrete washout was observed outside of an adequate and specially designed concrete washout. There was no evidence of runoff leaving the location of washout. No waterways, surface water or stormwater were impacted. | <i>Minor site issue that was reported to RMS environment meetings.</i> | Cat 2 | Closed |
| 5 April 2019 | An EWP sitting of a pontoon, was being utilized to remove excess Epoxy from the pier 4 span. During retraction of the hydraulic knuckle a hose failed, projecting pressurised hydraulic oil onto the EWP arm and into the surrounding water. | <i>Minor site issue that was reported to RMS environment</i> | Cat 2 | Closed |
| 8 May 2019 | During the pour of the pier 6 diagram a temporary concrete washout bay was incorrectly installed adjacent to pier 7. The washout lacked adequate containment allowing concrete slurry to escape onto the pier 7 Pad. The crane pad has since been removed. | <i>Minor site issue that was reported to RMS environment</i> | Cat 1 | Closed |
| 9 July 2019 | Plant was parked outside the project boundary without project approval. The parked plant included a pad foot roller and a bobcat attachment and has since been removed from the area. | <i>Reported to the RMS environment. EPA and ER were onsite during time of inspection. No further reporting was completed.</i> | Cat 1 | Closed |
| 8 August 2019 | Out of Hours Works undertaken outside of approved areas as part of the Villiers / Pound St roundabout construction. | <i>Minor site issue that was reported to RMS environment</i> | Cat 1 | Closed |
| 14 August 2019 | Stripping of topsoil during landscaping works caused a local water service to be struck and leak into site | <i>Minor site issue that was reported to RMS environment</i> | Cat 2 | Closed |
| 15 August 2019 | Excess potable water was applied to a stich pour on the bridge deck which caused the installed absorbent controls to be overwhelmed Some water observed running off the deck onto the southern bank of the Clarence River Water was tested and confirmed as not alkaline and matching the drinking water levels of ph 7.9 | <i>Occurred during project ERG so all regulators were aware</i> | Cat 2 | Closed |
| 17 Sep 2019 | During demobilisation of diesel generator the plant was lifted and put on an angle causing fuel to leak onto a bridge deck Localised spill that was immediately cleaned up | <i>Localised spill only</i> | Cat 2 | Closed |

Note for table 5-4: reporting to DPI&E under condition CoA A14 is required when there is 'significant offsite' impacts. The incidents described in the table above relate to issues managed onsite and did not result in significant offsite impacts.

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 the project ER continues to review, provide feedback and inspect the project. There were less approvals required by the project ER in this six-monthly period due to the stage of construction.

The project Environment representative continues to attend the project and conduct site inspection, audits, chair the Environmental Review Group meeting and approve minor extra approvals/OOH permits as required.

Extra approvals and reviews conducted by the project Environmental Representative during the period included:

Consistency Reviews

- Consistency review, project boundary extension, extra area to allow safe construction near the Pacific Highway in South Grafton – *United Area South Grafton*
- Consistency review, project boundary extension, extra area to allow construction for the Villiers and Pound St roundabout – *Villiers & Pound Street Grafton*
- Consistency review, project boundary extension, extra area required to safely access the Gwydir and Pacific Highway roundabout in South Grafton – *Gwydir Pacific Highway Roundabout work area access*
- Consistency review, beneficial reuse of surplus material – *Beneficial reuse of surplus material*
- Consistency review, temporary bicycle path to allow cyclists safe access around and past the work area for the new South Grafton Gwydir and Pacific Highway Roundabout – *Temporary Cycle Path*
- Minor consistency review, car parking beneath the rail viaduct

Ancillary Facilities Assessments

- South Grafton ancillary facility to support construction of the Gwydir and Pacific Highway Roundabout

Environmental Review Group Meetings

- October Environmental Review Group Meeting
- August Environmental Review Group Meeting

Environmental audits

- October 2019
- April – September 2019

Out of Hours Works

- OOH 166 Grafton asphaltting works

- OOH 162 Dobie and Villiers Street roundabout
- OOH 142 Pound Street asphaltting
- OOH 130 Pound Street rail bridge
- OOH 120 Steel truss assembly

Incident reviews

- Parking plant on asphalt area of a vacant site beyond the approved project boundary
- OOH work undertaken outside of the approved area within the site boundary

6.2 Environmental Representative Reports and Outcomes

Site inspections with the environmental representative occur on a fortnightly basis. RMS and the project Environmental Representative alternate on the reporting of those site inspections

Table 6-1 ER inspection report comments

| Report number | Date | Issues/Comments | Status |
|---------------|---------------|---|------------|
| 30 | 30 April 2019 | Ensure that loose or fine material that is on the geofab fence is removed and all ERSED controls are | Closed out |
| | | Ensure that adequate controls are installed to provide required clean and dirty water separation and are as per the approved ERSED plan. Review and update relevant PECS plans where required. | Closed out |
| | | May require a stabilised discharge arrangement for diverting water off existing pavement over the topsoiled batter into cleanwater drain. | Closed out |
| | | Ensure that material being stockpiled in the area is as per the Stockpile Management Protocol to ensure there is no cross contamination of waste and contaminated material. | Closed out |
| | | Consider reinstating batter chutes in this area to provide stabilised discharge arrangements, maintain and reinstate controls as required. | Closed out |
| | | Ensure appropriate measures are implemented as per G36, G38, CSWQMP, CAQMP and the Deed to minimise tracking of material onto public roads and tracked manage is removed. | Closed out |
| | | Ensure concrete waste is managed to reduce the generation of high pH water during curing and is not able to move into cleanwater flow paths. | Closed out |
| | | Ensure stockpiled material is managed as per the Stockpile Management Protocol and approved ERSED plan, along with any disturbed areas in proximity to clean stormwater pits/drains. | Closed out |
| 31 | 15 May 2019 | Ensure that fines are managed to maintain a clean working area. ERSED controls installed for crane pad to be installed as per the approved PESCP prior to rainfall or end of day where required. | Closed out |
| | | Ensure that spoil material and stockpiles are managed as per the Stockpile Management Protocol, G38, CSWQMP, CAQMP and CWEMP. | Closed out |
| | | Ensure that concrete fines, waste and slurry are managed to prevent and movement of material into cleanwater systems. | Closed out |
| | | Ensure that all fuels and chemicals are stored in designated areas with required bunding capacity. | Closed out |
| | | Monitor turf establishment and growth to ensure that it meets the requirements of R178/179. | Closed out |
| | | Confirm that material that is being placed in the Fill 1 widening is the correct material to be placed in this area and that spoil that could be re-used through other options are not being permanently place in this area without prior confirmation. | Closed out |
| | | Ensure that weed management is undertaken as per G36, G38, G40, R178, R179 and CFFMP. | Closed out |

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| | | Uncontained stockpiled material observed in the area which may generate fines into the cleanwater system. | Closed out |
| | | Ensure that appropriate measures are implemented and maintained to minimise the tracking of material onto public roads and that any material tracked onto public roads is removed. | Closed out |
| 32 | 28 May 2019 | Ensure fines are managed on piling pad, in particular when pipe jacking activities commence and spoil material is being generated and handled. | Closed out |
| | | Ensure that stockpiles and spoil material are managed as per the Stockpile Management Protocol, G36 G38, CSWQMP, CAQMP and CWEMP. | Closed out |
| | | Ensure that stockpiles and spoil material are managed as per the Stockpile Management Protocol, G36 G38, CSWQMP, CAQMP and CWEMP. | Closed out |
| | | Provide a copy of the current PESCP to the ER and RMS and ensure that all site workers for the works are briefed and understand the requirements of setting up the site prior to rain or end of day where required. | Closed out |
| | | Ensure that site is managed as per the current PESCP to ensure that the required controls are place and adequate clean and dirty water separation is maintained. | Closed out |
| | | Ensure that the new ASSTA is constructed as per the requirements of the ASS Management Plan. | Closed out |
| | | Ensure earth bund on access track is covered with Geo Fabric, as is the majority of the earth bund. | Closed out |
| | | The sediment fence is damaged in parts near the pipe jacking area. Ensure the fence is repaired and in working order. | Closed out |
| | | Engage appropriate measures to minimise dirt/mud being carried onto public roads, however where it has occurred ensure it is cleaned up in a timely manner. | Closed out |
| | | 33 | 13 June 2020 |
| Ensure that all fuels and chemicals are stored and banded appropriately. | Closed out | | |
| Ensure plant and equipment is maintained to prevent leaks and spills are managed appropriately. | Closed out | | |
| 34 | 27 June 2020 | Ensure that the area is able to be managed and reinstated to allow for adequate ERSED controls to be installed where required | Closed out |
| | | Fines observed on the access ramp and some sections of the crane pad. | Closed out |
| | | Ensure that weed management is undertaken as per G36, G38, G40, R178, R179 and CFFMP | Closed out |
| | | Consider installing some additional controls on the western side of the recessed stormwater line, possibly some sandbags. | Closed out |
| | | Ensure spoil material and/or any mudtracking is removed from public roads | Closed out |
| | | Ensure that any ASS/PASS that is encountered during excavation / construction activities is managed as per G36, CSWQMP, Acid Sulfate Soil Management Procedure and relevant PESCP | Closed out |
| | | Ensure that appropriate measures are implemented to prevent sediment movement or dirty construction water discharging into cleanwater drain | Closed out |
| | | Ensure that the required project flagging is installed and maintained, in particular where we are moving into new areas | Closed out |
| | | Ensure that adequate ERSED controls are installed prior to works commencing as per the PESCP and are reinstated when impacted by construction works where required, update PESCP as works progress. | Closed out |
| | | Ensure disturbed material is adequately protected or removed to reduce the risk of fines mobilising to storm water pit | Closed out |
| Ensure pit controls are installed and maintained to provide desired functionality and protection | Closed out | | |

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| | | Ensure that adequate clean and dirty water separation measures are implemented prior to rain or at the end of the day where required. | Closed out |
| | | Regularly monitor and manage mud and dirt tracking throughout the project to ensure surrounding public roads are kept free of construction material | Closed out |
| | | Ensure that the placement of the caravan is consistent with the process for establishing Ancillary Facilities and should AF documentation be required, is provided | Closed out |
| 35 | 09 July 2019 | Ensure that any fines tracked onto public roads are removed and the site access arrangements are installed and managed as per the Bluebook, G36, G38, CSWQMP, CAQMP and SWTC | Closed out |
| | | Ensure fuels and chemicals are stored in required bunded arrangements when not in use, in accordance with G36 and CSWQMP | Closed out |
| | | Ensure fuels and chemicals are stored in required bunded arrangements when not in use, in accordance with G36, relevant EWMS and CSWQMP | Closed out |
| | | Ensure that site is managed as per the approved PESCP and that the area can be stabilised prior to rainfall or end of day where required to ensure there is no clean and dirty water mixing which could potentially move offsite through the live stormwater drain | Closed out |
| | | Ensure all material tracked onto Bridge St and public roads are removed on an ongoing basis | Closed out |
| | | Ensure controls are installed as per the approved PESCP and/or can be installed prior to rain or end of day where required | Closed out |
| | | Ensure landscape works are installed as per the approved Landscape design/plans | Closed out |
| | | Ensure weeds are managed as per G36, G38, G40, CFFMP and the Weed Management Plan | Closed out |
| | | Ensure that stockpiled material from the project is managed as per the Stockpiled Management Protocol and weeds are managed as per G36, G38, G40, CFFMP | Closed out |
| | | For the permanent landscape areas, may want to undertake some weed maintenance in these areas | Closed out |
| | | Ensure that any ASS/PASS that is encountered during excavation / construction activities is managed as per G36, CSWQMP, Acid Sulfate Soil Management Procedure, relevant EWMS and relevant PESCP | Closed out |
| | | Ensure that fines tracked onto public roads are removed and the site access arrangements are installed and managed as per the Bluebook, G36, G38, CSWQMP, CAQMP and SWTC | Closed out |
| | | Ensure that stockpiled material from the project is managed as per the Stockpile Management Protocol, G36, G38, CSWQMP and relevant EWMS | Closed out |
| | | For the permanent landscape areas, may want to consider undertaking some weed maintenance in these areas | Closed out |
| | | Ensure concrete washouts are utilised where required and waste management is undertaken as per G36 and CWEMP | Closed out |
| | | Ensure stockpiled material is managed as per the approved PESCP, Stockpile Management Protocol, CSWQMP, G38 and G36 | Closed out |
| Need to ensure that the required approvals and agreements are in place prior to works being undertaken outside the project boundary, including pre-condition land assessments where required | Closed out | | |
| 36 | 25 July 2019 | Only other potential option appears to be parking LVs under the railway viaduct. Agreed that this option would be investigated further | Closed out |
| | | Consider placing board across pit apron to prevent clean bypass stormwater from surcharging out of pit and mixing with site water | Closed out |
| | | Ensure litter is managed in accordance with G36 and CWEMP | Closed out |
| | | Regularly monitor and manage mud and dirt tracking throughout the project to ensure surrounding public roads are kept free of mud and dirt | Closed out |

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| | | Consider consultation with contaminated land consultant. Ensure final placement of all contaminated material complies with any relevant RAPs | Closed out |
| | | Ensure all stockpiles are managed in accordance with CSWQMP (in particular the Stockpile Management Protocol), G36, G38 and ESCPs | Closed out |
| | | Ensure ErSed risk is appropriately managed in accordance with G36, G38 and ESCPs | Closed out |
| | | Observed location of fuel discovery in stormwater pit. Submit unexpected find report in accordance with CEMP | Closed out |
| | | Ensure ErSed risk is appropriately managed in accordance with the Blue Book, G36, G38 and ESCPs | Closed out |
| 37 | 15 August 2019 | Ensure controls are adequately installed and maintained in particular prior to rainfall and/or end of day where required | Closed out |
| | | Ensure that all concrete washout activities are undertaken in the designated appropriately bunded areas and waste is managed in accordance with G36, CSWQMP and CWEMP | Closed out |
| | | Ensure that ongoing and regular maintenance is implemented for the crane pad to remove fines, in particular prior to rainfall and/or end of day where required | Closed out |
| | | Also provided detail for the curing process for the stitch pours of the parapets and how it was not a continuous system of flowing water for wet curing | Closed out |
| | | May want to consider providing more spill kits on the bridge deck to allow for adequate response time and clean-up of any spills/incidents | Closed out |
| | | Ensure that controls are installed as per the updated and approved PESCP prior to rain and/or end of day where required, to ensure there is no runoff into the Clarence River | Closed out |
| | | Ensure that adequate containment / controls are installed around scuppers on bridge deck to prevent foreign material from being discharged to sensitive receiving environments | Closed out |
| | | Concrete washout at capacity with another one observed that was not installed adequately to provide desired containment | Closed out |
| | | Ensure concrete washouts are installed and maintained as per G36, CSWQMP, CWEMP and relevant EWMS and that all personal involved with concrete works are aware of the location and requirements for concrete washout and management of concrete waste | Closed out |
| | | Ensure that dust and mudtracking is managed and maintained in accordance with G36, G38, CSWQMP and CWEMP | Closed out |
| 38 | 29 August 2019 | Ensure adequate controls are installed prior to rainfall and/or end of day where required to minimise the risk of dirty water flowing into the cleanwater system | Closed out |
| | | May want to consider some temporary controls that could be installed prior to rain and/or end of day where required prior to permanent landscape treatments being installed. Advised that turf was to be laid early the following week along with hydro-mulching of the batter | Closed out |
| | | May want to review the controls and ensure there are installed and maintained to provide adequate control and are as per the approved PESCP | Closed out |
| | | Ensure that the ASSTA is constructed, operated and maintained as per the ASS Management Procedure (Annexure C of CSWQMP) and relevant PESCP to ensure that the material can be treated, validated and moved to another Stockpile area once validated | Closed out |
| | | Ensure the entire silt boom is in place and functioning as required | Closed out |
| | | Ensure all live stormwater pits in operational construction areas have appropriate ERSED controls and that those controls are installed correctly - check sandbagging to ensure it creates a proper seal from construction water | Closed out |
| | | Ensure the street sweeper regularly cleans this area and the material is cleaned and removed from site | Closed out |
| | | Ensure scupper drains on the bridge deck are covered with geofab or the like to stop construction debris (dust/crushed concrete) from washing into the | Closed out |

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| | | waterway | |
| 39 | 12 September 2019 | Ensure dust management controls and measures are implemented as per the Bluebook, G36, G38, CSWQMP and CAQMP and that ERSED controls are reinstated as per the approved PESCP prior to rain and/or end of day where required. Ensure that only approved access arrangements are used | Closed out |
| | | Ensure that appropriate controls and measures are implemented in accordance with the Bluebook, G36, G38, CSWQMP and CAQMP to minimise the mobilisation of material | Closed out |
| | | May want to consider the requirements for providing an impermeable washout area as per the CSWQMP | Closed out |
| | | Ensure that the ASSTA is installed and maintained as per the ASS Management Plan | Closed out |
| | | Ensure that all controls are installed and maintained as per the approved PESCP, including the provisions for double sediment booms in the river where required | Closed out |
| | | Review controls to ensure they are as per the approved PESCP and to contain any spills or washouts where required | Closed out |
| | | Ensure stockpiles are managed as per the Bluebook, G36, G38, CSWQMP in particular the Stockpile Management Protocol and the CAQMP | Closed out |
| 40 | 24 September 2019 | Ensure that weeds are managed as per G36 and the CFFMP and waste is managed in accordance with the CWEMP | Closed out |
| | | Ensure that any material tracked onto public roads is managed in accordance with G36, G38, CSWQMP and CAQMP | Closed out |
| | | Observed concrete washout arrangement in place and being utilised, may require some maintenance to maintain capacity for ongoing washout | Closed out |
| | | Observed material being stockpiled. Ensure materials are stockpiled and managed in accordance with the Stockpile Management Protocol and CWEMP | Closed out |
| | | Ensure the site is setup and managed in accordance with the approved PESCP and EWMS for the works being undertaken | Closed out |
| | | Ensure that ASS/PASS is treated and managed in accordance with the Acid Sulphate Soil Management Plan | Closed out |
| | | Ensure that materials are managed in accordance with the Stockpile Management Protocol | Closed out |
| | | Observation only, may need to investigate to ensure that batter meets requirements for R178 | Closed out |
| May want to consider implementing some dust management arrangements in accordance with G36, G38, CSWQMP and CAQMP | Closed out | | |
| Ensure measures are in place to minimise occurrence and street sweepers are used regularly | Closed out | | |
| 41 | 17 October 2019 | Ensure ERSED controls are installed and maintained as per the approved PESCP | Closed out |
| | | Confirm if alternate parking arrangements have been investigated and are intended to be utilised to reduce the use of public parking spaces in Pound St out the front of the local residents | Closed out |
| | | Ensure that all waste and rubbish is managed as per the CWEMP and that appropriate waste disposal facilities and arrangements are utilised and that fuel and chemical containers are stored in appropriate bunded areas or arrangements as per G36 and the CSWQMP | Closed out |
| | | Ensure that ongoing maintenance of the crane pad to remove fines is implemented and that the stockpiled material is managed as per the Stockpile Management Protocol and ERSED controls associated with the pipe culvert and headwall works are installed and maintained as per the approved PESCP and EWMS | Closed out |
| | | Positive comment, use of concrete washout bins and storage of fuel and, generators in bunded arrangements | Closed out |

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| | | May want to consider some early treatment to prevent excessive germination and growth that may result in ongoing control during maintenance | Closed out |
| | | Observation only, may want to look at some of the plantings to ensure they are as per the Landscape Design and R179, some plants appear to be small | Closed out |
| 42 | 29 October 2019 | Ensure weeds are managed as per G40 and the CFFMP. May want to consider developing a plan for managing the area in preparation for final remediation, post condition land assessment and lease requirements | Closed out |
| | | Ensure that sediment basins are removed as per G38 and the Blue Book, may want to consider using any suitable topsoil that was stripped as part of the basin construction as part of the final landscape treatment and capping of the treated PASS material that is proposed to be backfilled into the basin | Closed out |
| | | Some weeds observed, in particular throughout the landscaped areas. Ensure weeds are managed as per G36, G40, R178, R179 and the CFFMP | Closed out |
| | | Site is exposed to ongoing dry and windy conditions. Continue to manage dust as per G36, G38, CSWQMP, CAQMP and the Bluebook | Closed out |

7.0 Environmental Monitoring

Environmental monitoring is used to review potential environmental risks caused by project activity. It allows the project to assess and evaluate receiving environment trends and ensure installed controls are appropriate and effective.

A range of environmental monitoring is required during 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 throughout the reporting period continues to be representative of background data and has not demonstrated any impacts resulting from construction. Decreases in water quality are typically observed following a large rainfall in the wider upstream catchment.

Only one rainfall event caused site sediment basins to fill and overtop into the receiving environment during the six-month period. This is a low number of overflows and is a result of the sediment basin design in South Grafton being larger than required. All managed discharges were compliant with the requirements of the approved soil and water management plan.

The project did not have any measurable effect on the background water quality of either Alipou Creek or the Clarence River during the reporting period. Rainfall events were well managed and site materials and waters contained on the site.

Water quality monitoring results are included in **Appendix B**.

7.1.1 Groundwater monitoring

The project has two underground sources of soil contamination that required monitoring during construction. Both locations were affected by hydrocarbon pollution into areas of stiff clay. Monitoring results have shown neither plume is moving and bound in the dense soils.

ARTC plume, identified pre-construction, a decision made not to remediate the land but install a monitoring regime. That ground water monitoring regime undertaken during construction has established that the plume is not moving or moving very slowly.

Culvert 1 plume, this area was identified during construction when excavating for the design open drain. Investigation during construction established the likely extent of the plume. A decision was made not to remediate the land but to put in place a ground water monitoring regime. Ground water monitoring has confirmed the plume is not moving or moving very slowly.

7.2 Noise and Vibration Monitoring

Noise monitoring was undertaken during standard construction hours for periodic (monthly) review, background noise assessments and for out of hours work assessments. All recorded noise levels were consistent with the anticipated levels as described in the approved Noise and Vibration Management Plan with no non-compliances.

42 out of hours work events were approved during the reporting period. Refer to table 7-1 below.

Table 7-1 Approved OOHW summary

The results of OOH noise monitoring for compliance tracking report 6 are summarised in the table below. A brief summary of the site conditions and monitoring includes:

- Background noise is consistently higher than the NML at each location monitored. This is due to several factors, including, early morning starts fall into the night period but the background noise from 0500 is dominated by increasing traffic over the existing bridge, which is higher than the NML. Background noise from birds in Grafton starts from about 0430 and is high, there are large groups of birds active in the established heritage trees that make noise of about 60-65dBA in the urban streets of Grafton.
- Pacific Highway traffic at night changes from cars to trucks, there is less volume of traffic but the noise is consistent from passing trucks
- The train line is active 24 hours a day in Grafton, both from shunting and moving carriages but also from train traffic through Grafton
- South Grafton commercial zone is located in an area away from residents, there is also significant attenuation provided by existing buildings and the rail embankment
- Many of the OOH works in the South Grafton marine zone were low noise works that were not audible over the traffic on the existing bridge, these type of works included early pre-start meetings, access to the work area, tying steel, formwork and engineering works
- Works on Pound Street were included in the EIS and are required to reduce impacts on businesses and the TAFE. It was always anticipated that OOH works along Pound Street would be a requirement during construction
- Concrete works are at times required OOH to ensure that concrete quality requirements

| Permit no. | Date | Period | Hours | Activity | Justification | Notes | Location | Noise catchment | Predicted dBA | NML | Monitoring | Approval type | Approved |
|------------|---------|-------------------|-------------|--|--|---|-------------|-----------------|-----------------------|-------|---|------------------------------|----------|
| | 8/6/19 | Day night evening | 72 hours | New rail bridge installation | Rail bridge possession weekend | These works over a continuous 72-hour period in Grafton. They were required to occur continuously during the rail shutdown while the rail line was shut down. Mitigation measures included relocation of residents, consultation, noise attenuating mats and moving the demolition program to the day time period to reduce noise impacts | Pound St | NCA 5, NCA 6 | 10 to 30dBA above RBL | 36-44 | 40 – 60 night time monitoring 50 – 90 daytime monitoring during demolition | CoA D4 Approved | Yes |
| 132 | 1/5/19 | Night | 1800 - 0600 | Drainage works across Iolanthe St | Reduce impacts to business and road users. Works were modelled as Less than 5dBA above the RBL | Alternative one-way flow path will be established on Iolanthe St and Spring St. Monitoring Deemed unnecessary due to the location of the works on the existing Pacific Highway and the time of the works in the afternoon. Resident more than 200m from works, predominant noise is traffic | Iolanthe St | NCA 8 | 44 | 46 | – | Less than 5dBA above the RBL | Yes |
| 133 | 30/4/19 | Evening | 1800 - 2100 | Pier 8 concrete finishing works | Less than 5dBA above the RBL works | No plant or equipment used, No noise producing machinery or tools present. Monitoring not deemed necessary. | Pier 8 | NCA 6 | 0 | 47 | – | Less than 5dBA above the RBL | Yes |
| 134 | 8/5/19 | | | | | Permit not used | | | | | | | |
| 135 | 11/5/19 | Evening | 0800 - 1400 | HBB wet curing | Requirement to meet specification | Dominant noise source was traffic on the Pacific highway | Pound St | NCA 5 | 56 | 49 | 55 | Agreement | Yes |
| 136 | 13/5/19 | Evening | 1800 - 2100 | Rail truss bridge concrete deck curing works | inaudible works | Works were less than 5dBA above the RBL at nearest receiver. | Pound St | | | | 62.7 | Agreement | Yes |

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|--------|---------|---------|-------------|---|--|--|---------------------|-------|----|----|------|------------------------------|-----|
| 137 | 18/5/19 | Night | 0600 - 1700 | BP driveway concrete pour | Reduce impacts to businesses | Dominant noise source was traffic on the Pacific highway | BP South Grafton | NCA 1 | 36 | 37 | 63.2 | Less than 5dBA above the RBL | Yes |
| 138 | 25/5/19 | Evening | 0800 - 1700 | 720 t crane assembly | Ensure the program is met for the rail possession weekend. | | Pound St | NCA 4 | 62 | 53 | 61 | Agreement | Yes |
| 139 | 22/5/19 | Night | 1800 - 0700 | Pipe jacking works on the northern levee | Prevent the inundation of water into the jacking pit, hence prevention of loss/damage to property | Pump was Less than 5dBA above the RBL at nearest receiver. No complaints were received during dewatering program Dominant noise source background noise | Northern levee | NCA 4 | 34 | 36 | 62.4 | Less than 5dBA above the RBL | Yes |
| 139(a) | 1/6/19 | Evening | 1300 - 1700 | Pipe jacking works on the northern levee | Prevent potential failure of jacking pit, including the need to retrieve the TBM from within the skink protection area | Works were Less than 5dBA above the RBL at time of monitoring. Adjacent birds were dominant noise source Dominant noise source background noise | Northern levee | NCA 4 | 51 | 36 | 62.4 | Less than 5dBA above the RBL | Yes |
| 140 | 26/5/19 | Evening | 0800 - 1700 | Installation of additional winch rope | Less than 5dBA above the RBL works | Bent St and Through St were dominant noise source at time of monitoring | South Grafton barge | NCA 2 | 50 | 64 | - | Less than 5dBA above the RBL | Yes |
| 141 | 24/5/19 | Evening | 1800 - 1900 | Emergency works to finish concrete within culvert 7 | Prevention of rectification works, increasing impacts to receivers and the environment | Emergency works not monitored | Culvert 7 | NCA 5 | 37 | 44 | - | Less than 5dBA above the RBL | Yes |

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|--------|------------|---------|-------------|---|--|---|-------------------------------|-------|----|----|--|------------------------------|-----|
| 142 | 11/06/2019 | Night | 1800-0600 | Pavement construction Pound St | Reduce impacts to operation business and TAFE - as per EIS | Birds were dominant noise source when monitoring. Construction noise was inaudible at time of monitoring | Pound St | NCA 5 | 72 | 40 | 72.3 | CoA D4 Approved | Yes |
| 143 | 3/6/19 | Night | 1800 - 0600 | Truss bridge assembly | Rail bridge possession weekend | OOH not used | Pound St | NCA 4 | 52 | 44 | Not Used | Agreement | Yes |
| 144 | 1/6/19 | Evening | 0700-1700 | HBB curing | Less than 5dBA above the RBL works | No monitoring occurred. Works considered low risk | Iolanthe St | NCA 1 | 25 | 44 | - | Less than 5dBA above the RBL | Yes |
| 145 | 30/5/19 | Evening | 1800-2100 | UZF removal | Inaudible works South Grafton | OOH not used | Iolanthe St | NCA 1 | 34 | 44 | Not Used | Less than 5dBA above the RBL | Yes |
| 146 | 3/6/19 | Night | 1800-0600 | HBB placement | Inaudible works South Grafton | Bent St and Through St were dominant noise source at time of monitoring Dominant noise source background noise | Iolanthe St | NCA 1 | 33 | 37 | 64.5 | Less than 5dBA above the RBL | Yes |
| 147 | 3/6/19 | Evening | 1800-2200 | Seating beam conduit removal | Less than 5dBA above the RBL works | Works were Less than 5dBA above the RBL at time of monitoring | Pound St Rail Bridge | NCA 4 | 40 | 47 | Not monitored as construction noise was Less than 5dBA above the RBL | Less than 5dBA above the RBL | Yes |
| 148 | 3/6/19 | Night | 1800-0600 | line marking, barrier placement, median removal | Reduce impacts to adjacent businesses' and road users. Also, an ROL was used for safety of workers | Dominant noise source was traffic on the Pacific highway | Pacific Highway South Grafton | NCA 8 | 48 | 53 | 56 | Less than 5dBA above the RBL | Yes |
| 148(a) | 26/6/19 | Night | 1800-0600 | line marking, barrier placement and minor | Reduce impacts to adjacent | Dominant noise source was traffic on the Pacific highway | Pacific Highway South | NCA 8 | 44 | 46 | 58 | Less than 5dBA above the | Yes |

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|--------|---------|---------|---------------------------------------|--|--|--|-----------------|-------|----|----|--|------------------------------|-----|
| | | | | asphalt repairs | businesses' and road users. Also, an ROL was used for safety of workers | | Grafton | | | | | RBL | |
| 149 | 5/6/19 | Night | 1800-0700 | Traffic control | To allow traffic control to safely divert traffic through the Bridge St one-way shoulder widening | Construction works were Less than 5dBA above the RBL at time of monitoring | Bridge Street | NCA 5 | 40 | 40 | Not monitored as construction noise was Less than 5dBA above the RBL | Less than 5dBA above the RBL | Yes |
| 150 | 17/6/19 | Night | 1800-0600 | Pavement construction | Reduce impacts to adjacent businesses' and road users. Also, an ROL was used for safety of workers | Impacted resident was contacted as per CoA D3 approval pathway however noted the property is vacant. | Iolanthe Street | NCA 1 | 46 | 37 | | Agreement | Yes |
| 150(a) | 17/6/19 | Night | 1800-0600 | Asphalting, temporary access construction, line marking, drainage installation and barrier placement | Reduce impacts to adjacent businesses' and road users. Also, an ROL was used for safety of workers | Impacted resident was contacted as per CoA D3 approval pathway however noted the property is vacant. | Iolanthe Street | NCA 1 | 46 | 37 | | Agreement | Yes |
| 151 | 15/6/19 | Evening | 1300-1700 (Sat) 0800-1700 (Sunday) | Fill 1 communication conduit installation | Less than 5dBA above the RBL works | Monitoring not completed due to previous data showing excavators are Less than 5dBA above the RBL at this location | Fill 1 | NCA 2 | 38 | 51 | | Less than 5dBA above the RBL | Yes |
| 152 | | Evening | | Pound St LR-PP | | Not used | | | | | | | |

| | | | | | | | | | | | | | |
|-----|---------|---------|-------------|---|---|---|----------------------------|-------|----|----|--------------------------------------|------------------------------|-----|
| 153 | 3/7/19 | Evening | 1800-2200 | Pound Street line marking | Reduce buisness and TAFE impacts during operational hours | Bent St was the dominant noise source at time of monitoring | Pound Street | NCA 5 | 67 | 44 | works completed by 2000 | Less than 5dBA above the RBL | Yes |
| 154 | 1/8/19 | Night | 1800 - 0700 | Line Marking/removal, barrier movement, HBB placement, concrete pours | Permit which with streamline the approval process for further works | | Pac/gwydir highway | NCA 8 | 46 | 46 | Not used | Agreement | No |
| 155 | 20/7/19 | Day OOH | 1300 - 1700 | HBB Placement | Less than 5dBA above the RBL works | Dominant noise source was traffic on the Pacific highway | United station Pac highway | NCA 8 | 54 | 54 | 43 | Less than 5dBA above the RBL | Yes |
| 156 | 5/8/19 | Night | 1600 - 0700 | Asphalting | Night works required to reduce impacts to traffic. | Dominant noise source was traffic on the Pacific highway | Pac Highway, spring st | NCA 8 | 46 | 51 | 50 | Agreement | Yes |
| 157 | 30/7/19 | Night | 1800-0600 | Removal of median strip on Gwydir Highway | Unable to be conducted during day due to traffic volume | Dominant noise source was traffic on the Pacific highway | Gwydir Highway | NCA 8 | 46 | 46 | Works were not audible over traffic. | Agreement | Yes |
| 158 | 7/8/19 | Night | 1800 - 0600 | Removal of Villiers st round about | Night works required to reduce impacts to traffic. | Dominant noise source was traffic on the Pacific highway | Villiers st round about | NCA 5 | 92 | 48 | 74.4 | Agreement | Yes |
| 159 | 10/8/19 | Day OOH | 0700 - 1700 | C07 Steel fixing | Less than 5dBA above the RBL | | C07 | NCA 5 | 44 | 44 | High winds present during works | Less than 5dBA above the RBL | Yes |
| 160 | 25/5/19 | Day OOH | 0800 - 1700 | Crane Demobilisation | Time restrictions for oversized floats | Weekends Only | Abutment B | NCA 6 | 62 | 53 | 59.4 | Agreement | Yes |
| 161 | 29/8/19 | Evening | 1600 - 2200 | Parapet stitch pour | Emergency works - risk to bridge | Dominant noise source was traffic on the Bent Street | Pier 5 | NCA 6 | 33 | 44 | Works were not audible | Less than 5dBA above the | Yes |

| | | | | | structure | | | | | over traffic. | RBL | | |
|-------|----------|---------|-------------|----------------------------|--|---|--------------|-------|----|---------------|--------------------------------------|------------------------------|-----|
| 162 | 16/9/19 | Night | 1800-0700 | Dobie St Round about Works | Reducing impacts to commercial and residential traffic | Dominant noise source was Villiers Street traffic | Dobie St | | 71 | 40 | 58.6 | Agreement | Yes |
| 162.1 | 30/9/19 | Night | 1800-0700 | Dobie St Round about Works | Reducing impacts to commercial and residential traffic | Dominant noise source was Villiers Street traffic | Dobie St | | 71 | 40 | " | Agreement | Yes |
| 163 | 10/9/19 | Evening | 0600 - 2200 | Asphalting | Inaudible | Dominant noise source was traffic on the Bent Street | Fill 1 | NCA 2 | 42 | 51 | Works were not audible over traffic. | Less than 5dBA above the RBL | Yes |
| 164 | 19/9/19 | Evening | 1800 - 2000 | Line Marking | Inaudible | Bent St and Through St were dominant noise source at time of monitoring | Butters Lane | NCA 8 | 36 | 53 | 43.1 | Less than 5dBA above the RBL | Yes |
| 165 | 10/10/19 | Night | 1800 - 2300 | KBP Application | inaudible / Safety concerns | Bent St and Through St were dominant noise source at time of monitoring | Bridge Deck | NCA 6 | 32 | 40 | 42.8 | Less than 5dBA above the RBL | Yes |

Out of hours works have been used to ensure the safe, on time and high quality delivery of the 'Additional Crossing of the Clarence River at Grafton'. Out of hours works for the reporting period have been done with the support of the project neighbours with minimal complaints received during out of hours work. At times out of hours works have also been done at the request of the community to reduce impacts on the street scape and to limit impacts on businesses and the TAFE.

Vibration monitoring

The construction of the new road and bridge sub-structure does from time to time create vibration on the ground which can be felt at nearby sensitive receivers. For residents and businesses near the works this is often a new process which can be disconcerting. To alleviate that potential stress, the project team has been working hard to consult with neighbours about vibration works prior to them occurring.

Vibration monitoring was undertaken throughout the reporting period for the following activities:

- Road works in Grafton
- Works near the existing rail viaduct structure
- Works near the heritage house on Pound Street

At no point throughout the reporting period was the monitoring limit of 15mm/s exceeded or 3mm/s for heritage items. All recorded levels were within acceptable parameters described in the approved 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:

- DMG1 – Pound Street, Grafton
- DMG2 – Rail Station, South Grafton
- DMG3 – Bunnings, South Grafton
- DMG4 – Control, South Grafton

Air monitoring results for the reporting period are shown in figure 14 below.

Clarence River Crossing Dust Deposition Monitoring Results

All results are reported in g/m²/month - Total Insoluble Solids
All results greater than 4g/m²/month are shaded red
 NS = Not sampled (include details e.g sample tampered with, funnel broken, etc)
 Comments - Sample to be taken over 28 days (+ 2)

| Sample Number | Month | Date Started | Date Finished | DMG1 | DMG2 | DMG3 | DMG4 | Monthly Average | Comments |
|---------------|----------------|--------------|---------------|--------------------------------|----------------------------|------------------------|----------------------------|-----------------|--|
| | | | | Grafton - Pound Street | Sth Grafton - Rail Station | Sth Grafton - Bunnings | Sth Grafton - Control Site | | |
| 35 | May 2019 | 16-Apr-19 | 16-May-19 | 0.7 | 0.8 | 1.4 | 0.4 | 0.8 | All gauges compliant |
| 36 | June 2019 | 16-May-19 | 14-Jun-19 | 1.8 | 0.6 | 1.1 | 0.4 | 1.0 | All gauges compliant |
| 37 | July 2019 | 14-Jun-19 | 18-Jul-19 | 2 | 0.8 | 1.4 | 0.3 | 1.1 | All gauges compliant |
| 38 | August 2019 | 18-Jul-19 | 16-Aug-19 | 2.3 | 1 | 2.9 | 0.6 | 1.7 | All gauges compliant |
| 39 | September 2019 | 16-Aug-19 | 16-Sep-19 | NR | NR | NR | NR | | |
| 40 | October 2019 | 16-Sep-19 | 16-Oct-19 | 2.7 | 2.3 | 4.7 | 2.2 | 3.0 | Increased overall results across all gauges, exceedance at Bunnings associated with the regional bushfires which caused widespread air quality impacts during this period. |
| | | | | Average g/m ² | 1.2 | 0.8 | 1.2 | 0.5 | |
| | | | | Number of exceedances (Total) | 1 | 0 | 1 | 0 | |
| | | | | Number of 'No Samples' (Total) | 1 | 0 | 0 | 0 | |
| | | | | Compliance | 94% | 100% | 97% | 100% | |

Figure 14 Air monitoring results for the reporting period

In October 2019, an increase in air borne dust was observed regionally, this occurred because of the ongoing drought and bushfires. In October the deposition results were higher at Bunnings measuring over 4g/m², the three other gauges recorded a month on month increase. The results confirm the onsite observations of increased dust and smoke throughout the month. The high results caused by the bushfire activity and the ongoing drought were reported to EPA, the project ER and RMS.

There was minimal amount of project relate works occurring in the vicinity of the Bunnings dust gauge, in particular dust generating activities during the sampling period of the exceedance.

No community complaints were received in the south Grafton area relating to dust generation during the sampling period for the exceedance.

7.4 Flora and Fauna

At this late stage of the project there has been limited need for further ecological inspections or investigations. The site is cleared and the requirements of the 'Three toed Snake Tooth Skink' Management plan predominantly complete.

The most significant change for the flora and fauna at the project is the increase in landscaped and rehabilitated areas. The approved urban design and landscaping plan provides full details on the rehabilitation of the site. In general the plan sought to provide native plantings and shrubs in visible areas, maintain open spaces and heritage views, native plantings in south Grafton, some exotic species which match the natural character of Grafton north side of the river.

Landscape planting will continue until January 2020, after January 2020 maintenance of the landscaping areas will included weeding, watering and replacing plants that do not survive. When the project reaches practical completion of all defects in the second quarter of 2020 the maintenance period for the project will commence.

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 |
|---|---------------|--------------|---|---------|
| Six monthly and periodic certification – April to October | Independent | October 2019 | Pursuant to the Services and Implementation Plan in the Deed of Appointment of ER, Schedule 30B – ER Services | Nil |

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, clearing activities, high risk activities and the opening new works areas.

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.

During the reporting period ERG meetings were held bi-monthly, this frequency was agreed with the ERG group. The bi-monthly schedule was appropriate due to the size of the site, level of risk and speed of construction.

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 | Fortnightly |
| RMS Northern Project Office | Jason Sheehan Fulton Hogan Staff; environmental, engineers, foreman and superintendents | Fortnightly |
| NSW EPA | Stan Viney 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 – Project Soil Conservationist Ecosure Ecology – Project Ecologist Sandpiper Ecology – Project Ecologist 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 Clarence Valley Council DPI (Fisheries) DP&E Fulton Hogan Staff; environmental, construction manager | Bi-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 (PO Box 546, 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)
- Section 9.2 of the Construction complaints management system – Additional Crossing of the Clarence River at Grafton, Community consultation strategy

9.1 Complaints Management

The project engaged with the community in various forms of communication about one thousand times during the reporting period. Those engagements include: door knocks, letter box drops, phone calls, email, community information nights and visitors to the project community display centre.

The majority of communications and interactions with the community are positive with the local residents interested and supportive of the project. At times the construction activities can cause some impacts which can result in complaints. The project received 24 complaints in the reporting period.

Table 9-1 Environmental complaints summary

| Complaint # | Date | Environmental Relevance | Summary | Status |
|-------------|--------------|-------------------------|--|--------|
| 1 | 16 May 2019 | Vibration | Resident complained about vibration. Resident was assured that the project is monitoring the vibration levels in the area from the work). Work is not yet complete but the project team is committed to undertaking a post-construction survey of her property and, at that time, any concerns the resident may have would be addressed. | Closed |
| 2 | 20 May 2019 | Noise | Resident complained about workers arriving for the pre-start talking loudly. Spoke to foreman to discuss at pre-start. | Closed |
| 3 | 26 May 2019 | Out of hours work | Resident complained about noise from out of hours work that had been assessed as being inaudible at the residence. An investigation found that the subcontractor had not contained the work to the location that was advised and assessed. The resident was offered movie tickets for respite. The offer was accepted. | Closed |
| 4 | 8 June 2019 | Vibration | Resident sent an email complaint about vibration. Project team member visited the residence and undertook vibration monitoring. The readings were low, less than 1mm/s. However, the resident was given some movie tickets to get some respite. | Closed |
| 5 | 10 June 2019 | Out of hours work | Resident complained about noise from out of hours work. The resident was offered alternative accommodation. | Closed |
| 6 | 11 June 2019 | Noise | Resident complained about noise from project team members talking loudly outside their residence during the day on the weekend. Both members of the household work at night and said it was difficult to sleep during the day. Project team member apologised and arranged for the Construction Manager to talk to the subcontractor. She also arranged for a meal voucher to a local hotel. | Closed |
| 7 | 12 June 2019 | Out of hours work | Resident complained about noise from out of hours work the night before. Noise monitoring had been undertaken which found a lighting tower was causing more noise than the work itself. Resident was advised the lighting tower had been replaced. Resident was spoken to the next day and they advised there had been no further noise disturbance. | Closed |
| 8 | 18 June 2019 | Vibration | Resident complained about vibration. Resident was advised that the vibration monitor was on site and results would be forwarded. Results were less than 1mm/s. | Closed |
| 9 | 21 June 2019 | Vibration | Resident complained about vibration. Resident was advised that the vibration monitor was on | Closed |

| | | | | |
|----|-------------------|-------------------|--|--------|
| | | | site and results would be forwarded. Results were less than 1mm/s. | |
| 10 | 8 July 2019 | Vibration | Resident complained about vibration. Resident was advised that the vibration monitor was on site and results would be forwarded. Results were less than 1mm/s. | Closed |
| 11 | 6 August 2019 | Vibration | Resident complained about vibration. Resident was advised that the vibration monitor was on site and results would be forwarded. Results were less than 1mm/s. | Closed |
| 12 | 8 August 2019 | Out of hours work | Resident complained about noise from out of hours work. Project team met with resident the next morning and apologised. Resident was advised a mis-communication had occurred about the work and it had not been included in the noise assessment, otherwise, as previously, alternative accommodation would have been arranged. The resident advised that, despite their complaint, they realised the work had to be done. Movie tickets and food voucher provided for respite. | Closed |
| 13 | 9 August 2019 | Out of hours work | Airbnb owner rang to advise her guests had complained about noise from out of hours work and wanted their money back. The owner had been consulted about the work. An apology was given and the owner was compensated for loss of income and the inconvenience of relocating other guests. Movie tickets also were provided to the owner for her and her guests. | Closed |
| 14 | 9 August 2019 | Out of hours work | Resident complained about noise from out of hours work. Project team met with resident the next morning and apologised. Movie tickets and food voucher provided for respite. | Closed |
| 15 | 27 August 2019 | Vibration | Resident complained about vibration. Resident was advised that the vibration monitor was on site and results would be forwarded. Results were less than 2mm/s. | Closed |
| 16 | 5 September 2019 | Rubbish | Resident complained about orange skins left on the verge outside a project office. Workers were toolboxed about disposing of rubbish. | Closed |
| 17 | 9 September 2019 | Noise | Resident complained about a truck parked across the road with its engine idling. Foreman spoke to truck driver who moved his truck inside the construction site. | Closed |
| 18 | 10 September 2019 | Vibration, dust | Resident advised they were unhappy with some of the findings of an interim property damage inspection report. Resident was assured vibration monitoring is ongoing and that a post-construction survey of her property would be undertaken. Water carts were operating on a half-hour rotation and wind conditions were | Closed |

| | | | | |
|----|-------------------|---------|--|--------|
| | | | being assessed. | |
| 19 | 16 September 2019 | Dust | Business owner complained about dust from defects work on expansion joints in a footpath. Meeting held with the business owner who advised the dust wasn't that bad and didn't worry him. He was advised the work was nearly complete and the workers would move on in about half an hour. | Closed |
| 20 | 24 September 2019 | Noise | Business owner complained about noise. Meeting was held with the business owner who said the noise had gone on for about 15 minutes. The business owner was advised it was a machine used to clean the expansion joints. The work had been completed and would not occur again. | Closed |
| 21 | 1 October 2014 | Rubbish | Business owner complained about small pieces of concrete on the verge in front of her neighbour's property. Meeting was held with the business owner and the foreman was spoken to and arranged to have the pieces picked up immediately. | Closed |
| 22 | 3 October 2019 | Dust | Business owner complained about dust. Meeting was held with the business owner and the work being undertaken was modified to address the issue. | Closed |
| 23 | 10 October 2019 | Dust | Business owner complained about dust. Meeting was held with the business owner and the work being undertaken was modified to address the issue. | Closed |
| 24 | 16 October 2019 | Dust | Business owner complained about dust from a vacuum truck. Superintendent ensured the work being undertaken was modified to address the issue. | Closed |

9.2 Community Engagement Initiatives

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

Community consultation for work has included but not been limited to:

- OOH works in Grafton and South Grafton
- Marine navigation
- Special events
- Business Liaison Groups with affected businesses in Grafton and South Grafton, providing updates on traffic staging and program
- Segment production
- Marine works and progress

- Traffic switches, staging and changes to access
- Information provided to interested residents at the project community display centre

The project is maintaining and building on the positive and constructive relationship 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.

10.0 Pre-Operation

The main bridge structure and the approaches leading to the bridge are scheduled to be open to traffic in December 2019 (weather permitting), noting that there will still be sections of the project around the Gwydir roundabout, Pacific Highway and tie-ins to the local road network and finishing works that will still be undertaken after the bridge is open to traffic. It should also be noted that the bridge maybe subject to reduced traffic speed and periods of traffic control through to the completion of construction for ongoing works.

As the project is proposing to open the main bridge structure at design speed, MCoA E3, Operational Noise Compliance Report and will be triggered which requires the Operational Noise Report to be submitted within 12 months of the proposed opening date in December 2019 unless otherwise agreed by the Secretary. At this no other operational conditions will be triggered as result of the opening of the main bridge structure. As noted above the project will also have some sections still under construction and it is anticipated that the project is likely to be fully operational by mid-2020.

APPENDIX A

Project Approval Compliance Table

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|----------------------------------|---|---|--------------------|----------------------|--|--|
| Part A - Admin Conditions | | | | | | |
| 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. | 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. | Compliant |
| A2. | The Proponent shall carry out the SSI generally with the: (a) State significant infrastructure application SSI-6103; (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; (c) Additional Crossing of the Clarence River at Grafton Submissions Report Main Volume and Appendices, prepared by Roads and Maritime Services, dated October 2014; (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; (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 (f) Conditions of this approval | Pre-construction, construction, and operation | Contractor | Open | Addressed in compliance register. These sheets are updated regularly. | Compliant |
| 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. | Pre-construction, construction, and operation | Contractor | Open | No inconsistency noted at this stage. | Compliant |
| A4. | The Proponent shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of: (a) any documentation or correspondence that is submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents. | Pre-construction, construction, and operation | Contractor | Open | The project has an Excel sheet layer for DPE letters and applicable tracking. Refer extra Excel sheet layer for DPE letters and applicable compliance tracking. | Compliant |
| 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 | Pre-construction, construction, and operation | RMS | Open | Construction started in October 2016, the new bridge and roadworks connecting South Grafton and Grafton were completed in December 2019. Other activities are ongoing such as building a roundabout in the Pacific Highway | Compliant |
| 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. | Pre-construction, construction, and operation | Contractor and RMS | Open | Addressed in Deed, SWTC, G 36 and Environment Documents. Fulton Hogan applied for and gained EPL for the Rail Viaduct over Pound Street, these works are complete and the EPL has been surrendered | Compliant |
| 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: (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 (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. | 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 the need for a staging report has been included in the Compliance Tracking Program and Pre-construction Compliance Report for CoA A7. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|---------|--|---|--------------------------------------|----------------------|--|--|
| A8. | <p>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.</p> <p>Notes:</p> <ul style="list-style-type: none"> • 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 | Pre-construction, construction | Contractor and RMS | Open | Noted, refer detail re staging above. | Compliant |
| 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. | 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. Training completed throughout the works | Compliant |
| 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 | Construction | Contractor | Open | The project has prepared and is implementing a CEMP onsite. All sub contractors are required to work under the project CEMP. Good outcomes have been observed during project delivery | Compliant |
| 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. | Pre-construction, construction, and operation | Contractor and RMS | Open | To be undertaken if required. | Compliant |
| A12. | <p>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:</p> <p>(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);</p> <p>(b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval;</p> <p>(c) provisions for periodic reporting of compliance status to the Secretary, including but not limited to:</p> <p>(i) a Pre-Construction Compliance Report, prior to the commencement of construction;</p> <p>(ii) 6-monthly Construction Compliance Reports, for the duration of construction; and</p> <p>(iii) a Pre-Operation Compliance Report prior to the commencement of operation;</p> <p>(d) a program for independent environmental auditing in accordance with AS/NZS ISO 19011:2014 – Guidelines for Auditing Management Systems;</p> <p>(e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents;</p> <p>(f) provisions for reporting environmental incidents to the Department and relevant public authorities during construction;</p> <p>(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management;</p> <p>(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</p> <p>(i) provisions for reporting complaints received in accordance with the Construction Complaints Management System required under condition C2 of this approval.</p> | 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. Modification 1 requirements raised in the DPE letter have been updated in this register. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|--|---|--------------------------------|--------------------|----------------------|---|--|
| A13. | The Proponent shall notify the EPA in relation to any pollution incident in carrying out the SSI as required by the <i>Protection of the Environment (Operations) Act 1997</i> as required by that Act. The Proponent shall provide the Secretary with a record of any such notification. | 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 occurring. EPA are consulted on all of the project EWMS. EPA attend the site regularly during construction. | Compliant |
| 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. | Construction | Contractor and RMS | Open | Being undertaken as required. | Compliant |
| 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. | Construction | Contractor | Open | To be undertaken as required, in consultation with DPE and RMS. | Compliant |
| Part B- Environmental Performance | | | | | | |
| 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. | Pre-construction, construction | Contractor | Open | Minor clearing of the freshwater wetlands occurred for the northern crane pad extension during the reporting period. Details of the clearing was supplied to the RMS for the biodiversity offset report. | Compliant |
| 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). | Pre-construction | Contractor | Open | Pre clearing surveys have been undertaken by a qualified ecologist appointed by FHC prior to commencement of construction. This condition has been addressed in the CFFMP. FH and the project ecologists have undertaken the majority ecological works including pre-clearing surveys. The project ecologist is used to manage any ongoing matters as required by the CFFMP. The project has found more than 50 threatened skinks that were moved to properties owned by RMS. The long term management of these areas will be managed by RMS | Compliant |
| 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. | 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 referral has been determined 30/06/2016 as "Not Controlled Action". Work is being undertaken in accordance with TTSTS Management plan. | Compliant |
| 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. | 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. | Compliant |
| 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. | Construction, Operation | Contractor | Open | Has been addressed in consultation with agencies and in the FFMP, UDLP and revegetation plans. TTSTS MP measures have been 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, 33, 37, and 13-17 Pound Street and 4 McClymont Place. The project 'Urban Design and Landscaping Plan' has been reviewed by DP&E and approved. The UDLP is being updated to include some minor amendments to the final landscape around the pump station control units and will be provided to DPI&E. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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| 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. | Pre-construction, construction | Contractor | Open | The Clarence River riparian vegetation has been maintained and protected for construction. Only very minor cut stump clearing has occurred to allow for the jetty and pontoon construction. Post rainfall inspections during the reporting period confirm no visible bank erosion as a result of construction. Erosion and Sediment Control Plans have been developed in consultation with a qualified CPESC to ensure that construction activities in the vicinity do not impact on the banks of the Clarence River. The measures included in the plan are monitored and updated accordingly. | Compliant |
| 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: (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 (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. | Pre-construction, construction | Contractor | Open | FH has consulted with SES and council on emergency response. FH will continue to work with these groups throughout construction. RMS has provided mapping showing changes to the flood behaviour to SES and Council. | Compliant |
| 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. | Pre-construction | Contractor | Open | This condition is being addressed through detailed design in consultation with RMS and Clarence Valley Council. | Compliant |
| B9. | The SSI shall be constructed and operated to comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> , which prohibits the pollution of waters. | 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. | Compliant |
| B10. | All water from the SSI shall be appropriately treated prior to discharge, to protect the quality of the receiving waters. | 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. All sediment basins on the project continue to be well managed, the multistage over sized design has resulted in very few overflows in the two years of construction to date. | Compliant |
| 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. | Pre-construction, construction | Contractor and RMS | Open | The project has a 'Contaminated Land Management Plan'. There are several issues with contaminated land which the project is managing they include: Bonded asbestos removed from houses during demolition, unexpected finds of bonded asbestos found in the soil works stopped whilst contaminated material removed, ARTC contaminated soil including asbestos and hydrocarbons - asbestos is capped awaiting removal at the end of the project. Monitoring of groundwater has shown the contaminated plume is not leaching away from the find area or impacting receiving waterways, diesel contamination found in the soil at culvert 1 area has been capped and groundwater monitoring in place, bonded asbestos found in site won topsoil planned to be encapsulated in permanent batter widening. The management strategy and recommended measures has been developed and implemented in consultation and under the guidance of a Contaminated Land specialist and suitably qualified Contaminated Land Auditor. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|---------|---|--------------------------------|--------------------|----------------------|--|--|
| 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. | Pre-construction | RMS and Contractor | Open | A contaminated land auditor from the approved EPA list is appointed to oversee the management of the south Grafton diesel contamination. The groundwater monitoring and modelling to demonstrate this area is stable in the ground will be reviewed independently by the auditor. An accredited NSW Site Auditor was engaged for the encapsulation of topsoil containing asbestos materials (ACM) in South Grafton batter widening. The remedial action plan was reviewed by the auditor and Interim audit advice provided to enable these works to begin. | Compliant |
| B13. | Impacts to Aboriginal heritage shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to encroachment on the Aboriginal dreaming site Golden Eel (AHIMS site number 12-6-0326). Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan required under condition D46(d). | Pre-construction, construction | Contractor | Open | Management strategies are included in the project Construction Heritage Management Plan (CHMP). The CHMP was prepared in consultation with OEH, NSW Heritage Council and Aboriginal groups. Heritage issues 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. A consistency review was prepared for an additional construction area east of the project boundary and at closer to the important Alipou creek cultural site. Ngerrie LALC approved the boundary extension and have taken part in onsite heritage inductions discussing the history and significance of the site with construction crews. | Compliant |
| B14. | Prior to the commencement of construction in proximity to the following heritage items: CZB18, CZB25, CZB26, CZB27, CZB28, CZB30, CZB31, CZB32, CZB33 and CZB35, the Proponent shall complete all archival recordings, including photographic recording of these heritage items, unless otherwise agreed by the Secretary. | Pre-construction | Contractor and RMS | Closed | 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. | Compliant |
| B15. | Prior to construction partially affecting the following heritage items: CZB10, CZB11, CZB19, CZB20, CZB21 and CZB37, the Proponent shall complete archival recordings of existing condition, including photographic recording of these heritage items, unless otherwise agreed by the Secretary. The Proponent shall ensure the project is conducted in a sympathetic manner that minimises impact to these sites. | Pre-construction | Contractor and RMS | Closed | 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. | Compliant |
| B16. | Archival recording shall be undertaken by an experienced heritage consultant, in accordance with the Guidelines issued by the Heritage Council of NSW. The areas containing heritage items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the archival recording, the Proponent shall submit a report containing the archival and photographic recordings and the historical research, where required, to the Department, the Heritage Council of NSW, Australian Rail Track Corporation, the local library and the local Historical Society. | Pre-construction | Contractor and RMS | Closed | Has been addressed by Biosis heritage consultants. Also include this detail in the CHMP. Note updated Sched 28 amended requirement. | Compliant |
| B17. | A monitoring program shall be implemented for construction works in the vicinity of the flood levee in highly archaeologically sensitive areas and overseen by an appropriately qualified archaeologist. Any previously unidentified heritage items shall be managed in accordance with the procedures detailed in the Construction Heritage Management Plan provided under condition D46(d) of this approval | Pre-construction, construction | Contractor and RMS | Open | The project archaeologist attended all the levee works as required and to manage several unexpected finds. The project archaeologist provided advice, gave onsite training and inductions and assessed heritage issues which arose. Sites of heritage significance near the works were protected and no impacts were observed. | Compliant |
| B18. | Prior to the commencement of construction, the Proponent shall implement 'no-go' exclusion zones to prevent access and protect the following heritage item: FMW29. | Pre-construction | Contractor | Open | Item was protected during works. No impacts, no further works in this location | Compliant |
| B19. | The Proponent shall not destroy, modify or otherwise physically affect the heritage items listed in Table 8-46 in the <i>Additional Crossing of the Clarence River at Grafton Environmental Impact Statement Main Volume</i> (RMS, August 2014). | 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. | Compliant |
| B20 | Identified impacts to heritage sites shall be minimised where feasible and reasonable through both detailed design and construction, particularly with regard to retained locally listed historic properties and the existing Grafton Bridge. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition D46(d) and under the guidance of an appropriately qualified heritage specialist. | Pre-construction, construction | Contractor and RMS | Open | This condition is being addressed through detailed design and in the CHMP. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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|---|---|---|-------------------|----------------------|---|--|
| B21. | This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the SSI | Pre-construction, construction | Contractor | Open | Addressed in the CHMP. | Compliant |
| B22. | The Proponent shall not destroy, modify or otherwise physically affect any heritage items outside the SSI footprint, unless otherwise agreed by the Secretary in accordance with condition D41. | Pre-construction, construction | Contractor | Open | Addressed in the CHMP and managed during construction, including using the Sensitive Area Plans. | Compliant |
| B23. | The measures to protect heritage sites near or adjacent to the SSI during construction shall be detailed in the Construction Heritage Management Plan required under condition D46(d). | Pre-construction | Contractor | Open | No impacts occurred during construction, permanent fencing has been installed | Compliant |
| B24. | In relation to new or modified local road, parking, pedestrian and cycle infrastructure, the SSI shall, where feasible and reasonable, be designed: (a) in consultation with the Council; (b) to take into consideration existing and future demand, road safety and traffic network impacts; (c) to meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice; and (d) be certified by an appropriately qualified person that has considered the above matters. | Pre-construction | Contractor | Closed | Addressed during the development of the design with certification provided by Aurecon and the Project Verifier. | Compliant |
| 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. | Pre-construction | Contractor | Open | Addressed in detailed design. Retention of 13 and 15 Pound Street has reduced construction noise impacts and improved the street scape. Other initiatives include staging works during construction to reduce the impacts on businesses and sensitive receivers. Works that are being built in stages or OOH to reduce impacts include: Clarence St carpark constructed early to provide car parking; Clarence St and Pound St asphaltting OOH to reduce impacts on residential access and noise impacts on the TAFE; clearing works OOH to reduce impacts on the TAFE; Iolanthe St works completed behind barriers to maintain traffic flows; Pacific highway connection and staging plans modified to reduce impacts on South Grafton Businesses. | Compliant |
| 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. | Pre-construction, construction | Contractor | Open | Ongoing consultation throughout construction with neighbours and sensitive receivers is continuing to ensure the project is built with respect to people possibly affected by the works. | Compliant |
| 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. | Pre-construction, Construction, operation | Contractor | Open | Noted. | Compliant |
| 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. | Pre-construction | Contractor | Open | This condition is being addressed through detailed design. Design changes are completed with ongoing consultation, design modifications help to ensure landholders, service providers and asset owners needs are met | Compliant |
| Part C - Community Information and Reporting | | | | | | |
| C1. | 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 | Pre-construction | Contractor | 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. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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|--|---|---|--------------------|----------------------|--|--|
| C2. | <p>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:</p> <p style="text-align: right;">(a) a 24 hour telephone number(s)</p> <p>on which complaints and enquiries about the SSI may be registered;</p> <p>(b) a postal address to which written complaints and enquires may be sent;</p> <p>(c) an email address to which electronic complaints and enquiries may be transmitted; and</p> <p>(d) a mediation system for complaints unable to be resolved.</p> <p>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.</p> | 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. A toll free number is established and well publicised in all communications material since the development of the project. Postal address is established to the RMS Grafton office and publicised in all communications material and on the website. A dedicated Grafton Bridge email address is established and managed by the contractor as addressed in Community Communications Strategy. 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. | Compliant |
| C3. | <p>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: <i>Complaints Handling</i> 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.</p> | Prior to pre-construction | Contractor and RMS | Open | <p>Consultation Manager database is established which manages and tracks consultation, feedback and complaints. This has been managed by the contractor through construction.</p> <p>Fulton Hogan's Construction Complaints Management System is described in the Community Communications Strategy.</p> | Compliant |
| C4. | <p>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:</p> <p>(a) information on the current implementation status of the SSI;</p> <p>(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;</p> <p>(c) a copy of this approval and any future modification to this approval;</p> <p>(d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI;</p> <p>(e) a copy of each current strategy, plan, program or other document required under this approval;</p> <p>(f) the outcomes of compliance tracking in accordance with condition A12 of this approval; and</p> <p>(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.</p> | 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 Community Updates and notifications. The EIS, submissions report and planning approval documents are on the website. http://www.rms.nsw.gov.au/projects/northern-nsw/grafton-clarence-river-crossing/environmental-impact-statement.html | Compliant |
| Part D - Construction Environmental Management, Reporting and Auditing. | | | | | | |
| D1. | <p>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: (a) confirm the threatened species, communities and their habitat (in hectares) cleared and their condition; and</p> <p>(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.</p> <p>Biodiversity impacts shall be offset 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.</p> | 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 is approved to impact 0.41 ha of EEC vegetation. Remaining impacts to vegetation 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. The Biodiversity Offset Statement is currently in draft format. | Compliant |

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|---------|--|--------------|-------------------|----------------------|---|--|
| D2. | Construction activities associated with the SSI shall be undertaken during the following standard construction hours: (a) 7:00 am to 6:00 pm Monday to Friday, inclusive; and (b) 8:00 am to 1:00 pm Saturday; and (c) at no time on Sunday or public holidays. | 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. OOH works are being undertaken where there is justification and the project can comply with condition D3 or D4 of the project approval | Compliant |
| D3. | Construction works outside the standard construction hours may be undertaken in the following circumstances: (a) construction works that generate noise and vibration that is: (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 (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 (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 (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 (b) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved; or (c) for the delivery of materials required outside the standard construction hours by the NSW Police Force or other authorities for safety reasons; or (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 D4. | Construction | Contractor | Open | Out of hours works have been required for a number of reasons in the reporting period, those reasons included: operations at the pre cast yard, new services construction, services connections, concrete pours to manage temperature and critical works that were not audible. The approval pathway for the works has been under condition D3 the works were either done with a negotiated agreement or they were inaudible. | Compliant |
| 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: (a) process for obtaining the Environmental Representative's approval for Out of Hours work; (b) details of the nature and need for activities to be conducted during the varied construction hours; (c) justifies the varied construction hours in accordance with the Interim Construction Noise Guideline (DECC, 2009); (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 (e) provides evidence of consultation with the EPA and Council on the proposed work outside the standard construction hours. | Construction | Contractor | Open | Out of hours works (OoHW) ave been required for a number of reasons in the reporting period, those reasons included: new services construction, services connections, concrete pours to manage temperature and critical works that were not audible. The approval pathway for the works has generally been under condition D3 the works were either done with a negotiated agreement or they were inaudible. There was OoHW completed using condition D4 during the reporting period which included pavement works, rail bridge works and traffic switches. | Compliant |
| D5. | 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 8:00 am to 6:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1:00 pm Saturday; and (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. 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. | Construction | Contractor | Open | See CNVMP | Compliant |
| D6. | The Proponent shall, where feasible and reasonable, limit high noise impact activities and work to the mid-morning and mid-afternoon periods. | Construction | Contractor | Open | See CNVMP | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
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| D7. | The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the <i>Interim Construction Noise Guideline</i> (DECC, 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). | | | Open | See CNVMP. At residence vibration monitoring is undertaken as required and results discussed at each ERG. | Compliant |
| D8. | The SSI shall be constructed with the aim of achieving the following construction vibration goals: (a) for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: <i>Structural Vibration – Part 3 Effects of vibration on structures</i> ; (b) for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-1:1990 – <i>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)</i> ; and (c) for human exposure, the acceptable vibration values set out in <i>Assessing Vibration: A Technical Guideline</i> (Department of Environment and Conservation, 2006). | Construction | Contractor | Open | Vibration monitoring occurred during construction and reviewed activities such as pile driving, excavation, truck movements, compaction and construction works. | Compliant |
| 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. | Construction | Contractor | Open | High impact noise was not required during this reporting period | Compliant |
| 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. | Construction | Contractor | Open | The TAFE situated in Grafton NSW shares boundaries with the project on Clarence and Pound streets. The project consults with TAFE about upcoming works, access, disruption to services and changes to traffic. Consultation takes place on average twice a month. The project has done the following to mitigate impacts on the TAFE: working outside of normal construction hours to reduce impacts during class times, improved temporary pavements to reduce dust, scheduled only low noise activities during exams. | Compliant |
| 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: (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); (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 (c) where necessary, investigate additional feasible and reasonable noise mitigation measures to achieve the criteria outlined in the NSW Road Noise Policy (DECCW, 2011). | Construction | Contractor | Closed | Operational Noise report submitted to DP&E and approved by Secretary on 4/8/2017. | Compliant |
| 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. | Pre -Construction and Construction | Contractor | Open | RMS is undertaking at residence treatment and is endeavouring to complete this -prior to the start of road and bridge construction. The project will have noise mitigations included such as low noise pavements and noise walls. At the completion of construction the model used in the operational noise report will be tested with onsite monitoring of actual noise. Most of the noise treatments for the project are completed at local residents and educational facilities. The next major piece of works will be the construction of a new noise wall, with commencement of the noise wall occurring during the reporting period. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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| 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. | Construction | Contractor | Open | See CTAMP. CTAMP has been submitted to the Secretary for approval. This plan was approved with the CEMP. Works have been scheduled and implemented to ensure that access to properties is maintained during construction works in consultation with the affected property owners. | Compliant |
| 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. | Construction | Contractor | Open | Access has been maintained through the worksite at all times for pedestrians travelling from town, across the existing bridge and through South Grafton. The access has been moved at times but always remained open and safely presented for pedestrians. Safety and amenity has been maintained by sealing the path and providing temporary lighting | Compliant |
| 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) | Construction | Contractor | Open | Parking for the project works have been modified to reduce the traffic and visual effects on neighbours and the community. Where possible traffic is directed through the project away from public roads, for example this method has been used to bring in concrete trucks for sub-structure works in Grafton. | Compliant |
| 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. | Construction | Contractor | Open | See CTAMP. CTAMP has been submitted to the Secretary for approval and approved by DPE. Pound St carpark has been completed and open to traffic. This 28 space carpark will provide alternate parking for the TAFE and adjacent businesses during construction. | Compliant |
| 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. <i>Note:</i> • 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. | Construction | Contractor | Open | A road dilapidation report was completed prior to construction vehicles accessing public roads, the reports were compiled in March 2017. Ongoing assessments are being undertaken as required. | Compliant |
| 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. | 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 recycle 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 | Compliant |
| D19. | Soil and water management measures consistent with <i>Managing Urban Stormwater - Soils and Construction Volumes 1 and 2, 4th Edition</i> (Landform, 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. | 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. | Compliant |

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| D20. | Works in riparian areas and on riverfront land shall be undertaken in accordance with NOW guidelines for controlled activities on waterfront land, as applicable | | | Open | The project has managed temporary works to reduce the amount of potential impacts on waterfront land. Riparian vegetation has been maintained and protected with only minor clearing on the southern side of the Clarence River. The temporary access pad on the north side of the Clarence River leaves a small buffer of riparian vegetation. Impacts to the degraded EEC on the north side of the river has been reduced to the minimum extent possible. The riparian vegetation will be revegetated as part of the final landscaping treatments on the north and south side of the Clarence River. | Compliant |
| 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. | Pre-construction | Contractor and RMS | Closed | The project has consulted with CVC and SES during the detailed design phase to implement measures that will maximise the flood evacuation capability of Grafton and South Grafton during a major flood event. | Compliant |
| D22. | The Proponent shall undertake further flood modelling based on the detailed design of the SSI. The flood modelling shall consider the recommendations of WMAwater outlined in Appendix A <i>EIS flooding and hydrology technical paper peer review</i> in the document listed in condition A2(c), and: (a) include a detailed floor level survey of potentially affected properties, as identified in the flood modelling; (b) update the flood frequency analysis and application of the latest hydrological practice of the new Australian Rainfall and Runoff publication; (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 1cm. | Pre-construction | Contractor and RMS | Open | WBM are undertaking the flood modelling for RMS. WMA are the appointed RMS independent hydrologic consultant. KBR have prepared the Hydrological Mitigation report. The Hydrological Mitigation Report was approved by the secretary on 6/7/2016 in accordance with D23. The HMR included further flood modelling based on the detailed design of the new bridge and the recommendations from WMAwater outlined in Appendix A <i>EIS flooding and hydrology technical paper peer review</i> . | Compliant |
| 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: (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; (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; (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; (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;. (e) identify mitigation measures to be implemented to address these impacts; (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; (g) demonstrate consistency with the flood management objectives in subsection (b); (h) be developed in consultation with directly-affected landowners, and Council and in relation to public assets and community flood evacuation issues; and (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. 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. | 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. (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 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 on 6/7/2016. Levee mitigation measures are mostly completed with some minor works still to be undertaken. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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| 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. | Pre-construction | RMS | Open | Copies of the final mitigation measures have been provided to relevant land owners, CVC and provided to DP&E. | Compliant |
| 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. Note: • <i>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.</i> | Pre-construction, construction | RMS | Open | RMS 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. Levee works are mostly completed with some minor works still to be undertaken. All work has been carried out in accordance with plans approved by Clarence Valley Council and the private landowners of individual properties impacted. | Compliant |
| 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. | Pre-construction | Contractor | Open | Grafton and South Grafton flood levee mitigation measures implemented with secretary approval received 29/3/2017 to allow commencement of construction in the Clarence River. | Compliant |
| 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. | Pre-construction, construction | RMS | Closed | WMA are the appointed RMS independent hydrologic consultant. The appointment of WMA Water has been approved by DPE on 27/11/2015. | Compliant |
| 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. | Pre-construction | Contractor and RMS | Closed | A detailed drainage study has been undertaken for the areas adjacent to the SSI for the northern and southern approach roads. This study was undertaken in consultation with CVC and SES. | Compliant |
| 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. | Construction | Contractor | Open | Addressed in the CAQMP. CAQMP has been submitted to the Secretary for approval and approved as part of the CEMP. Construction measures to reduce dust emissions include the use of water carts, mud tracking controls, revegetation, monitoring wind conditions and other measures. Dust monitoring results are discussed at monthly ERGs. | Compliant |
| D30. | Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: (a) all relevant Australian Standards;(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume, within the bund; and (c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (Environment Protection Authority, 1997). 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. | Construction | Contractor | Open | This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. | Compliant |
| 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. | Construction | Contractor | Open | Offsite waste is not been received on the project. Waste will be managed through the correct waste stream and taken to licenced facilities as required. | Compliant |
| 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. | 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. As much as possible of the house demolition materials were recycled. Topsoil is recycled as well as waste concrete and steel where possible. Recycled paper is used in site offices. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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| 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). | Construction | Contractor | Open | This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. | Compliant |
| 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. | Construction | Contractor | Open | This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. | Compliant |
| D35. | The Proponent shall ensure that all plant and equipment used at the site is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner. | Construction | Contractor | Open | This has been addressed in CWEMP submitted to the Secretary for approval and approved as part of the CEMP. | Compliant |
| 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: (a) be located more than 50 metres from a waterway, including the Clarence River; (b) be located within or adjacent to the SSI boundary; (c) have ready access to the road network or direct access to the construction corridor; (d) be located to minimise the need for heavy vehicles to travel through residential areas; (e) be located in areas of low ecological significance and require no clearing of native vegetation; (f) be located on relatively level land; (g) be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant); (h) be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented; (i) not unreasonably affect the land use of adjacent properties; (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 (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. 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. | Pre-Construction, Construction | Contractor | Open | This has been addressed in Appendix A5 of the CEMP. Ancillary facilities include two houses on Pound Street that have been retained rather than demolished. This is all within the SSI corridor. An approved ancillary area is located on the eastern site of Iolanthe Street, north of Bunnings. The casting yard is within the EIS/ CEMP approved corridor/ approved ancillary area. The area around the new Gwydir Highway roundabout is an approved ancillary area. | Compliant |
| 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: (a) details on the site location and access arrangements; (b) a description of the activities to be undertaken including the hours of use and storage of dangerous goods; (c) outcomes of the assessment of the site against the locational criteria set out in condition D36; (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; (e) details of the mitigation, monitoring and management procedures specific to the ancillary facility that would be implemented to minimise environmental impacts; and (f) demonstrated overall consistency with the approved SSI (including impacts identified in the documents listed in condition A2). A copy of the report shall be included in the Construction Environmental Management Plan required under condition D45. | Pre-Construction, Construction | Contractor | Open | This has been addressed in Appendix A5 of the CEMP. Assessment of ancillary sites against these criteria will be undertaken by Fulton Hogan where proposed in consultation with RMS. Refer additional ancillary sites under MCoA D 36. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

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| D38. | Notwithstanding condition D37, ancillary facilities 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. | 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. | Compliant |
| 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. | Construction | Contractor | Open | This will be undertaken by Fulton Hogan in consultation with RMS. | Compliant |
| 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: (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 (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. The relevant approval shall be obtained prior to the establishment of the ancillary facility. | Pre-construction | Contractor and RMS | Open | This will be undertaken by Fulton Hogan in consultation with RMS where proposed. | Compliant |
| 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. | Pre-construction | Contractor | Open | This will be undertaken by Fulton Hogan in consultation with RMS where proposed. An archaeologist/ LALC site walk over was undertaken for the Woods ancillary area (had been heritage assessed previously in the EIS) and Robertson easement. | Compliant |
| 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: (a) identification of design principles and standards based on - (i) local environmental values, (ii) heritage values, (iii) urban design context, (iv) sustainable design and maintenance, (v) community amenity and privacy, (vi) relevant design standards and guidelines including "Crime Prevention Through Environmental Design Principles", and (vii) the urban design objectives outlined in the EIS Technical Paper Urban Design and Landscape Concept Report; (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; (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; (d) appropriate roadside plantings and landscaping in the vicinity of heritage items and ensure no additional heritage impacts; (e) appropriate landscape treatments on flood levees to ensure the structural integrity of the levees is not compromised; (f) strategies for progressive landscaping of environmental controls (such as erosion and sedimentation controls, drainage controls); (g) responsibilities for maintaining landscaping treatments and areas of regeneration and revegetation; | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|-----------|---|------------------|-------------------|----------------------|---|--|
| D42. Cont | <p>Continued - from previous point</p> <p>(h) location and design treatments for any associated footpaths and cyclist elements, and other features such as seating, fencing, materials and signs;</p> <p>(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;</p> <p>(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;</p> <p>(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;</p> <p>(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;</p> <p>(m) monitoring and maintenance procedures for the built elements, including performance indicators, responsibilities, timing and duration; and</p> <p>(n) evidence of consultation with EPA, Council and community on the proposed urban design and landscape measures prior to finalisation of the Plan.</p> <p>Note:</p> <ul style="list-style-type: none"> 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. | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |
| D43. | <p>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:</p> <p>(a) be the principal point of advice in relation to the environmental performance of the SSI;</p> <p>(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;</p> <p>(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;</p> <p>(d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);</p> <p>(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;</p> <p>(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);</p> <p>(g) be given the authority to approve/reject ancillary facilities in accordance with conditions D36 and D37;</p> <p>(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</p> <p>(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.</p> | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|--|--|---|--------------------|----------------------|--|--|
| 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. | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |
| 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 <i>Guideline for the Preparation of Environmental Management Plans</i> (Department of Infrastructure, Planning and Natural Resources, 2004) : SEE CRITERIA Clause D45 (a) - (d)(x) of Consolidated instrument Grafton Bridge Modification Document | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |
| D46. | As part of the Construction Environmental Management Plan for the SSI, the Proponent shall prepare and implement: SEE CRITERIA Clause D46 (a) - (f)(vii) of Consolidated instrument Grafton Bridge Modification Document | Pre-construction | Contractor | Open | The Urban Design and Landscaping plan for the project has received conditional approval. The project is required to give another update once the final details of the pump station are known. | Compliant |
| Part E - Operational Environmental Management, Reporting and Auditing | | | | | | |
| 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). | Pre-construction, Operation | Contractor and RMS | Open | There are extensive Environmental Document requirements for design and operation in regards to noise. The SWTC App 4 includes extensive operational noise requirements. The Operational Noise Management Report has been considered as part of detailed design | Compliant |
| 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 <i>NSW Industrial Noise Policy</i> (2000). | Pre-construction, construction, operation | Contractor | Open | The operational noise report establishes the project criteria for long term noise management goals in section 2.5. The specific assessment for the pump station is in section 4.8 of the same report. The final model of the pump will need to be checked against the assumptions and noise modelling of that used in section 4.8. This review will be completed in the next reporting period. | Compliant |

Additional Crossing of the Clarence River at Grafton (SSI-6103)

| CoA Ref | Condition | Timing | Responsible Party | Status (open/closed) | Compliance comments | Compliance (Compliant/Non-compliant/Not Triggered) |
|---------|---|---|--------------------|----------------------|---|--|
| E3. | <p>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:</p> <p>(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;</p> <p>(b) a review of the operational noise levels in terms of criteria and noise goals established in the NSW Road Noise Policy 2011;</p> <p>(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;</p> <p>(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;</p> <p>(e) any required recalibrations of the noise model taking into consideration factors such as noise monitoring and actual traffic numbers and proportions;</p> <p>(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</p> <p>(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.</p> <p>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.</p> | Pre-construction, construction, operation | RMS | Open | Operational noise monitoring will be undertaken within 12 months of the commencement of operation. | Compliant |
| E4. | <p>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.</p> | Construction, Operation | Contractor and RMS | Open | To be undertaken closer to operation. | Not Triggered |
| E5. | <p>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:</p> <p>(a). be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</p> <p>(b). include consultation with the relevant agencies and Council;</p> <p>(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);</p> <p>(d). review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and</p> <p>(e). recommend measures or actions to improve the environmental performance of the SSI, and/or any strategy, plan or program required under these approvals.</p> | Operation | RMS | Open | <p>To be undertaken in operation.</p> <p>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)".</p> | Not Triggered |
| E6. | <p>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).</p> | Operation | RMS | Open | To be undertaken in operation. | Not Triggered |
| E7. | <p>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.</p> | Operation | RMS | Open | Noted. | Not Triggered |

APPENDIX B

Water Quality Monitoring Results



B-1: Surface water quality monitoring completed during the reporting period

| Date | Weather conditions | Sampling Location | Location ID | Turbidity | pH | Conductivity | Temperature | Oil and Grease | Algae | Debris and rubbish | Flow rate | Colour |
|------------|--------------------|-----------------------|-------------|-----------|------|--------------|-------------|----------------|-------|--------------------|------------|--------------|
| 30/04/2019 | Dry | Sailing Club | US1 | 3.4 | 7.62 | 587 | 22.4 | No | No | No | Slow-tidal | clear |
| 30/04/2019 | Dry | Boat Ramp South | US2 | 2.99 | 7.54 | 619 | 22.3 | No | No | No | Slow-tidal | Clear |
| 30/04/2019 | Dry | Alipou Creek | US3 | 18.6 | 7.94 | 859 | 19.2 | No | No | No | Slow-tidal | Tannin Heavy |
| 30/04/2019 | Dry | Pound Street | DS1 | 8.19 | 7.59 | 617 | 22.3 | No | No | No | Slow-tidal | Clear |
| 30/04/2019 | Dry | DS River/Butters Lane | DS2 | 4.6 | 7.6 | 754 | 22.4 | No | No | No | Slow-tidal | Clear |
| | | | | | | | | | | | | |
| 22/05/2019 | Dry | Sailing Club | US1 | 6.31 | 6.99 | 737 | 22.9 | No | No | No | Slow-tidal | Clear |
| 22/05/2019 | Dry | Boat Ramp South | US2 | 2.95 | 7 | 750 | 22 | No | No | No | Slow-tidal | Clear |
| 22/05/2019 | Dry | Alipou Creek | US3 | 9.13 | 7.25 | 651 | 19.8 | No | No | No | Slow-tidal | Brown |
| 22/05/2019 | Dry | Pound Street | DS1 | 5.23 | 6.67 | 734 | 22.1 | No | No | No | Slow-tidal | Clear |
| 22/05/2019 | Dry | DS River/Butters Lane | DS2 | 9.3 | 7.03 | 750 | 22.4 | No | No | No | Slow-tidal | Brown |
| | | | | | | | | | | | | |
| 7/06/2019 | Dry | Sailing Club | US1 | 8.72 | 7.03 | 879 | 22.7 | No | No | No | Slow-tidal | Clear |
| 7/06/2019 | Dry | Boat Ramp South | US2 | 7.54 | 7.01 | 702 | 22.4 | No | No | No | Slow-tidal | Clear |
| 7/06/2019 | Dry | Alipou Creek | US3 | 9.22 | 7.14 | 456 | 21.8 | No | No | No | Slow-tidal | Clear |
| 7/06/2019 | Dry | Pound Street | DS1 | 9.17 | 6.9 | 688 | 22.3 | No | No | No | Slow-tidal | Clear |
| 7/06/2019 | Dry | DS River/Butters Lane | DS2 | 8.83 | 7.09 | 720 | 21.9 | No | No | No | Slow-tidal | Clear |
| | | | | | | | | | | | | |
| 26/07/2019 | Dry | Sailing Club | US1 | 4.24 | 7.7 | 782 | 15.9 | No | N/A | No | Slow-tidal | Clear |
| 26/07/2019 | Dry | Boat Ramp South | US2 | 3.55 | 6.62 | 742 | 16.8 | No | N/A | No | Slow-tidal | Clear |
| 26/07/2019 | Dry | Alipou Creek | US3 | 2.23 | 8.21 | 652 | 13.4 | No | N/A | No | Slow-tidal | Clear |
| 26/07/2019 | Dry | Pound Street | DS1 | 5.09 | 8.14 | 829 | 16.2 | No | N/A | No | Slow-tidal | Clear |
| 26/07/2019 | Dry | DS River/Butters | DS2 | 3.14 | 7 | 780 | 15.3 | No | N/A | No | Slow-tidal | Clear |

| | | Lane | | | | | | | | | | |
|------------|-----|-----------------------|-----|-------|------|------|------|----|-----|----|------------|--------------|
| 16/08/2019 | Dry | Sailing Club | US1 | 4 | 6.84 | 743 | 15.4 | No | No | No | Slow-tidal | Clear |
| 16/08/2019 | Dry | Boat Ramp South | US2 | 2.8 | 7.4 | 727 | 15.9 | No | No | No | Slow-tidal | Clear |
| 16/08/2019 | Dry | Alipou Creek | US3 | 3.84 | 8.4 | 684 | 15.8 | No | No | No | Slow-tidal | Clear |
| 16/08/2019 | Dry | Pound Street | DS1 | 3.62 | 8.21 | 762 | 16.4 | No | No | No | Slow-tidal | Clear |
| 16/08/2019 | Dry | DS River/Butters Lane | DS2 | 4.62 | 7.24 | 770 | 15.9 | No | No | No | Slow-tidal | Clear |
| 26/09/2019 | Dry | Sailing Club | US1 | 11.22 | 7.41 | 1298 | 21.9 | No | No | No | Slow-tidal | Clear |
| 26/09/2019 | Dry | Boat Ramp South | US2 | 2.67 | 7.34 | 1305 | 21.6 | No | No | No | Slow-tidal | Clear |
| 26/09/2019 | Dry | Alipou Creek | US3 | 7.66 | 9.21 | 741 | 18.4 | No | Yes | No | Slow-tidal | Heavy Tannin |
| 26/09/2019 | Dry | Pound Street | DS1 | 3.2 | 7.1 | 1283 | 20.3 | No | No | No | Slow-tidal | Clear |
| 26/09/2019 | Dry | DS River/Butters Lane | DS2 | 5 | 7.39 | 1234 | 20.7 | No | No | No | Slow-tidal | Clear |

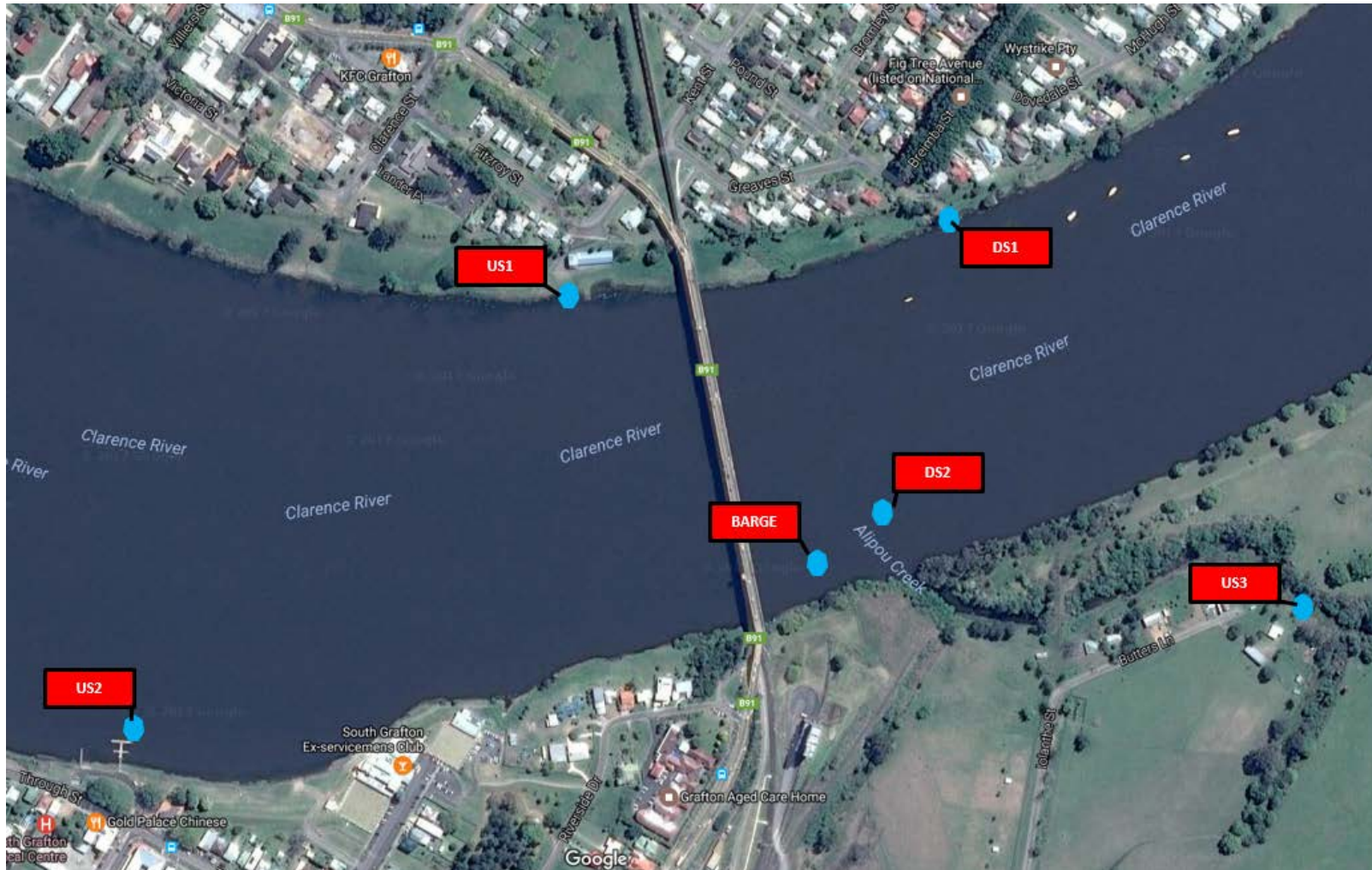
| | | | | | | | | | | | | |
|------------|-----|-----------------------|-----|---|-----|------|------|----|----|----|------------|-------|
| 24/10/2019 | Dry | Sailing Club | US1 | 8 | 7.4 | 1250 | 22.1 | No | No | No | Slow-tidal | Clear |
| 24/10/2019 | Dry | Boat Ramp South | US2 | 5 | 7.3 | 1220 | 22.3 | No | No | No | Slow-tidal | Clear |
| 24/10/2019 | Dry | Alipou Creek | US3 | 9 | 7.2 | 1300 | 22.1 | No | No | No | Slow-tidal | Clear |
| 24/10/2019 | Dry | Pound Street | DS1 | 5 | 7.2 | 1200 | 22.5 | No | No | No | Slow-tidal | Clear |
| 24/10/2019 | Dry | DS River/Butters Lane | DS2 | 6 | 7.3 | 1290 | 22.4 | No | No | No | Slow-tidal | Clear |

B-2: Ground water quality monitoring completed during the reporting period.

Periodic ground water monitoring was completed in the previous monitoring period and is again included below. The monitoring of the sentinel wells for two years has shown no evidence of hydrocarbons flowing the eastern side of the alignment and towards the receiving environment.

| Date Sampled | Monitoring | Sample Location | Depth (m) | Temp (C) | pH | Conductivity (µs/cm) | PAH's | Dissolved Metals | BTEX/ TPH | Comments |
|--------------|------------|-----------------------|-----------|----------|-----|----------------------|-------|------------------|-----------|--------------------|
| 29/011/2018 | 6689/1 | Field Bank | [NT] | 18.4 | 5.3 | <50 | No | No | No | Distilled water |
| 29/011/2018 | 6689/2 | Field Duplicate (SW1_ | [NT] | 21.8 | 6.4 | 739 | No | No | No | Very turbid |
| 29/011/2018 | 6689/3 | SW1 South Sentinel | 0.62 | 21.5 | 6.4 | 740 | No | No | No | Very turbid |
| 29/011/2018 | 6689/4 | SW2 Middle Sentinel | 2.25 | 20.5 | 6.3 | 911 | No | No | No | Turbid |
| 29/011/2018 | 6689/5 | SW3 North Sentinel | 5.65 | 22.8 | 5.9 | 382 | No | No | No | Turbid |
| 29/011/2018 | 6689/6 | MW05 | 4.07 | 21.6 | 6.9 | 1470 | No | No | No | Grey, slight odour |
| 29/011/2018 | 6689/7 | MW03 | 3.65 | 21.3 | 6.6 | 520 | No | No | No | Turbid |
| 29/011/2018 | 6689/8 | PMW1 | 4.14 | 21.3 | 6.5 | 648 | No | No | No | Turbid |
| 29/011/2018 | 6689/9 | MW06 | 4.59 | 21.3 | 6.0 | 851 | No | No | No | Turbid |

B-3: Water quality monitoring locations, including extra locations sampled for construction



APPENDIX C

Noise and Vibration Monitoring Results

C-1: Periodic monthly Noise monitoring results

| Monitoring Type | Date | Time (24 hr) | Works Activity | Works Location | Monitoring Location | NML (RBL+5) | LAeq15 | LAmx | LAmn | LA10 | LA90 | Compliant | Additional Comments |
|--------------------|------------|--------------|---|-----------------------------|-------------------------|-------------|--------|------|------|------|------|-----------|--|
| Out of hours | 30/4/19 | 6:00 | Concrete Shaping | rail bridge | 18 Clarence St | 47 | 62.7 | 81.7 | 52 | 64.1 | 54 | Yes | See minuted detail. Compliant – agreement with community |
| Out of hours | 18/5/19 | 6:00 | Concrete Pour BP Driveway | Iolanthe St Outside BP | 28 Through St | 37 | 63.2 | 72.4 | 51 | 64.6 | 62.4 | Yes | See minute detail. Compliant. Dominant noise source was traffic |
| Out of hours | 22/5/19 | 19:00 | Spear Pumps | Jacking Pit/ Northern Levee | 2 Fitzroy St | 36 | 62.4 | 74.3 | 54.3 | 69.4 | 60.2 | Yes | See minute detail. Compliant – CoA D3 |
| Out of hours | 25/5/19 | 15:00 | Crane Demobilisation | Abutment B | 8 Greaves St | 53 | 59.4 | 78.2 | 49 | 55.3 | 50.1 | Yes | See minute detail. Compliant – CoA D3 |
| Periodic (monthly) | 31/05/2019 | 10:30 | 750 Tonne Crane assembly | Pound St | 16 Clarence | 58 | 73.2 | 79 | 65.9 | 75.5 | 70 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 31/05/2019 | 11:10 | Pipe Jacking | Pier 8 | 10 Pound St | 54 | 66.9 | 81.3 | 60 | 68 | 63.7 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/05/2019 | 11:30 | Utilities work | Fill 3 | 5 Kent St | 58 | 74.6 | 88.4 | 68.4 | 76.8 | 71.1 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 31/05/2019 | 11:55 | Segment logistics for northern erection | Pier 1-8 | 3 Riverside Drive | 69 | 70.2 | 88.3 | 61.1 | 71 | 64.8 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/05/2019 | 12:20 | Pre-cast yard | Precast yard | 28 Through St | 69 | 77.5 | 93.1 | 64.1 | 81.3 | 68.9 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/05/2019 | 12:45 | Fill 1 | Fill 1 | Butters Lance Residents | 49 | 65.3 | 73.1 | 60.1 | 66.7 | 63.5 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 28/06/2019 | 0815-0830 | Crane Pad removal | Pound Street | 16 Clarence | 58 | 70.2 | 78.4 | 61.5 | 72 | 66.8 | Yes | See minute detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 28/06/2019 | 0840 - 0855 | Scour protection | Pier 7 | 10 Pound St | 54 | 63.1 | 73.4 | 58.9 | 64 | 61.2 | Yes | See minute detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 28/06/2019 | 0910-0925 | Pump Station works | Greaves St | 5 Kent St | 58 | 72.4 | 90.2 | 64 | 73.7 | 68.4 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 28/06/2019 | 0930-0945 | Electrical conduit installation | Fill 1 | 3 Riverside Dr | 69 | 68.2 | 79.9 | 61.1 | 70.8 | 63.7 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 28/06/2019 | 0950-1005 | Precast yard | Iolanthe St | 28 Trough St | 69 | 77.1 | 88.9 | 64.1 | 78.4 | 69.7 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 28/06/2019 | 10-15-1030 | Bridge works | Fill 1 | Butters Lane | 49 | 65.4 | 70.1 | 61.2 | 66 | 64.1 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/07/2019 | 8:30 | Culver installation/ steel fixing | Culvert 7 | 16 Clarence St | 58 | 53 | 71.2 | 45.1 | 53.6 | 45.8 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/07/2019 | 9:00 | Culvert installation | Culvert 7 | 10 Pound St | 54 | 48.6 | 62.8 | 43.2 | 57.2 | 41.8 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |

| | | | | | | | | | | | | | |
|--------------------|------------|-------|---|--------------------------------|------------------------|------|------|------|------|------|------|-----|--|
| Periodic (monthly) | 31/07/2019 | 9:20 | Landscaping and steel fixing | Fill 3 | 5 Kent St | 58 | 60.2 | 74 | 52.8 | 65.4 | 56.2 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 31/07/2019 | 10:00 | Steel Work | Bridge deck | 3 Riverside Drive | 69 | 65.4 | 74.2 | 48.6 | 57.2 | 45.3 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 31/07/2019 | 10:30 | Spoil relocation/ Drainage works | Fill 1 | Butters Lane Residence | 49.6 | 47.6 | 66.4 | 38.2 | 52.4 | 45.1 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 26/08/2019 | 9:15 | Drainage Works | Rail Bridge | 16 Clarence St | 58 | 51 | 69.3 | 47.1 | 52.8 | 44.6 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 26/08/2019 | 08:45 | Noise Wall installation | Fill 3 | 10 Pound St | 54 | 49.4 | 62.5 | 44.3 | 59 | 46.2 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 26/08/2019 | 10:00 | Turf installation, noise wall install | Fill 3 and basin | 5 Kent St | 58 | 60.4 | 75.4 | 51.2 | 63 | 54 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 26/08/2019 | 8:00 | Steel fixing and Formwork install | Bridge Deck | 3 Riverside Drive | 69 | 50.8 | 67.1 | 39.2 | 53.5 | 42.1 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 26/08/2019 | 9:30 | Concrete pour and basin backfill | Abutment B/ Fill 1 | Butters Lane Residence | 49 | 51.9 | 68 | 40.3 | 54.8 | 43.8 | Yes | See minute detail. Compliant |
| Out of hours | 2/9/19 | 19:15 | Concrete Sawing | Villiers/ Pound St Round About | 40 Villiers St | 48 | 74.4 | 89.7 | 42.2 | 75.7 | 48.8 | Yes | See minute detail. Compliant – CoA D4 |
| Out of hours | 11/9/19 | 19:00 | Asphalting | Fill 1 | 27 Through St | 51 | 52.7 | 66.4 | 41.3 | 48.9 | 44.2 | Yes | See minute detail. Compliant – CoA D3 |
| Out of hours | 19/9/19 | 19:00 | Line Marking | Butters Lane | Butters Lane Residence | 53 | 43.1 | 64.8 | 38 | 42 | 39 | Yes | See minute detail. Compliant – CoA D3 |
| Out of hours | 25/9/19 | 6:20 | Site Area and plant Mobilisation | Dobie St Round About | 139 Villiers St | 40 | 43.2 | 65.6 | 40 | 44 | 42 | Yes | See minute detail. Compliant - CoA D4 |
| Out of hours | 25/9/19 | 6:40 | Site Area and plant Mobilisation | Dobie St Round About | 2 Chapman St | 40 | 46.6 | 62 | 42 | 48 | 43.9 | Yes | See minute detail. Compliant |
| Out of hours | 25/9/19 | 6:00 | Site Area and plant Mobilisation | Dobie St Round About | 102 Dobie St | 40 | 58.6 | 70.8 | 48.3 | 56.5 | 50.4 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 27/09/2019 | 9:30 | Concrete Breaking and noise wall installation | Rail Bridge | 16 Clarence St | 58 | 56.8 | 70.8 | 46 | 58 | 49.4 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 27/09/2019 | 9:45 | Concrete saw | Fill 3 | 10 Pound St | 54 | 52.4 | 66.4 | 41.3 | 49.8 | 43.4 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |
| Periodic (monthly) | 27/09/2019 | 10:35 | Barrier spallation | Bridge Deck | 5 Kent St | 58 | 55.4 | 72.5 | 49.2 | 57.1 | 51.6 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 27/09/2019 | 10:30 | Kerb installation and hydro mulching | Fill1 | 3 Riverside Drive | 69 | 57.7 | 70.8 | 50.7 | 60.1 | 53.4 | Yes | See minute detail. Compliant |
| Periodic (monthly) | 27/09/2019 | 10:45 | Kerb installation and hydro mulching | Fill 1 | Butters Lane Residence | 49 | 43 | 65.3 | 37.3 | 43.7 | 39.7 | Yes | See minute detail. Compliant |
| Out of hours | 10/10/19 | 19:15 | KBP Application | Pier 3-4 | 8 Greaves St | 44 | 42.8 | 62 | 38.4 | 41.5 | 39.6 | Yes | See Minuted detail. Compliant. Dominant noise source was traffic |

C-2: Vibration monitoring completed during the reporting period

Clarence River Crossing Vibration Monitoring Register

| Date | Start Time | End Time | Construction Activity | Plant | Nearest Receiver | Monitoring location | Structure | Building Structure Requirement (mm/s) | Human Response Criteria (mm/s) | Recorded Peak (mm/s) | Screening level Exceeded (7.5 mm/s) | No. of Exceedances | Action | Compliant |
|---------|------------|----------|--|---|------------------|---------------------|-------------|---------------------------------------|--------------------------------|----------------------|-------------------------------------|--------------------|--------|-----------|
| 3/7/19 | 930 | 1630 | Segment lifts on northern crane pad | 750 t crane | 10 Greaves St | 10 Greaves St | Residential | 20 | 200 | 0.50 | No | 0 | Nil | Yes |
| 9/7/19 | 11:00 | 12:00 | Segment lifts on northern crane pad | 750 t crane | 10 Greaves St | 8 Greaves | Residential | 20 | 200 | 0.50 | No | 0 | Nil | Yes |
| 23/7/19 | 6:00 | 16:00 | Segment lifts on northern crane pad | 751 t crane | 11 Greaves St | 8 Greaves | Residential | 20 | 200 | 1.48 | No | 0 | Nil | Yes |
| 24/7/19 | 6:00 | 12:30 | Segment lifts on northern crane pad | 750 t crane | 10 Greaves St | 8 Greaves | Residential | 20 | 200 | 0.75 | No | 0 | Nil | Yes |
| 25/7/19 | 6:00 | 14:00 | Segment lifts on northern crane pad | 751 t crane | 10 Greaves St | 8 Greaves | Residential | 20 | 200 | 0.72 | No | 0 | Nil | Yes |
| 3/7/19 | 930 | 1630 | Segment lifts on northern crane pad | 750 t crane | 10 Greaves St | 10 Greaves St | Residential | 20 | 200 | 0.50 | No | 0 | Nil | Yes |
| 5/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.53 | No | 0 | Nil | Yes |
| 6/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.93 | No | 0 | Nil | Yes |
| 7/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.37 | No | 0 | Nil | Yes |

| | | | | | | | | | | | | | | |
|---------|-------|-------|--|---|------------------|------------------|-------------|----|-----|------|----|---|-----|-----|
| 8/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.43 | No | 0 | Nil | Yes |
| 9/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.04 | No | 0 | Nil | Yes |
| 10/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.24 | No | 0 | Nil | Yes |
| 11/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.32 | No | 0 | Nil | Yes |
| 12/8/19 | 18:00 | 6:00 | Villers St demolition and asphating | Asphating Plant, 120 T Excavator | 36 Villier St | 36 Villier St | Heritage | 20 | 200 | 2.32 | No | 0 | Nil | Yes |
| 14/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.20 | No | 0 | Nil | Yes |
| 15/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.43 | No | 0 | Nil | Yes |
| 16/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.37 | No | 0 | Nil | Yes |
| 17/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.63 | No | 0 | Nil | Yes |
| 18/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.62 | No | 0 | Nil | Yes |

| | | | | | | | | | | | | | | |
|---------|------|-------|---|---|------------------|------------------|-------------|----|-----|------|----|---|-----|-----|
| 19/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.47 | No | 0 | Nil | Yes |
| 20/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.88 | No | 0 | Nil | Yes |
| 21/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.68 | No | 0 | Nil | Yes |
| 22/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.03 | No | 0 | Nil | Yes |
| 23/8/19 | 6:00 | 18:00 | Crane operations, segment erection works, truck movement | 750t Cran, truck and dog, 120 T excavator | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.88 | No | 0 | Nil | Yes |
| 11/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.08 | No | 1 | Nil | Yes |
| 12/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.42 | No | 2 | Nil | Yes |
| 13/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.54 | No | 3 | Nil | Yes |

| | | | | | | | | | | | | | | |
|---------|------|-------|---|---|------------------|------------------|-------------|----|-----|------|----|----|-----|-----|
| 14/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.31 | No | 4 | Nil | Yes |
| 15/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.35 | No | 5 | Nil | Yes |
| 16/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.99 | No | 6 | Nil | Yes |
| 17/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.39 | No | 7 | Nil | Yes |
| 18/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.34 | No | 8 | Nil | Yes |
| 19/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.66 | No | 9 | Nil | Yes |
| 20/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.19 | No | 10 | Nil | Yes |

| | | | | | | | | | | | | | | |
|---------|------|-------|---|--|---------------------|---------------------|-------------|----|-----|------|----|----|-----|------|
| | | | | excavator, smooth drum roller | | | | | | | | | | |
| 21/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.19 | No | 11 | Nil | Yes |
| 23/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 0.80 | No | 12 | Nil | Yes/ |
| 24/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.37 | No | 13 | Nil | Yes |
| 25/9/19 | 6:00 | 18:00 | Plant movement, fill 3 compaction, barrier and parapet installation | Truck and Dog , pozi track, 13T excavator, smooth drum roller | 8 Greaves Street | 8 Greaves Street | Residential | 20 | 200 | 1.26 | No | 14 | Nil | Yes |

APPENDIX D

Air Quality Monitoring Results

April 2019

Results

| Sample# | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|---------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7382/1 | Control | 13/03/2019 | 16/04/2019 | 34 | 0.2 | 0.2 | <0.1 | 74 |
| 7382/2 | DMG2 Rail | 13/03/2019 | 16/04/2019 | 34 | 1.0 | 0.6 | 0.4 | 80 |
| 7382/3 | DMG3 Bunnings | 13/03/2019 | 16/04/2019 | 34 | 1.4 | 1.0 | 0.4 | 80 |
| 7382/4 | Pound Street | 13/03/2019 | 16/04/2019 | 34 | 1.3 | 1.2 | 0.1 | 80 |

Results have been approved and report finalised on 3/05/2019

NATA Accredited Laboratory – 20375

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



May 2019

| Sample # | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|----------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7507/1 | Control | 16/04/2019 | 16/05/2019 | 30 | 0.4 | 0.2 | 0.2 | 70 |
| 7507/2 | DMG2 Rail | 16/04/2019 | 16/05/2019 | 30 | 0.8 | 0.4 | 0.4 | 64 |
| 7507/3 | DMG3 Bunnings | 16/04/2019 | 16/05/2019 | 30 | 1.4 | 1.0 | 0.4 | 71 |
| 7507/4 | Pound Street | 16/04/2019 | 17/05/2019 | 31 | 0.7 | 0.4 | 0.3 | 78 |

Results have been approved and report finalised on 28/05/2019

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Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



June 2019

| Sample# | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|---------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7729/1 | Control | 16/05/2019 | 14/06/2019 | 29 | 0.4 | 0.2 | 0.2 | 31 |
| 7729/2 | DMG2 Rail | 16/05/2019 | 14/06/2019 | 29 | 0.6 | 0.5 | 0.1 | 30 |
| 7729/3 | DMG3 Bunnings | 16/05/2019 | 14/06/2019 | 29 | 1.1 | 0.9 | 0.2 | 26 |
| 7729/4 | Pound Street | 17/05/2019 | 14/06/2019 | 28 | 1.8 | 1.5 | 0.3 | 22 |

Results have been approved and report finalised on 16/07/2019

NATA Accredited Laboratory – 20375

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July 2019

| Sample# | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|---------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7802/1 | Control | 14/06/2019 | 18/07/2019 | 34 | 0.3 | 0.2 | 0.1 | 41 |
| 7802/2 | DMG2 Rail | 14/06/2019 | 18/07/2019 | 34 | 0.8 | 0.6 | 0.2 | 40 |
| 7802/3 | DMG3 Bunnings | 14/06/2019 | 18/07/2019 | 34 | 1.4 | 1.2 | 0.2 | 43 |
| 7802/4 | Pound Street | 14/06/2019 | 18/07/2019 | 34 | 2.0 | 1.7 | 0.3 | 42 |

Results have been approved and report finalised on 31/07/2019

NATA Accredited Laboratory – 20375

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are



August 2019

| LabID | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|--------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7937/1 | Control | 18/07/2019 | 16/08/2019 | 29 | 0.6 | 0.5 | 0.1 | 13 |
| 7937/2 | DMG2Rail | 18/07/2019 | 16/08/2019 | 29 | 1.0 | 0.8 | 0.2 | 12 |
| 7937/3 | DMG 3 Bunnings | 18/07/2019 | 16/08/2019 | 29 | 2.9 | 2.3 | 0.6 | 11 |
| 7937/4 | Pound Street | 18/07/2019 | 16/08/2019 | 29 | 2.3 | 1.9 | 0.4 | 14 |

Results have been approved and report finalised on 3/09/2019

NATA Accredited Laboratory – 20375

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



September 2019

| LabID | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|--------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 7937/1 | Control | 18/07/2019 | 16/08/2019 | 29 | 0.6 | 0.5 | 0.1 | 13 |
| 7937/2 | DMG2Rail | 18/07/2019 | 16/08/2019 | 29 | 1.0 | 0.8 | 0.2 | 12 |
| 7937/3 | DMG 3 Bunnings | 18/07/2019 | 16/08/2019 | 29 | 2.9 | 2.3 | 0.6 | 11 |
| 7937/4 | Pound Street | 18/07/2019 | 16/08/2019 | 29 | 2.3 | 1.9 | 0.4 | 14 |

Results have been approved and report finalised on 3/09/2019

NATA Accredited Laboratory – 20375

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.



October 2019

| Lab ID | Sample Description | Date On | Date Off | Number of Days | Insoluble Solids | Ash | Combustible Matter | Calculated Rain |
|--------|--------------------|------------|---|----------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| | | | Units Method Code Limit of Report | days AS 3580.10.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | g/m2/mth AS 3580.10.1 0.1 | mm AS 3580.10.1 1 |
| 8249/1 | Control | 16/09/2019 | 16/10/2019 | 30 | 2.2 | 1.7 | 0.5 | 50 |
| 8249/2 | DMG 2 Rail | 16/09/2019 | 16/10/2019 | 30 | 2.3 | 2.0 | 0.3 | 54 |
| 8249/3 | DMG 3 Bunnings | 16/09/2019 | 16/10/2019 | 30 | 4.6 | 3.8 | 0.8 | 56 |
| 8249/4 | Pound Street | 16/09/2019 | 16/10/2019 | 30 | 2.7 | 2.4 | 0.3 | 45 |

Results have been approved and report finalised on 28/10/2019

NATA Accredited Laboratory – 20375

Accredited for compliance with ISO/IEC 17025 – Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

